Early essential newborn care Following Caesarean section

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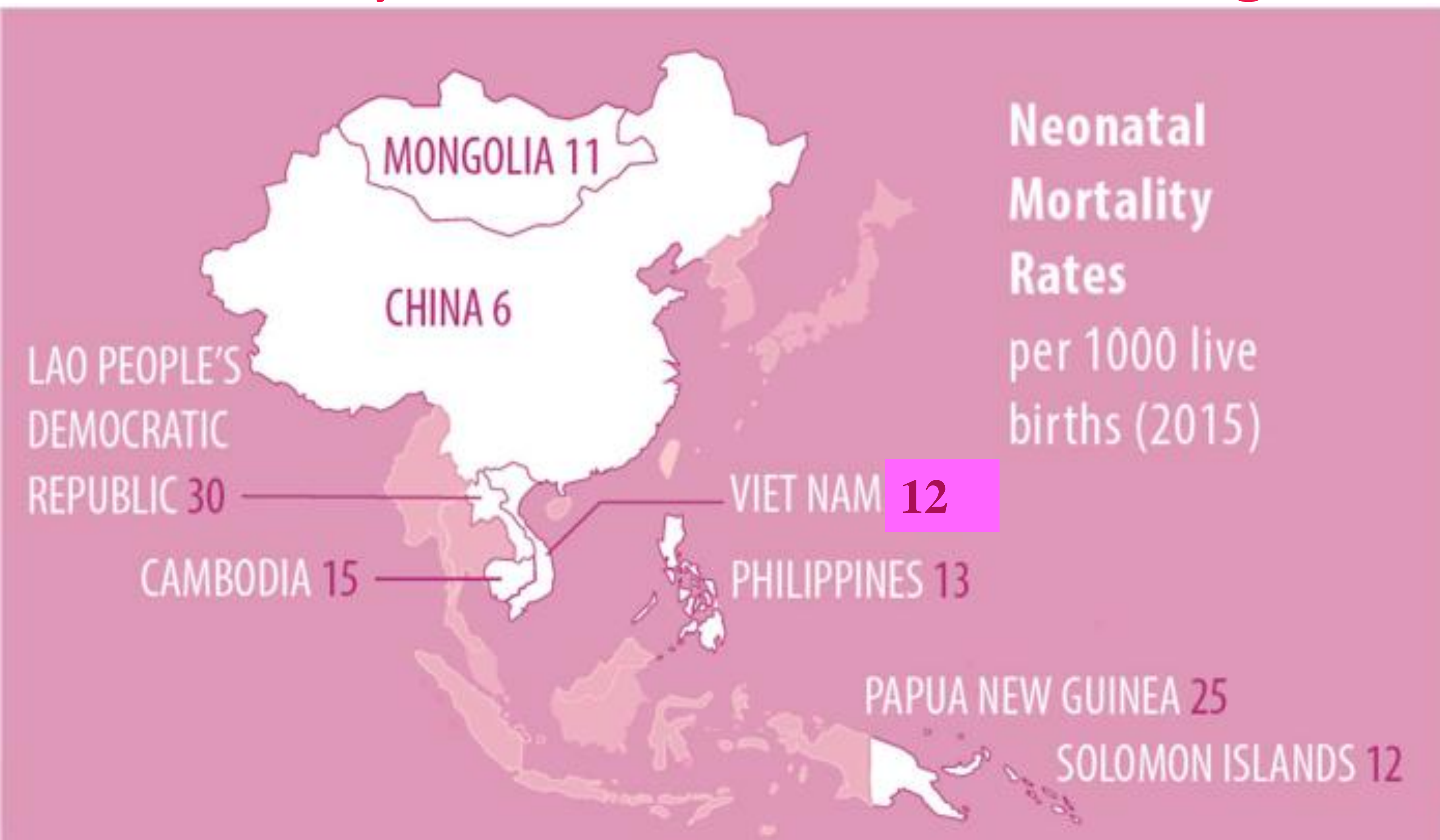
Hà Nội, 5/2018

Content

- Neonatal mortality
- Early essential newborn care package
- Evidence
- Implementation in Da Nang
- Challenges and actions

8 priority countries account for 96% neonatal mortality in the Western Pacific Region



Under 5 mortality in Viet Nam

MDG ON TRACK!
BUT STAGNANT REDUCTION IN NEONATAL MORTALITY

60
50
40
30
20
10
0

50.6
36.5
22.8
24
22.1
21.8
16
14.5
13
12

1990 2000 2005 2011 2013 2014 2015 2016

Tử vong trẻ < 5 tuổi   Tử vong nhũ nhi   Tử vong sơ sinh

UNICEF VIET NAM VÀ VỤ SỨC KHỎE BÀ MẸ & TRẺ EM

Neonatal mortality

2 out of 3 newborn deaths occur in the first 3 days of life

Proportional Mortality %

35
30
25
20
15
10
5
0

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28

Days of life

Source: *Special Tabulation of Demographic and Health Survey in 43 countries (2005-2011). Geneva, WHO, 2012.*

What is Early Essential Newborn Care (EENC)?

