

**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

1. Hospital Batu Pahat
2. Hospital Pakar Sultanah Fatimah, Muar
3. Hospital Tuanku Jaafar, Seremban
4. Hospital Tuanku Ampuan Najihah, 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.*



- The Baby Friendly Hospital Initiative (BFHI) has been developed to help support initiation and continuation of breastfeeding.
- Studies showed that re-emphasized implementation of the BFHI policy showed 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.





Hypothesis

By re-emphasized on BFHI, focusing on improving the attitude and knowledge of health care worker 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

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-emphasized on BFHI
- **Comparator**
 - Earlier breastfeeding practice without active intervention prior to study.
- **Outcome**
 - 20% improvement from base line data

INCLUSION & EXCLUSION CRITERIA

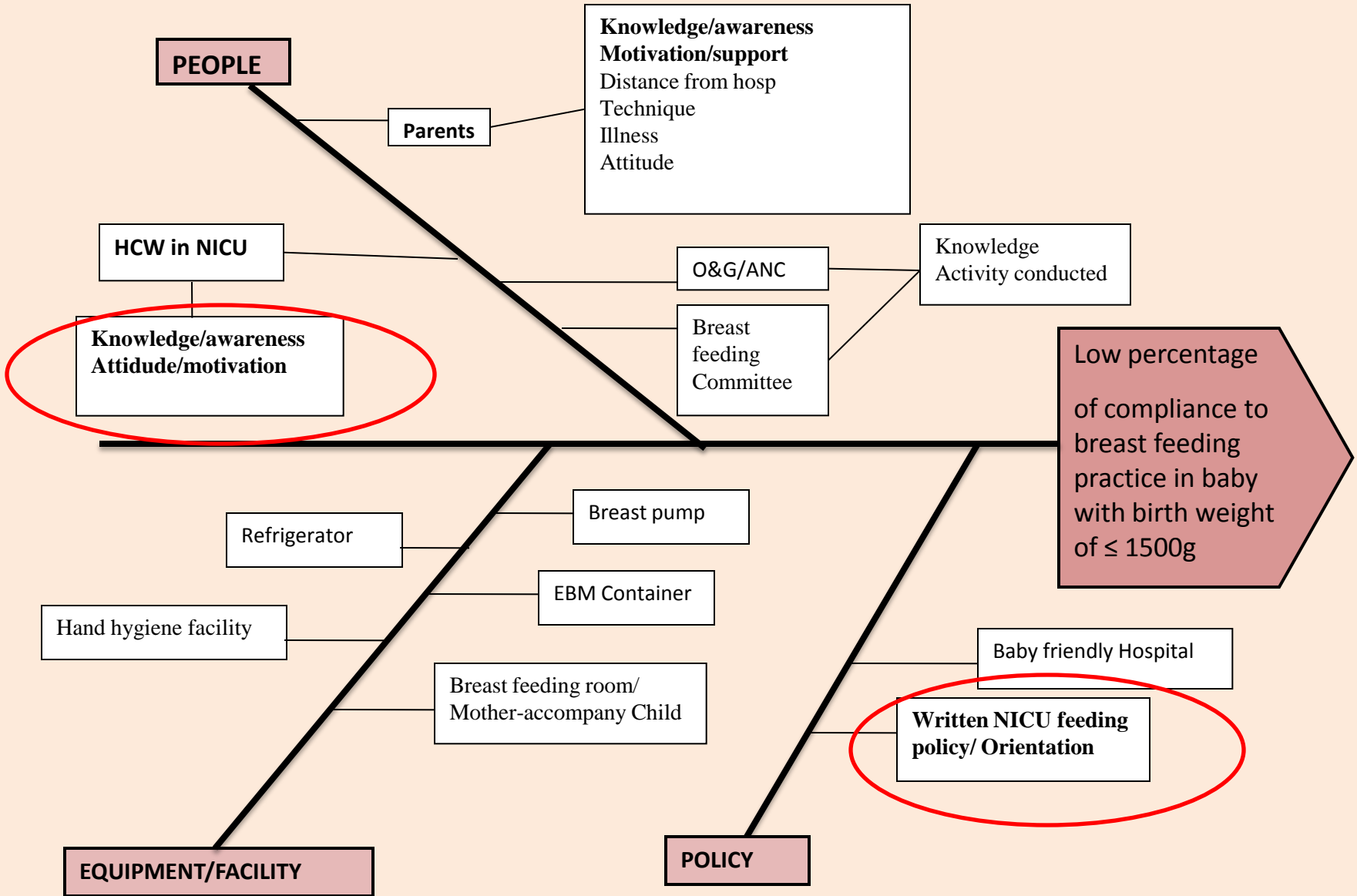
Inclusion criteria

- 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





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:

