

**Re-emphasis on Baby-Friendly
Hospital Initiative (BFHI) to
increase compliance of
breastfeeding practice in very low
birth weight (VLBW) neonates on
discharge from Special Care
Nursery (SCN)**

Southern region



Hospital Involved In Study

- Hospital Sultan Aminah Johor Bharu
- Hospital Melaka
- Hospital Batu Pahat
- Hospital Pakar Sultanah Fatimah Muar
- Hospital Seremban
- Hospital Kuala Pilah



BACKGROUND

- Human milk has been established as the “optimal form of nutrition” for infants especially the premature or sick infant^{1,2}.
- American Academy of Pediatrics (AAP) strongly advocate for breastfeeding among term infants and their recommendations now extend to premature infants¹.

1. *American Academy of pediatrics. Breastfeeding and the use of Human milk. Paediatrics 115(2), 2005; 496-506.*
2. *E. Wight Nancy et al. Breastfeeding in the NICU. Hale Publishing 2008.*



- Human milk and breastfeeding of infants provide advantages with regard to general health, growth, and development, while significantly decreasing risk for a large number of acute and chronic diseases^{1,2}.
 - the incidence and/or severity of diarrhea,
 - lower respiratory infection,
 - otitis media,
 - Bacteremia,
 - bacterial meningitis,
 - Botulism,
 - urinary tract infection, and
 - necrotizing enterocolitis.



1. American Academy of pediatrics. *Breastfeeding and the use of Human milk. Paediatrics* 115(2), 2005; 496-506.

2. Mary A. H*, Donna M. S , Ramasubbareddy D. *Human Milk Feedings and Infection Among Very Low Birth Weight Infants. Pediatrics* Vol. 102 (3), 1998;38.

Enteral nutrition feeding on discharge according to birthweight, by year

Birth Weight (gram)	Exclusive breast milk feeding			Mixed feeds			Exclusive formula feeds		
	2005 (%)	2006 (%)	2007 (%)	2005 (%)	2006 (%)	2007 (%)	2005 (%)	2006 (%)	2007 (%)
<500	6	4	2	3	0	8	0	0	0
501 - 750	6	8	6	14	13	15	7	7	4
751 – 1000	16	19	21	41	34	36	9	13	10
1001 - 1500	25	30	29	53	47	49	10	11	11

Adapted from report of the Malaysian National Neonatal registry 2007



- The Baby Friendly Hospital Initiative (BFHI) has been developed to help support initiation and continuation of breastfeeding.
- Studies showed that re-emphasizing implementation of the BFHI policy result in a sustained increase in breastfeeding initiation rate and duration¹.

1. Merewood A. et al. The Baby Friendly Hospital Initiative Increases Breastfeeding Rates in a US Neonatal Intensive Care Unit. *J.Hum Lact* 19(2),2003;166-171.



PICO

- **Population:**
 - All babies admitted to SCN with birth weight $\leq 1500\text{g}$ regardless of gestational age
- **Intervention**
 - Improve compliance of breast feeding practice via re-emphasis on BFHI
- **Comparator**
 - Earlier breastfeeding practice without active intervention prior to study.
- **Outcome**
 - 20% improvement from base line data

INCLUSION & EXCLUSION CRITERIA

Inclusion criteria

- All babies with birth weight $\leq 1500\text{g}$ regardless of gestational age
- Both inborn and out born babies

Exclusion criteria

- Mother with absolute contraindication for breast feeding as per AAP guidelines (eg. Chemotherapy, Retroviral infection...etc)
- Babies with medical or surgical contraindication for breast feeding
- Babies with adoption or custody issue



The Baby Friendly Hospital Initiative Increases Breastfeeding Rates in a US Neonatal Intensive Care Unit

- Merewood A. et al..J.Hum Lact 19(2),2003;166-171.
- Population: all surviving infant adm at NICU 1999
- Control: all surviving infant adm at NICU 1995 (before BFHI)
- Initiation of breastfeeding : first week of enteral feed
- Duration rate : long staying infant, 2nd and 6th week feeding

- Outcome:

	Year		P value
	1995	1999	
Breastfeeding initiation rate	34.6%	74.4%	<0.001
Breastfeeding rate among 2 week old infant	27.9%	65.9%	<0.001
Exclusive breast milk	9.3%	39%	0.002

- Conclusion:

- BFHI increased breastfeeding initiation and duration rates.