PACKAGE OF SIMPLE, COST-EFFECTIVE INTERVENTIONS

FOR ALL HEALTHY, PRETERM, LOW-BIRTH-WEIGHT AND SICK NEWBORNS

IMPROVES QUALITY OF CARE DURING AND AFTER BIRTH

50 000+ NEONATAL DEATHS CAN BE PREVENTED EACH YEAR THROUGH **EARLY ESSENTIAL NEWBORN CARE**

THE KEY INTERVENTIONS OF EENC

Intrapartum care

Immediate and thorough drying

Immediate skin-to-skin contact

Appropriately timed clamping and cutting of the cord

Exclusive breastfeeding

Kangaroo Mother Care

Treatment of infections

All mothers: Intrapartum care

All newborns: First Embrace: Immediate and thorough drying; Immediate skin-to-skin contact; Appropriately timed clamping and cutting of the cord; Exclusive breastfeeding

Preterm + low-birth-weight (LBW) newborns: Kangaroo Mother Care

Sick newborns: Treatment of infections

Interventions to improve outcomes for preterm infants

WHO recommendations: Antenatal Corticosteroid for pregnant women at risk of preterm birth from 24 to 34 weeks within 7 days.

- **Perinatal mortality** (risk ratio 0.72, 95% CI 0.58 - 0.89; n= 6729; trials= 15);
- **Neonatal mortality** (RR 0.69, 95% CI 0.59 to 0.81;n= 7188; trials= 22),
- **RDS** (RR 0.66, 95% CI 0.56 to 0.77; n= 7764; trials= 28); **moderate/severe RDS** (RR 0.59, 95% CI 0.38-0.91; n= 1686; trials= 6); **ventilation requirement** (RR 0.68, 95% CI 0.56 to 0.84; n= 1368; trials= 9)
- **IVH** (RR 0.55, 95% CI 0.40 to 0.76; n= 6093; trials= 16),
- **NEC** (RR 0.50, 95% CI 0.32 to 0.78; n= 4702; trials = 10)
- **Sepsis within 48 hours old** (RR 0.60, 95% CI 0.41 to 0.88; n= 1753; trials = 8).

Roberts, D. và cs (2017). "Antenatal corticosteroids for accelerating fetal lung maturation for women at risk of preterm birth." Cochrane Database of Systematic Reviews **2017**(3).

Interventions to improve outcomes for preterm infants

- Magnesium sulfate for women at risk of imminent preterm birth before 32 weeks of gestation for prevention of cerebral palsy in the infant and child (RR 0.68, 95% CI 0.54-0.87, n=4601, 5 trials)

Doyle, L. W., C. A. Crowther, & cs (2009). "Magnesium sulphate for women at risk of preterm birth for neuroprotection of the fetus." Cochrane database of systematic reviews (Online)(1): CD004661.

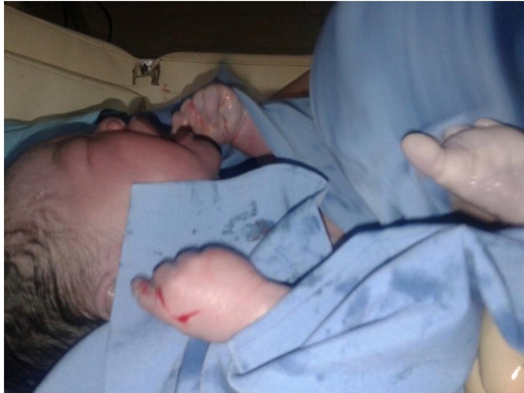
Care for women during labour

Continuous companionship during labour and childbirth.

- Reduce duration of labour 0.69 hours (13 trials, 5429 women, MD 0.69 hours shorter, 95% CI 0.34–1.04 hours shorter) moderate- certainty evidence
- Reduce caesarean section (24 trials, 15 347 women, RR 0.75,95% CI 0.64–0.88; absolute effect: 36 fewer per 1000 [from 17 to 52 fewer]) low certainty evidence
- Reduces low Apgar scores at 5 minutes (14 trials, 12 615 babies, RR 0.62, 95% CI 0.46–0.85; absolute effect: 6 fewer low scores per 1000 [from 2 to 9 fewer]). Moderate certainty evidence

WHO recommendations Intrapartum care for a positive childbirth experience 2018

Essential care
The First Embrace for C-section babies



Drying

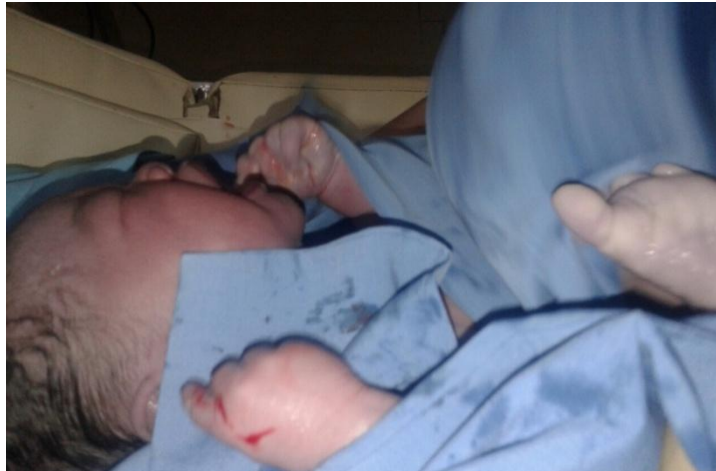
Exclusive breastfeeding

Skin to skin

Delayed cord clamping

1 Drying

- Within 5 seconds at birth
- Thorough drying in 30 seconds
- Drying and assessment
- > 95% newborns will breathe normally