1. Perception on breast feeding
 - Short survey
2. Health care worker training
 - % of doctors and NICU staff trained
 - Pre and post Questionnaire on knowledge about breast feeding
3. Permanent breast feeding nurse
 - number of mothers seen by breast feeding nurse
4. 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**

1. Retinopathy of prematurity (ROP)
2. Necrotising Enterocolitis (NEC)
3. Confirm sepsis
4. Hospital stay

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

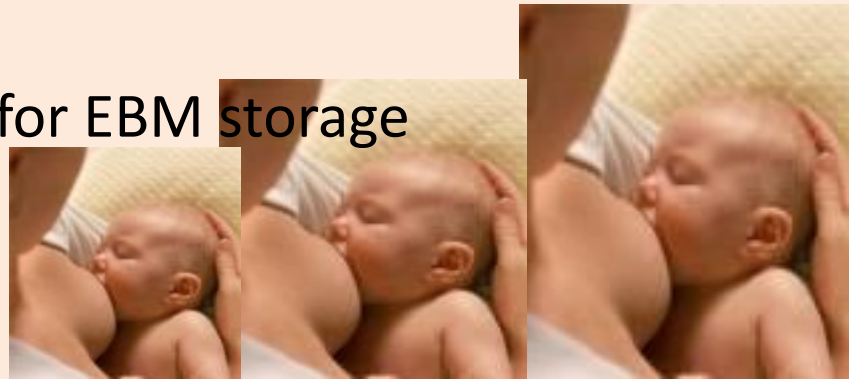


PDSA Cycles

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





Baseline Data



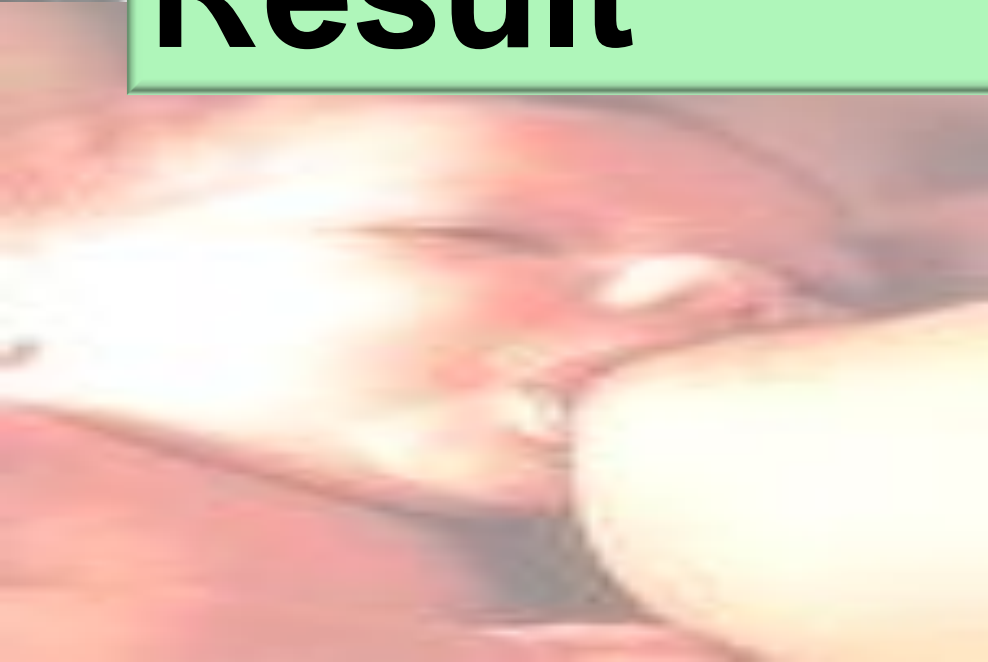
Data was collected from 1/5/2011 to 31/5/2011

Hospital	No of VLBW baby	Compliance to breastfeeding Of >75%	%
Hospital Muar	4	0	0%
Hospital Seremban	3	2	66%
Hospital Batu Pahat*	5	0	0%
Hospital Kuala Pilah*	3	1	33%
Total	15	8	20%