Breastfeeding promotion for infants in neonatal units a systematic review and economic analysis

- Renfrew MJ et al, Health Technology Assessment 2009, Vol. 13: no 4

Despite the limitations of the evidence base, kangaroo skin-to-skin contact, peer support, simultaneous breastmilk pumping, *multidisciplinary staff training and the Baby Friendly accreditation of the associated maternity hospital have been shown to be effective, and skilled support from trained staff in hospital* has been shown to be potentially cost-effective. All these point to future research priorities. Many of these interventions inter-relate: it is unlikely that specific clinical interventions will be effective if used alone. There is a need for national surveillance of feeding, health and cost outcomes for infants and mothers in neonatal units; to assist this goal, we propose consensus definitions of the *initiation and duration of breastfeeding/ breastmilk feeding* with specific reference to infants admitted to neonatal units and their mothers.

Melissa B, Alison S, Katherine R. S et al

Closing the Quality Gap: Promoting Evidence-Based Breastfeeding Care in the Hospital

PEDIATRICS Vol. 124 No. 4 October 2009, pp. e793-e802 (doi:10.1542/peds.2009-0430)

Abstract:

Evidence shows that hospital-based practices affect breastfeeding duration and exclusivity throughout the first year of life. However, a 2007 CDC survey of US maternity facilities documented poor adherence with evidence-based practice. Of a possible score of 100 points, the average hospital scored only 63 with great regional disparities. Inappropriate provision and promotion of infant formula were common, despite evidence that such practices reduce breastfeeding success. **Twenty-four percent of facilities reported regularly giving non-breast milk supplements** to more than half of all healthy, full-term infants. Metrics available for measuring quality of breastfeeding care, range from comprehensive Baby-Friendly Hospital Certification to compliance with individual steps such as the rate of in-hospital exclusive breastfeeding. Other approaches to improving quality of breastfeeding care include (1) education of hospital decision-makers (eg, through publications, seminars, professional organization statements, benchmark reports to hospitals, and national grassroots campaigns), (2) **recognition of excellence, such as through Baby-Friendly hospital designation**, (3) oversight by accrediting organizations such as the Joint Commission or state hospital authorities, (4) public reporting of indicators of the quality of breastfeeding care, (5) pay-for-performance incentives, in which Medicaid or other third-party payers provide additional financial compensation to individual hospitals that meet certain quality standards, and (6) regional collaboratives, in which staff from different hospitals work together to learn from each other and meet quality improvement goals at their home institutions. Such efforts, as well as strong central leadership, could affect both initiation and duration of breastfeeding, with substantial, lasting benefits for maternal and child health.

Supporting Clinical Question

Good		Renfrew MJ et al, 2009	Merewood A et al, 2003		Mary A et al, 1998
Fair				Melissa B et al, 2009	
Poor					
	1 RCT (or meta-analyses)	2 Concurrent controls NR (or meta-analyses)	3 Retrospective controls	4 No control group (eg. case series)	5 Indirect studies
Level of Evidence					



Hypothesis

Re-emphasis of BFHI, in particular focusing on improving the attitude and knowledge of health care workers in the NICU regarding breast feeding, will increase the compliance of breast feeding in SCN.