Eyes, face, head, chest, abdomen, arms, legs, back, bottom

Hypothermia increases risk of neonatal death

- Systematic review of 6 studies from low-resource setting, hypothermia increased risk of death 2-6 folds

  Mullany LC. Neonatal Hypothermia in Low-Resource Settings. Seminars in Perinatology 2010;**34**(6):426-3

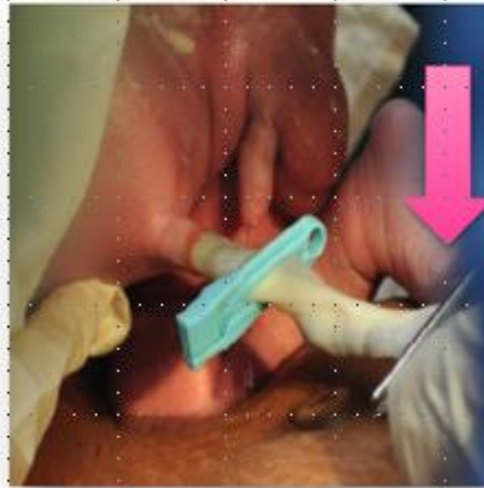
- Study on 5277 babies <1500 grams in US NICUs: admission temperature was inversely related to mortality 28% increase per 1°C decrease and late-onset sepsis 11% increase per 1°C decrease

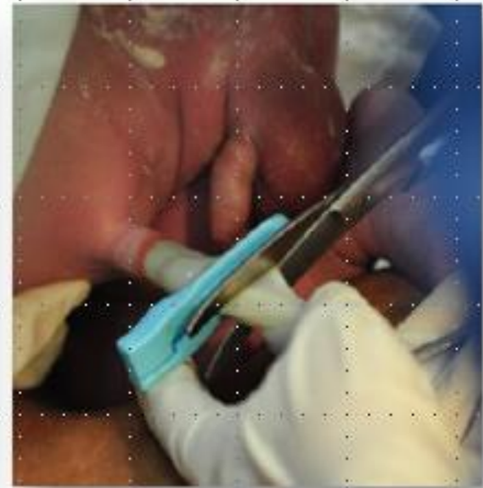
  Laptook AR et al. Admission temperature of low birth weight infants: predictors and associated morbidities. Pediatrics. 2007 Mar;119(3):e643–9.

- Study on 5697 babies 22-31 weeks at 11 European countries, 53.4% < 36.5°C on admission, 12.9% <35.5C. T<35.5C increased risk of death within 1-6 days old, (risk ratio 2.41; 95% CI 1.45-4.00), 7-28 days old (risk ratio 1.79; 1.15-2.78)

  Wilson, E. et al (2016). "Admission Hypothermia in Very Preterm Infants and Neonatal Mortality and Morbidity." J Pediatr **175**: 61-67.e64.

2 Delayed cord clamping





Wait until cord pulsations have stopped; clamp or tie the cord at 2cm from the umbilical base; apply the 2nd clamp 3 cm from the 1st clamp. Cut close to the first clamp

Benefits of delayed cord clamping in fullterm newborns

Systematic review of 15 studies on 3911 mothers and babies

- Haemoglobin: lower in early cord clamping babies at 24 - 48 hours (MD -1.49 g/dL, 95% CI -1.78 -1.21; 884 babies).
- Improve iron storage: double in babies with delayed cord clamping at 3-6 months (RR 2.65 95% CI 1.04-6.73, 5 trials, 1152 infants).
- Phototherapy: less requirement in early cord clamping babies (RR 0.62, 95% CI 0.41 to 0.96, 7 trials, 2324 babies).
- No difference in mortality
- No increase in maternal hemorrhage

McDonald, S. J., P. Middleton, T. Dowswell and P. S. Morris (2013). "Effect of timing of umbilical cord clamping of term infants on maternal and neonatal outcomes." The Cochrane database of systematic reviews **7**: CD004074.

Benefits of delayed cord clamping in preterm newborns

Systematic review of 15 studies on 738 babies 24 - 36 weeks gestation

- Reduce blood transfusion among delayed cord clamping group (RR 0.61, 95%CI 0.46 - 0.81, 7 trials, 392 babies)
- Reduce IVH (RR 0.59, 95% CI 0.41 - 0.85, 10 studies, 539 babies)
- Reduce NEC (RR 0.62, 95% CI 0.43 - 0.90, 5 studies, 241 babies)

Rabe, H., J. L. Diaz-Rossello, L. Duley and T. Dowswell (2012). "Effect of timing of umbilical cord clamping and other strategies to influence placental transfusion at preterm birth on maternal and infant outcomes." Cochrane database of systematic reviews (Online) **8**.

Benefits of delayed cord clamping in preterm newborns

18 RCTs compared delayed vs early cord clamping among 2834 preterm babies

- Reduced neonatal mortality among delayed cord clamping group (RR 0.69, 95% CI 0.52 -0.91).
- 3 studies on 996 babies ≤28 weeks, reduced neonatal mortality among delayed cord clamping group (RR 0.70, 95%CI 0.51 -0.95; NNT 20, 95% CI 11 -100).
- Increased haematocrit 2.73% (95% CI 1.94 -3.52) reduced blood transfusion 10% (95% CI 6 -13%).