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



Result



Process Indicator

PART 1: Survey on Perception on Breastfeeding Among Health Care Workers

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

		Seremban N = 30	Muar N = 50	Batu Pahat N = 50	Kuala Pilah N = 40	AVERAGE
A	Preterm formula		20%	8%		8%
B	Breast milk	100%	80%	90%	100%	92%
C	Formula milk			2%		0.6%
D	Cow's milk					

Process Indicator

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

		Seremban N = 30	Muar N = 50	Batu Pahat N=50	Kuala Pilah	AVERAGE
A	Yes	87.5%	96%	84%	85%	89%
B	No	12.5%	4.0%	16%	15%	11%

Process Indicator

- If no, why?

		Seremban N = 4	Muar N = 2	Batu Pahat N = 8	Kuala Pilah N = 6	AVERAGE N = 20
A	Time consuming	100%	100%	75%		60%
B	Is not my job					
C	Lack of knowledge			12.5%	50%	20%
D	Lack of skill			12.5%	50%	20%

Process Indicator

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

		Seremban	Muar	Batu Pahat	Kuala Pilah	AVERAGE
A	Yes	53%	64%	48%	82.5%	62%
B	No	47%	36%	52%	17.5%	38%

Process Indicator

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

		Seremban	Muar	Batu Pahat	Kuala Pilah	AVERAGE
A	Yes	84.4%	80%	72%	95%	82%
B	No	15.6%	20%	28%	5%	18%

Process Indicator

- PART 2: Health Care Worker Training**

	Seremban	Muar	Batu Pahat	Kuala Pilah
% of NICU staff trained	92%	84%	90%	84%
Questionnaire administered, N	30	50	NA	40
Pre training questionnaire	54.7%	54%	NA	52.5%
Post training questionnaire	72.0%	60%	NA	72.0%

Process Indicator

- **PART 3:** Number of mothers (neonate BW \leq 1.5kg) seen by breastfeeding nurse

Seremban	Muar*	Batu Pahat*	Kuala Pilah*
100% (N=9)			

*Hospitals without specific breastfeeding nurse.

Process Indicator

- **PART 4:** Mothers (neonate BW \leq 1.5kg) given orientation on breastfeeding

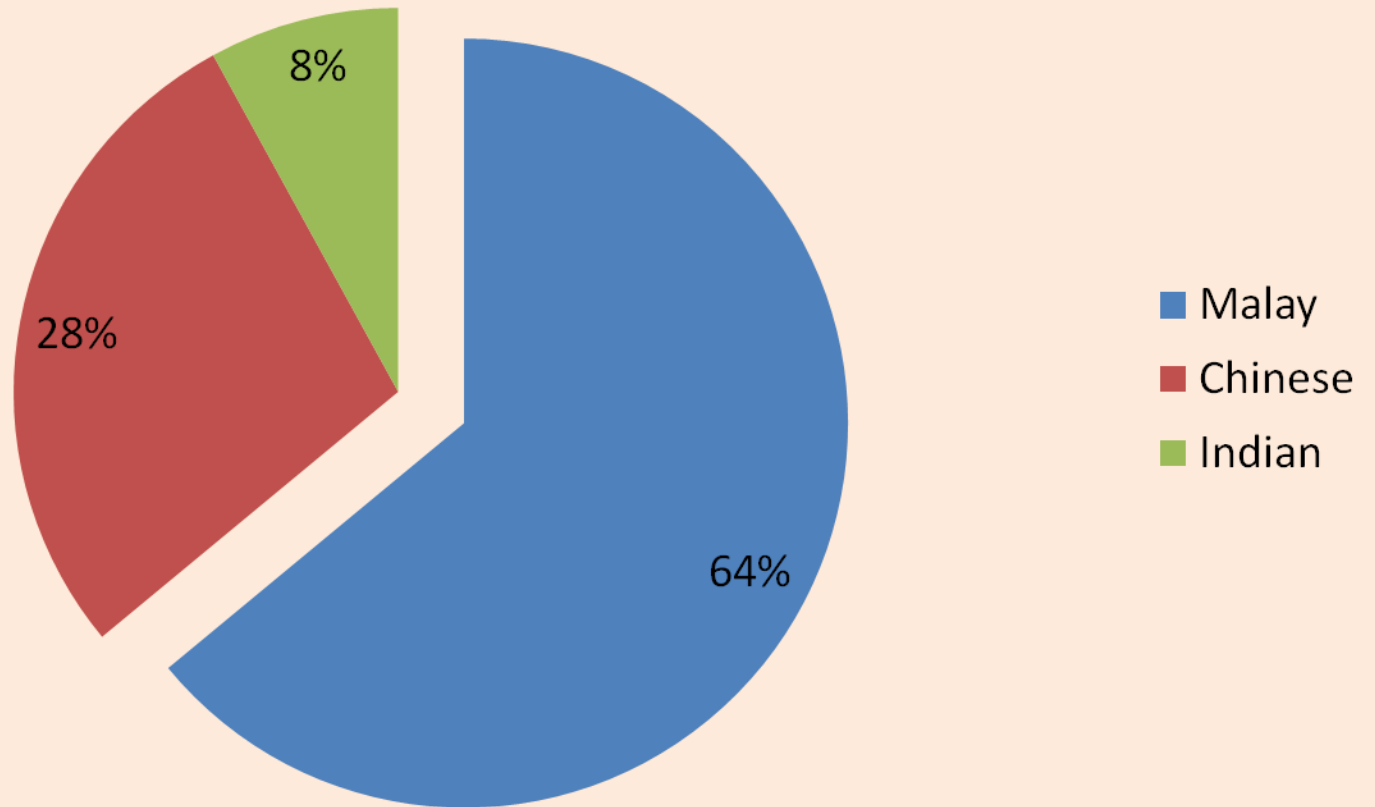
Seremban	Muar	Batu Pahat	Kuala Pilah
100%	100%	100%	100%