Aim statement

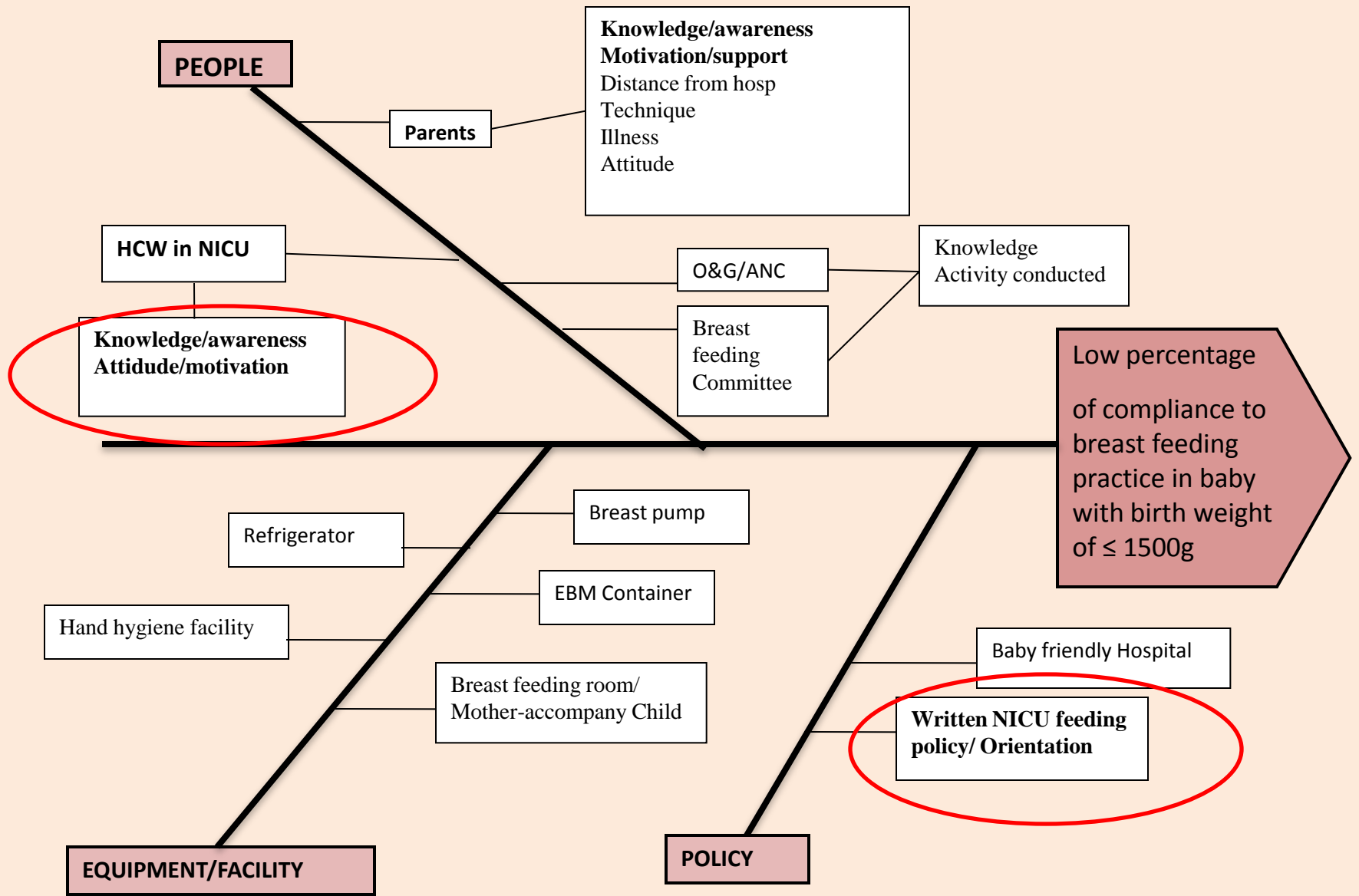
To improve the compliance of breast feeding by re-emphasizing and carrying out the BFHI especially on educating and modifying the attitude of health care staff in NICU

10 STEPS OF BFHI

- **Have a written breastfeeding policy that is routinely communicated to all staff**
- **Train all health care staff in skills necessary to implement the policy**
- Inform all pregnant women about benefits of breastfeeding
- Help mothers initiate breastfeeding within 1 hour of birth
- **Show mothers how to breastfeed and maintain lactation, even when they are separated from their infant**



- Give newborns infants no food or drink other than breastmilk unless medically indicated
- Practice rooming in
- Encourage breastfeeding on demand
- Give no bottles or pacifiers to breastfeeding infants
- Foster establishment of breastfeeding support groups and refer mothers to them upon discharge



DEFINITION

- Very low birth weight (VLBW):
 - *birth weight of 1500g or less (regardless of gestation)*
- Compliance to breast feeding

$$\frac{\text{No of feeding by exclusive breast milk feeding}}{\text{Total of no of feeding}} \times 100\%$$

Good *75 – 100%*

Fair *50 – 74.9%*

Poor *< 50%*





Outcome measures and process indicator

•Process indicator:

- Perception on breast feeding
 - Short survey
- Health care worker training
 - % of doctors and NICU staff trained
 - Pre and post Questionnaire on knowledge about breast feeding
- Permanent breast feeding nurse
 - number of mothers seen by breast feeding nurse
- Written orientation policy on breast feeding
 - % of mothers given orientation on breastfeeding

•Outcome indicator:

- To increase breastfeeding compliance rate >20% of baseline



SECONDARY OUTCOMES

- **Secondary outcomes**
 - Retinopathy of prematurity (ROP)
 - Necrotising Enterocolitis
 - Confirmed sepsis
 - Duration of hospital stay



Baseline Data



Data was collected from 1/5/2011 to 31/5/2011

Hospital	No of VLBW baby	Compliance to breastfeeding Of >75%	%
HSAJB	12	5	42%
Hospital Melaka	9	2	22%
Hospital Muar	4	0	0%
Hospital Seremban	3	2	66%
Hospital Batu Pahat	1	0	0%
Hospital Kuala Pilah	0	0	0%