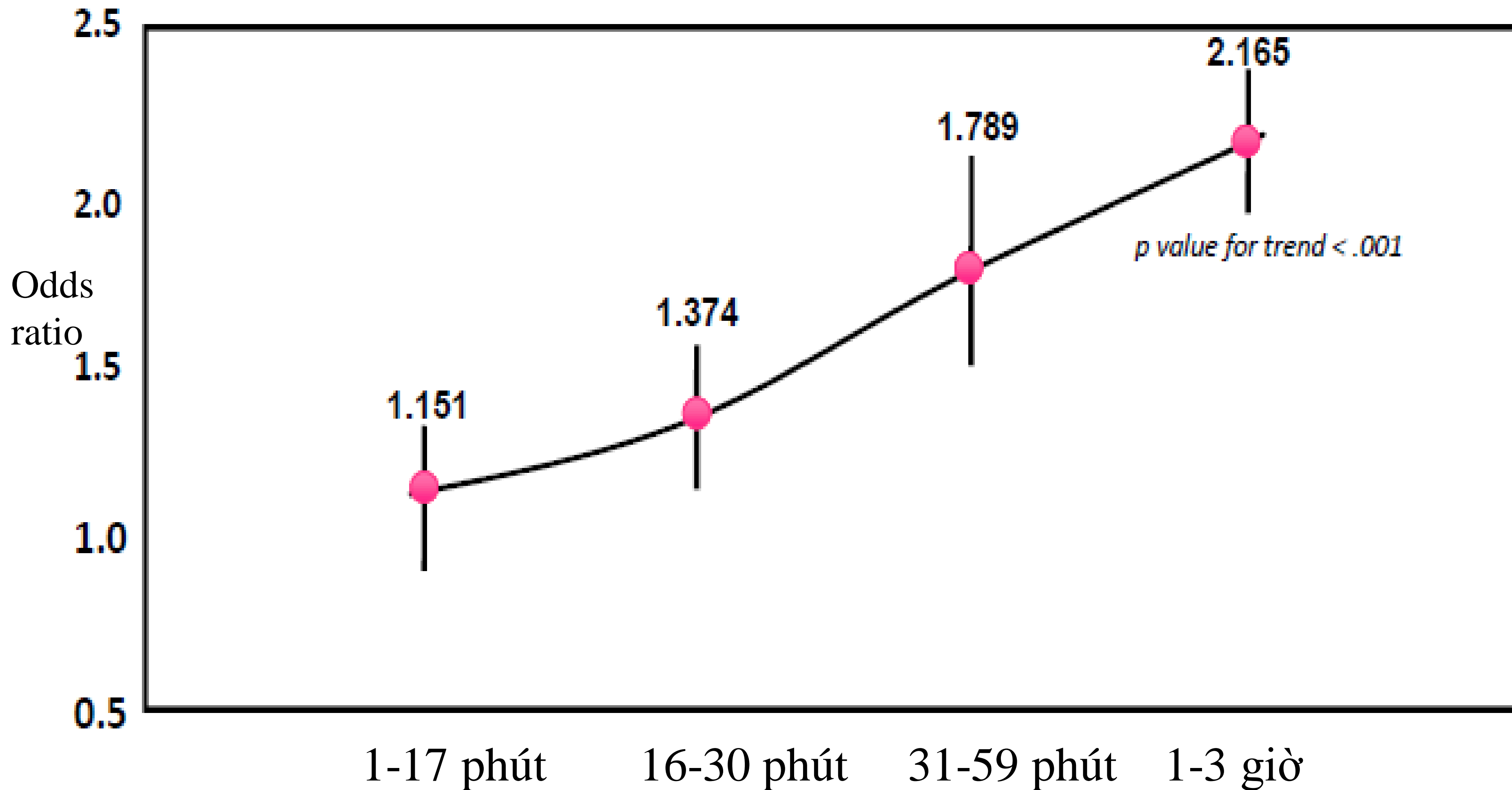
Fogarty, M., D. A. Osborn, L. Askie, A. L. Seidler, K. Hunter, K. Lui, J. Simes and W. Tarnow-Mordi (2018). "Delayed vs early umbilical cord clamping for preterm infants: a systematic review and meta-analysis." Am J Obstet Gynecol **218**(1): 1-18.

2 Skin to skin

WHO recommendations: Continuous skin to skin at least 90 minutes after birth.

- Prevent Hypothermia
- Promote Early and exclusive breastfeeding
- Stimulate immunization
- Friendly bacteria contact
- Prevent hypoglycemia
- Mother-baby bonding
- Benefit Brain development

Duration of skin to skin and exclusive breastfeeding



Bramson, L., J. W. Lee, E. Moore, S. Montgomery, C. Neish, K. Bahjri and C. L. Melcher (2010). "Effect of early skin-to-skin mother--infant contact during the first 3 hours following birth on exclusive breastfeeding during the maternity hospital stay." Journal of human lactation : official journal of International Lactation Consultant Association **26**(2): 130-137.