Post Intervention Data

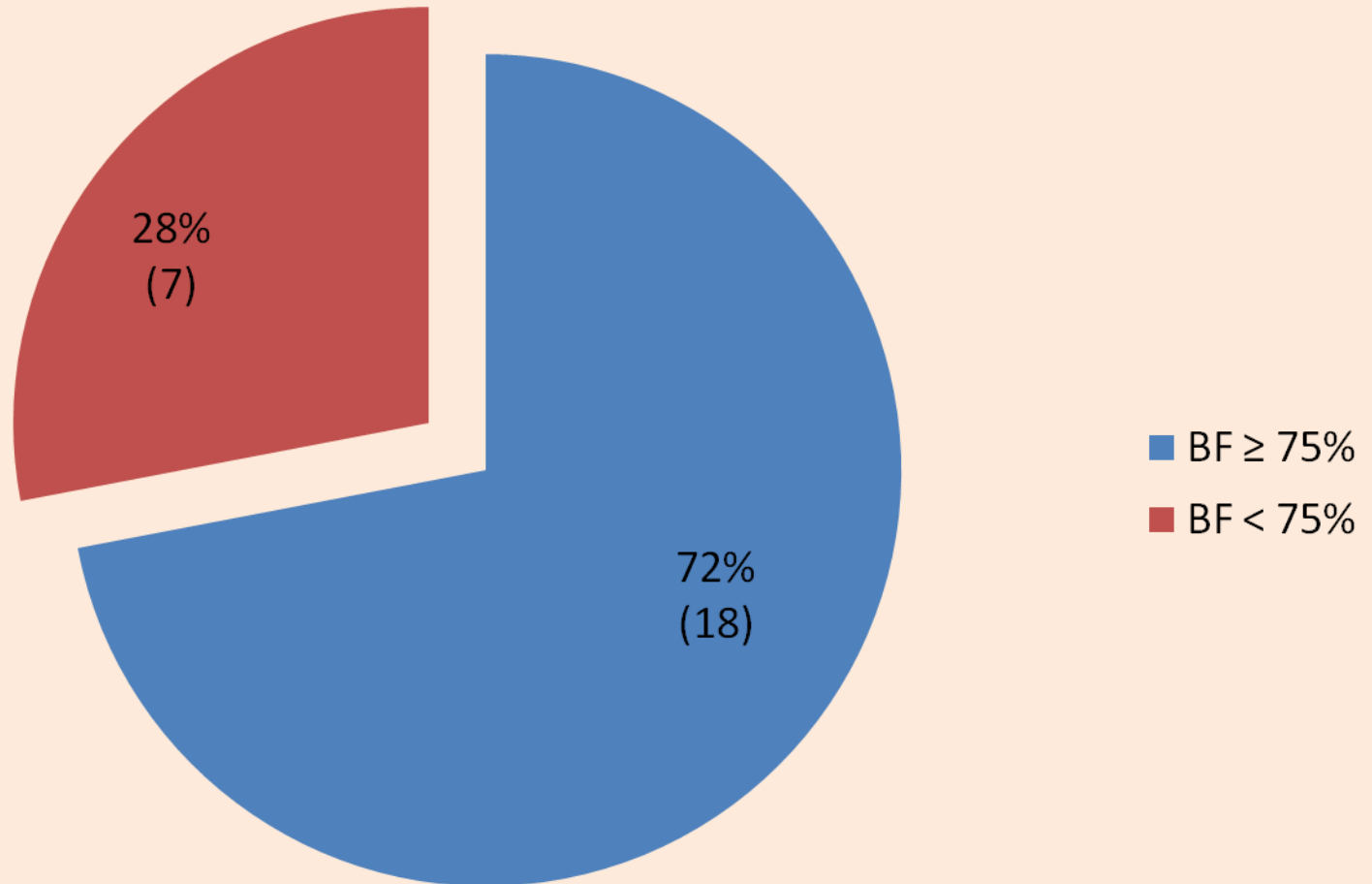
- Total subjects = 25 patients
- Inborn = 24 patients
- Outborn = 1 patients