*Hospital Batu Pahat and Kuala Pilah will do a retrospective data collection for another 3 months to get their baseline data in view of inadequate data

PDSA Cycles

1. 2011 May-2011 June

Plan:

- 1) to determine aim of study
- 2)to get base line data
- 3)identify the contributing factors by the Ishikawa chart
- 4)set the process indicator and out come indicator
- 5)develop plan to re-emphasize the BFHI



PDSA Cycles

1. 2011 june-2011 sept

Do:

- 1) survey on perception of health care worker (HCW) in scn regarding breast feeding
- 2) CME / CNE to improve knowledge
 - To cover 80% of HCW by end of July
 - Assess knowledge via pre and post CME questionnaire
- 3) try to obtain a full time breast feeding nurse
- 4) to introduce a written cross check form on breast feeding advice
- 5) to establish a systematic way for EBM storage



PDSA Cycles

1. 2011 Sept-2011 Nov

Study:

- 1) to obtain the data on the process and outcome indicator
- 2) to study and obtain data for secondary outcome

Act:

- 1) to identify problem at multiple level and solve the problem





Appendix



SURVEY ON THE COMPLIANCE TO BREAST FEEDING PRACTICE IN VLBW NEONATES ON DISCHARGE FROM HOSPITAL

Code No:

PATIENT PROFILE (To be filled up by HO/MO before discharge)			
NAME:		Mother's I/C:	
Gestation:	weeks	D.O.B:	
Birth Weight:	gram	Ventilation: (any type)	Days (total)
Mode of delivery (tick):		Comorbidity (tick):	
	SVD	RDS	
	Instrumental delivery	PDA	
	Elective LSCS	NEC	
	Emergency LSCS	ROP	
Inborn/Outborn:	I / O		

FEEDING (To be filled up by HO/MO on the day of discharge)			
Date Started:		Day of Life Started:	
Feeding on Discharge			
Exclusive breast feeding		Yes / No	
Total no of feeding in last 24 hours, a			
No of feeding by exclusive breast milk (Expressed/direct BF), b			
% of feeding by exclusive breast milk on discharge, c= b/a x 100		%	
Reason for poor EBM supply (if any), as perceived by the HCW:			
DISCHARGE			
Date :		Day of Life :	Weight: gram

MOTHER'S PROFILE			
Questionnaire for mother on the day of discharge			
Gravida/Parity :	G____/P____	No of living child:	
D.O.B/ Age:	__/__/____/ __years	Occupation:	
Race:	M / C / I / Others	Maternal illness:	Eg. Tumour/chemoRx HIV positive Hypertension on Rx
Highest education level completed (tick one)			
	Primary school	Household income	RM per month
	Secondary - Form 3	Received BF education in antenatal period	Y / N
	Secondary- Form 5	Opinion on BF (tick one):	
	Pre-University		Must be done
	University		Good to do, will try
	Post- graduate		Not necessary
			Bad
Distance of home from hospital:	km	Duration of rooming-in b4 discharge	days
If you are not currently breastfeeding, what is/are the reason(s)?			

**SENARAI SEMAK ORIENTASI PESAKIT
HOSPITAL TUANKU JA'AFAR SEREMBAN**

Nama Pesakit..... R/N.....

Wad..... Tarikh dimasukkan ke wad.....