Benefits of skin to skin contact

Systematic review of 38 trials on 3472 healthy term or late preterm babies at 21 countries (8 studies on C-section babies):

- Breastfeeding longer: 64 days (95% CI 38-90 days, 6 trials, n=264)
- More likely to breast feed successfully during their first feed (RR 1.32, 95% CI 1.04 -1.67)
- Higher mean scores for breastfeeding effectiveness (MD 2.28 95% CI 1.41-3.15)
- Cardio-respiratory stabilization (MD 1.24, 95% CI 0.76 -1.72)
- Higher blood glucose levels (MD 10.49, 95% CI 8.39 -12.59)
- Mild difference in temperature (MD 0.30 °, 95% CI 0.13 °C- 0.47 °C);

Moore, E. R., N. Bergman, G. C. Anderson and N. Medley (2016). "Early skin-to-skin contact for mothers and their healthy newborn infants." Cochrane Database of Systematic Reviews **2016**(11).

Skin to skin after C-section

- Reduce newborn admission & newborn infections without increasing surgical site infections
  - 285 (44%) SSC group and 365 (56%) non SSC. No difference in surgical site infections (2.1% vs 1.6%; RR 1.1; 95%CI 0.64–2.0), or maternal outcomes.
  - Reduced newborn admission among SSC group (9.5% versus 18%; RR 0.58; 95%CI 0.41–0.80) reduced suspected infections (2.0% vs 7.3%; RR 0.40; 95%CI 0.19–0.83).

Posthuma, S., (2017) "Risks and benefits of the skin-to-skin cesarean section–a retrospective cohort study." Journal of Maternal-Fetal and Neonatal Medicine **30**(2): 159-163.

Skin to skin after C-section

- Nghiên cứu tại 1 bv USA, mổ đẻ không cấp cứu từ tuần 37 đến 42 từ năm 2011 đến 2015: 2 năm trước khi thực hiện da kề da (2011–2012) và 3 năm sau khi thực hiện da kề da (2013–2015).
  - 60 (5.6%) của 1,070 trẻ đã nhập vào đơn vị Hồi sức tích cực sơ sinh trước khi thực hiện da kề da so với chỉ 31 (1.75%) của 1,771 sau khi thực hiện (Pearson's $\chi 2 = 32.004$, df = 1, $p < .001$)

  Schneider, L. W., J. T. Crenshaw and R. E. Gilder (2017). "Influence of Immediate Skin-to-Skin Contact During Cesarean Surgery on Rate of Transfer of Newborns to NICU for Observation." Nurs Womens Health **21**(1): 28-33.

- Nghiên cứu trên 90 cặp mẹ con, chỉ số stress thấp hơn và có nồng độ oxytocin cao hơn ở bà mẹ có trẻ được làm da kề da ngay sau sinh và bú mẹ

  Yuksel, B., (2016) "Immediate breastfeeding and skin-to-skin contact during cesarean section decreases maternal oxidative stress, a prospective randomized case-controlled study." Journal of Maternal-Fetal and Neonatal Medicine **29**(16): 2691-2696.

Skin to skin after C-section

- Nghiên cứu tại BV Castelli ở Italy trong năm 2012 trên 252 sản phụ mổ đẻ; chia thành 3 nhóm: trẻ sinh ra được thực hiện da kề da với mẹ (n=145, 57.5%), da kề da với bố (n=44, 17.5%), và không được làm da kề da (n=63, 25%). Tỉ lệ bú sữa mẹ hoàn toàn tại thời điểm ra viện, 3 tháng, 6 tháng đều cao hơn ở nhóm được thực hiện da kề da với mẹ.

Guala, A., L. Boscardini, and E. Finale (2017). "Skin-to-Skin Contact in Cesarean Birth and Duration of Breastfeeding: A Cohort Study." ScientificWorldJournal **2017**: 1940756.

Groups[†]	T0			3M			6M		
	n/tot	%	95% CI	*n*/tot	%	95% CI	*n*/tot	%	95% CI
M	95/145	65	(57–73)	79/145	55	(46–63)	18/145	12	(7.5–19)
F	16/44	36	(22–52)	14/44	32	(19–48)	4/44	9	(2.5–22)
NM_NF	20/63	32	(21–45)	19/63	30	(19–43)	2/63	3	(0.4–11)
Overall *p* Chi2		<0.0001			0.0009			0.1129	
p for trend Chi2		<0.0001			0.0004			0.0383	

Difference between proportions (%)

Contrasts	*p*[‡]	95% CI diff	*p*[‡]	95% CI diff	*p*[‡]	95% CI diff
M versus F	0.0006	(13–45)	0.0084	(6.7–39)	0.547	(6.7–13)
M versus NM_NF	<0.0001	(20–48)	0.001	(10–38)	0.0378	(2.3–16)

[†]M: SSC mother; F: SSC father; NM_NF: no SSC; [‡]*p* values uncorrected for multiple comparisons; T0: discharge; 3M: 3 months; 6M: 6 months.

Benefits of kangaroo mother care for preterm/LBW infants

Systematic review 124 studies (63 RCTs)

KMC group vs non KMC group:

- 36% mortality reduction (95% CI: 11-54%)
- 47% sepsis reduction (95% CI: 17-66%)
- 78% hypothermia reduction (95% CI: 59-88%)
- 88% hypoglycemia reduction (95% CI: 68-95%)
- 58% rehospitalization reduction (95% CI: 24-77%)
- 50% breastfeeding increase (95% CI: 26-78%)

Boundy EO et al. Kangaroo Mother Care and Neonatal Outcomes: A Meta-analysis. Pediatrics 2016;137: e2 0152238

4 Early breastfeeding

No separation between mothers and babies before the first feed

Delay eye care, newborn exam, measurement, vancination, Vit K1 injection until after the first feed and 90 minutes of skin to skin care

Why is early breastfeeding important?