	Mean	Sd	Min	Max
Birth weight (g)	1212	256	715	1500
Gestational age (weeks)	30.9	2.3	26	36

Race



Breast Feeding Practice in VLBW Babies upon Discharge from SCN (1st Sept- 30th Nov 2011)



Outcome Indicator

Hospital	Pre-Intervention			Post-Intervention			Δ Percentage
	N of VLBW	Compliance to BF >75%	%	N of VLBW	Compliance to BF >75%	%	
H.Seremban	3	2	66%	9	9	100%	+44
H. Kuala Pilah	3	1	33%	4	4	100%	+67
H.Muar	4	0	0%	7	3	43%	+43
H.Batu Pahat	5	0	0%	5	2	40%	+40
Overall	15	3	20%	25	18	72%	+52

Outcome Indicator

Hospital	Pre-Intervention			Post-Intervention			Δ Percentage
	N of VLBW	Compliance to BF >75%	%	N of VLBW	Compliance to BF >75%	%	
H.Seremban	3	2	66%	9	9	100%	+44
H. Kuala Pilah	3	1	33%	4	4	100%	+67
H.Muar	4	0	0%	7	3	43%	+43
H.Batu Pahat	5	0	0%	5	2	40%	+40

Outcome Indicator

Hospital	Pre-Intervention			Post-Intervention			Δ Percentage
	N of VLBW	Compliance to BF >75%	%	N of VLBW	Compliance to BF >75%	%	
H.Seremban	3	2	66%	9	9	100%	+44
H. Kuala Pilah	3	1	33%	4	4	100%	+67
H.Muar	4	0	0%	7	3	43%	+43
H.Batu Pahat	5	0	0%	5	2	40%	+40

Secondary outcome

	Yes	No	Chi Square	p value
ROP	1	24	2.679	0.102
NEC	3	22	1.326	0.250
Confirmed Sepsis	2	23	5.590	0.018**
Hospital Stay > 30 days Mean 48.04 days Min 19 days Max 121 days	7	18	0.907	0.341

Secondary outcome

	Yes	No	Chi Square	p value
ROP	1	24	2.679	0.102
NEC	3	22	1.326	0.250
Confirmed Sepsis	2	23	5.590	0.018**
Hospital Stay > 30 days Mean 48.04 days Min 19 days Max 121 days	7	18	0.907	0.341

Conclusion

- By re-emphasized on BFHI, focusing on improving the attitude and knowledge of health care worker in the NICU regarding breast feeding, the compliance of breast feeding in VLBW infants on discharge from SCN was increased with a mean of 52%.

- Good compliance to breast feeding was found to be associated with reduced incidence of sepsis, with p-value of 0.018.
- However, the number of subjects in this study is very small

Limitation

- Small number of subjects in each center
- Variation of implementation of intervention among the 4 centers (e.g. Breast-feeding nurse)

Plan

- Continue with intervention and follow up study for another 3 to 6 months.
- Invite the committee member of Hospital Seremban to give talks and share their experience in the other hospitals



THANK YOU