1. Terangkan tentang polisi/peraturan hospital/jabatan
 - a. Dilarang mengambil gambar di wad, dilarang merokok ya tidak
 - b. Pesakit akan dilihat dan diperiksa oleh doktor sekurang-kurang sekali sehari
 - c. Hanya seorang penjaga dibenarkan bersama pesakit.
2. Struktur wad - tandas, bilik cucian, pantry, ya tidak
pintu kecemasan, lokasi alat pemadam api
3. Waktu hidangan makanan ya tidak
Sarapan pagi - 8.00 pg, Makan tengahari - 12.00 tgh
Minum petang - 3.00 ptg Makan malam - 6.00 ptg
4. Waktu pemberian air panas - 9.00 pg, 3.00 ptg, 10 min ya tidak
5. Waktu melawat ya tidak
Isnin - Jumaat 12.30 ptg - 2.00 ptg dan 4.30 ptg - 7.30 ptg
Sabtu / Ahad / Cuti Umum 12.30 ptg - 7.30 ptg
6. Kemudahan awam - telefon awam, surau (di tingkat 8), kedai, kantin ya tidak
7. Keperluan asas pesakit yang perlu dibawa: tuala mandi, sabun, ya tidak
berus gigi, pampers, flask air panas dll
8. Menjaga kebersihan dan pembuangan sampah di tempat yang betul ya tidak
Tong kuning - pampers/tuala wanita, kapas terkena darah/cecair tubuh
Tong hitam - sampah biasa /kertas/bungkusan makanan
9. Keselamatan dalam wad ya tidak
 - Awasi orang-orang yang tidak dikenali dan beritahu jururawat dengan segera
 - Dilarang membawa telefon bimbit
 - Dilarang membawa wang tunai /barang berharga seperti komputer riba, barang kemas / dokumen penting
 - Dilarang membawa peralatan elektrik
 - Ibu / penjaga / pelawat tidak dibenarkan duduk/tidur di atas katil
 - Sentiasa naikkan pagar katil untuk mengelakkan anak jatuh
 - Pengawal Keselamatan (security guard) ditugaskan di pintu masuk wad
10. Penggunaan air panas di bilik cucian dan bilik mandi ya tidak
Tanda Hijau - Air sejuk
Tanda Merah - Air Panas
Buka paip air sejuk dahulu kemudian paip air panas. Rasa kesesuaian suhu air sebelum memandikan bayi/anak anda. Tutup paip air panas dahulu kemudian paip air sejuk selepas menggunakan.
11. Pendidikan Kesihatan ya tidak
 - a. Beritahu jururawat jika terdapat alahan atau kesukaran bernafas
 - b. Pastikan cuci tangan sebelum dan selepas menyentuh anak, memukul napkin/pampers, sebelum makan dan selepas ke tandas
 - d. Ibu/bapa/penjaga perlu menutup mulut ketika batuk/bersin untuk mengelakkan jangkitan
 - e. Pastikan memberi minuman yang telah dimasak
 - f. Teruskan penyusuan susu ibu (jika berkaitan)

12. Ibu/bapa/penjaga diberitahu mengenai billing / Surat akuan jabatan(GL)/ Surat sekolah perlu semasa pesakit discaj, ubatan dan temujanji ya tidak
13. Tidak dibenarkan bawa pesakit keluar dari wad tanpa kebenaran doktor /jururawat ya tidak
14. Kemudahan-kemudahan lain
 - a. Sekolah Dalam Hospital - 5 tahun - 12 tahun (10.00 pg-12 tgh) ya tidak
7 tahun - 19 tahun (2.00 ptg - 4.00 ptg)
 - b. Shuttle bus disediakan 7.00pg hingga 6.00 ptg (dari tempat letak kereta Asrama Jururawat ke hospital)
 - c. Taman terapeutik
 - d. Tandas awam
14. Untuk kegunaan NICU dan SCN ya tidak
 - a. Hospital Rakan Bayi
 - setiap bayi hanya diberikan susu ibu sahaja
 - Tidak dibenarkan membawa susu botol/puting tiruan
 - Tidak dibenarkan membawa susu formula
 - Hantar susu perahan susu ibu (EBM) mengikut masa penyusuan bayi
 - b. Hanya ibu dan bapa sahaja dibenarkan masuk melawat bayi
15. Sila berjumpa Ketua Jururawat yang menjaga wad jika anda menghadapi sebarang masalah

Adalah saya telah diberi orientasi semasa kemasukan pesakit di wad dan dinasihatkan oleh jururawat

supaya tidak menyimpan wang tunai dan barang-barang yang berharga di dalam wad.

Oleh yang demikian, sebarang kehilangan yang berlaku adalah tanggungjawab saya sendiri

Tandatangan..... Tandatangan Jururawat.....

(ibu/bapa/penjaga)..... Nama penuh & cop.....

Nama penuh:.....

No KP:..... Jawatan:.....

Tarikh.....

TERIMA KASIH

Survey form to assess the perception on breastfeeding for health care worker

Sister/Staff nurse/MO/HO

1. In your opinion, what is the most suitable milk for preterm infant?

- a)Preterm formula
- b)Breast milk
- c)Formula milk
- d)Cows milk

2.If you are given a chance, will you offer your help in the breast feeding program?

Yes no

If no, why

- a)time consuming
- b)is not my job
- c)lack of knowledge
- d)lack of skill

3. Do you think our breastfeeding counseling in SCN is adequate?

Yes no

4.In your opinion, do you think a working mother can successfully breastfeed her baby?

Yes no



THANK YOU