Delaying the first breastfeeding increases risk of death due to infections, Study in Nepal 2008, N = 22, 838

Risk

12
11
10
9
8
7
6
5
4
3
2
1
0

<1
1-24
24-48
48-72
>72

Hours after birth Mullany LC, et al. *JNutr, 2008; 138(3):599-603.*

Benefits of breastfeeding

- The risk of all-cause mortality was higher in predominantly (RR 1.5), partially (RR 4.8) and nonbreastfed (RR14.4) infants compared to exclusively breastfed infants 0–5 months of age. Non breastfed infants at 12-23 months increase risk of death twice (Sankar, Sinha et al. 2015).
- Reduce type 2 diabetes, obesity 13% (Horta, Loret De Mola et al. 2015)
- Increase IQ (Horta, Loret De Mola et al. 2015).
- In Viet Nam 1 USD invested on breastfeeding gained 2.39 USD (Walters, Horton et al. 2016)

Breathing babies received skin-to-skin contact at least 90 munities

80%
70%
60%
50%
40%
30%
20%
10%
0%

76%
29/38

18%
28/159

14%
33/230

55%
16/29

0/39

0

Term

Preterm

National Provincial District

Survey in 48 hospital
5/2017
*National OBGYN surveyed on babies with normal vaginal delivery only

Skin to skin contact for C-section in 8 priority countries in Western Pacific Region

Percentage of caesarean section deliveries receiving any skin-to-skin contact

Country	Percentage
KHM	31%
CHN	0%
LAO	0%
MNG	48%
PHL	52%
PNG	50%
SLB	40%
VNM	17%

Y-axis: 0%, 20%, 40%, 60%, 80%, 100%

Action plan for healthy newborn infants in the Western Pacific region, second biennial progress report, 2017

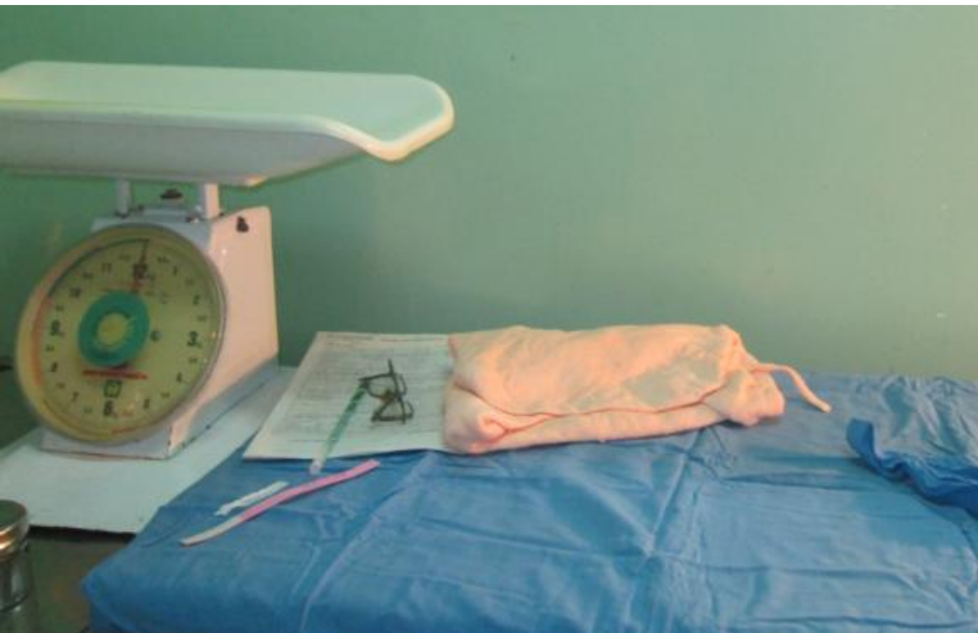
Breastfeeding in 8 priority countries in Western Pacific Region

Percentage

	KHM	CHN	LAO	MNG	PNG	PHL	SLB	VNM
Newborns receiving a prelacteal feed	24	No data CHN	23	26	No data PNG	36	4	72
Newborns breastfed within 1 hour of birth	63	No data CHN	39	95	No data PNG	50	79	73
Newborns exclusively breastfed 0 - 1 month	80	No data CHN, LAO & MNG	No data CHN, LAO & MNG	No data CHN, LAO & MNG	80	90	87	27

Action plan for healthy newborn infants in the Western Pacific region, second biennial progress report, 2017

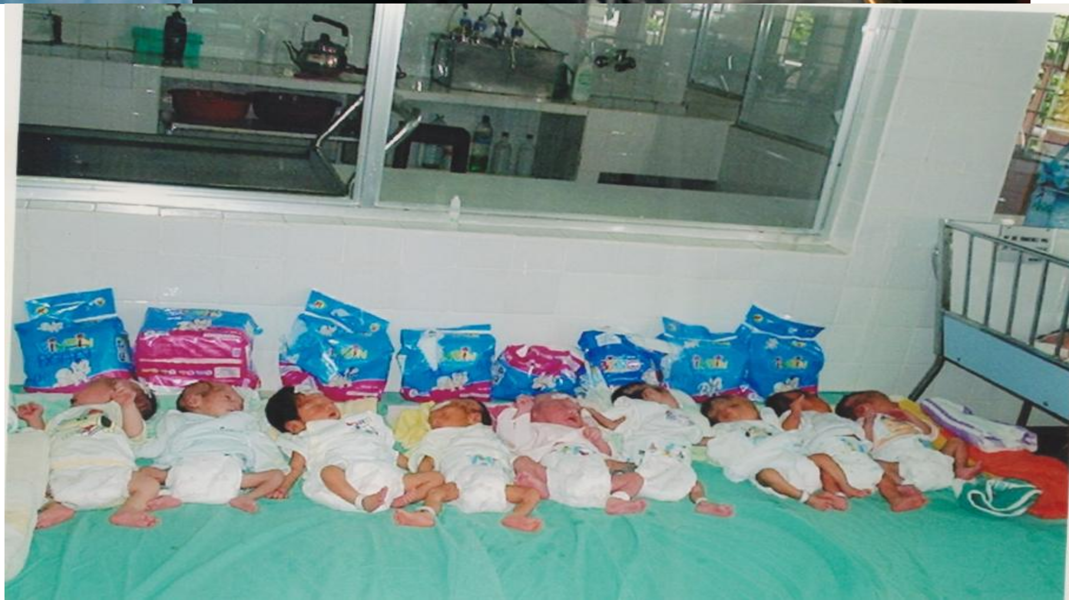
Da Nang – before EENC



Separation mothers and babies

Routine separation after C-section and formula feeding

Resuscitation far away from operation room



Progress of EENC in Da Nang

T5 2014
- Thảo luận giữa SYT và A&T
- Tham dự hội thảo EENC của BYT và WHO/UNICEF
- Huấn luyện nhóm EENC của bệnh viện

T6-7l
- Ca da kề da đầu tiên cho sinh thường 5/7/2014
- Huấn luyện nhân viên bệnh viện do A&T tài trợ
- Tập huấn do WHO/BYT tổ chức

T8-T9
- Ca da kề da đầu tiên sau sinh mổ 15/9/2014
- Chính thức thành lập đội EENC của bệnh viện
- Quy trình da kề da sau mổ đẻ

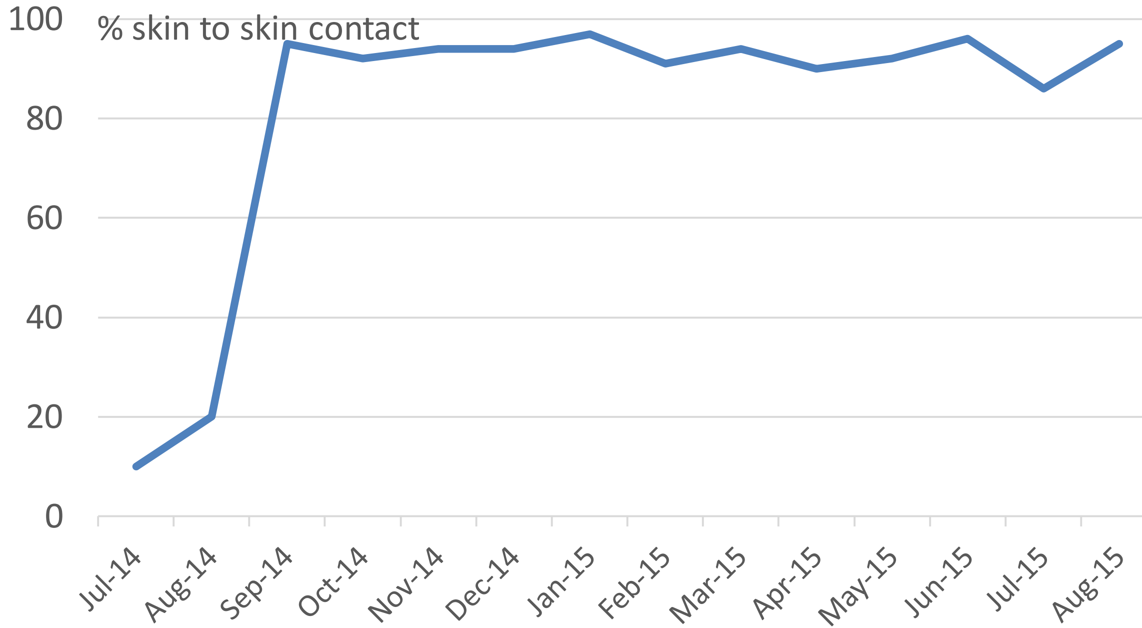
T10-11
- Da kề da cho tất cả trẻ sinh mổ 20/10/2014
- Huấn luyện thêm nhân viên y tế do A&T tài trợ
- Quyết định 4673 và quy trình EENC của BYT

2015
- Tập huấn tăng cường chất lượng EENC, quy trình giám sát và đánh giá
- Hỗ trợ VSKBMTE huấn luyện EENC cho các BV và trường y tế
- Giám sát 16 BV miền Trung và hội thảo tổng kết toàn quốc

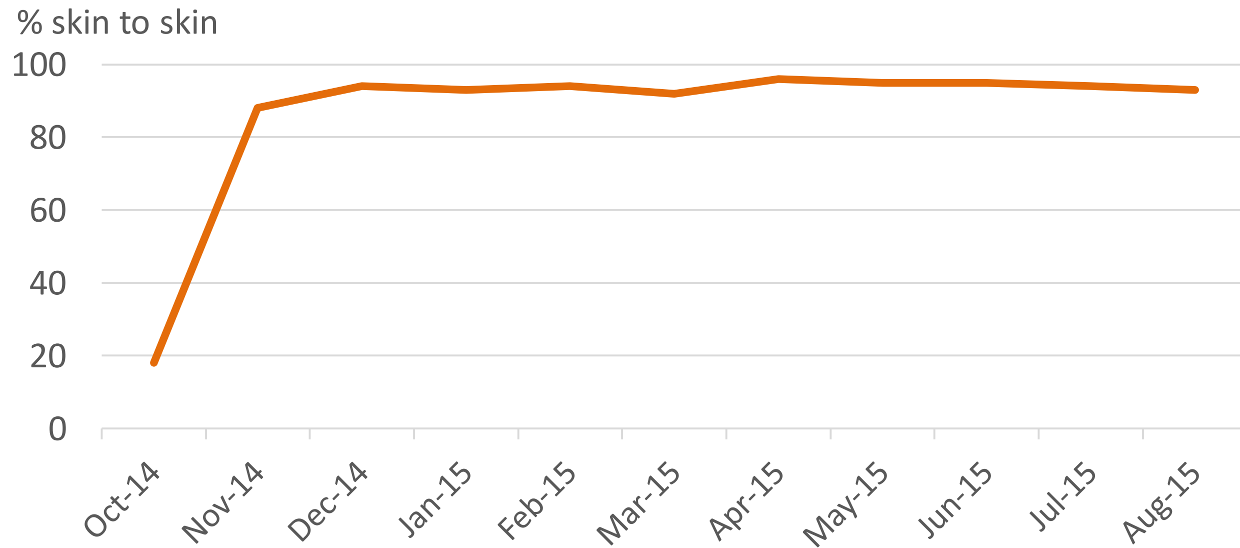
2016
- Hội thảo chăm sóc bà mẹ Kangarooo với WHO
  Đào tạo PP chăm sóc bà mẹ Kangaroo cho tất cả các BV tại tỉnh Quảng Nam
- Quyết định của BYT về chăm sóc da kề da sau mổ đẻ

2017
- Thực hiện giám sát và đào tạo chương trình giám sát EENC
- Đào tạo EENC sinh mổ cho các giảng viên tuyến tỉnh và đẩy mạnh triển khai
- Hội thảo EEENC khu vực Tây Thái Bình Dương tại Đà Nẵng

Skin to skin after vaginal delivery



Skin to skin after C-section



EENC in operation room

- Video clip

https://www.youtube.com/watch?v=LIIZn19O3Jk&t=56s

Outcomes after the first embrace

■ Before EENC Nov 13-Oct 14 ■ After EENC Nov 14-Oct 15

	Before EENC (Nov 13-Oct 14)	After EENC (Nov 14-Oct 15)
NICU admission % live births	18.3	12.3
Antibiotic use % live births	7.1	3.1
Hypothermia % NICU admissions	5.4	3.8
Kangaroo care/10 babies <2000 g	4.6	6.1
Exc BF on NICU discharge/10 babies	4.8	8.5
Exc breastfeeding in postanal ward/10 babies	2.7	7.8
Neonatal deaths ‰ live births	9	8

NHI SƠ SINH ĐÀ NẴNG
CHO CON YÊU KHỎE MẠNH

Knowledge, altitude of health professionals on EENC following C-section in Da Nang

- Surver on 204 staff, 31 (15.2%) OB doctors, 69 (33.8%) miwives, 35 (17.1%) BS & điều dưỡng gây mê, 9 (4.4%) BS Sơ sinh, 42 (20.6%) điều dưỡng sơ sinh và 18 (8.8%) khác.
- Anesthesia staff has lowest EENC knowledge score (2 vs 3.5/5 ở các nhóm khác)
- Staff concerned:
  - Low temperature (42% bs sản, 54% NHS, 46% gây mê, 26% sơ sinh)
  - Additional staff (42% BS sản, 30% NHS, 43% gây mê, 31% sơ sinh)
  - Babies may fall
  - Prolong C-section
  - Khó khăn trong chăm sóc mẹ và con

Knowledge, altitude of health professionals on EENC following C-section in Da Nang

All OB (100%), 89.7% midwives, 80% anes staff & 98% NICU staff agreed that skin to skin far outweigh the difficulty of implementation

Training

30 hướng dẫn viên EENC BV Phụ sản-Nhi Đà Nẵng đào tạo

- 549 nhân viên y tế tại TP Đà Nẵng
- 183 nhân viên y tế tỉnh Quảng Nam
- 86 nhân viên y tế Quãng Ngãi, Quãng Trị và Quãng Bình
- 121 nhân viên 9 tỉnh khác về EENC mổ đẻ
- 26 học viên quốc tế từ Pakistan, Maroc, Campuchia
- Hỗ trợ VSKBMTE đào tạo giảng viên các trường y tế ở miền Trung, và nhân viên y tế 10 BV tỉnh miền núi
- Hỗ trợ VSKBMTE đào tạo chương trình giám sát EENC cho 22 tỉnh

C-section in Da Nang

	All city			DN Hos for Women and Children			District hospital			**Private hospital**		
	Cs	Total	%	Cs	Tổng sinh	%	Mổ đẻ	Tổng sinh	%	Mổ đẻ	Tổng sinh	%
2009	4,701	13,254	35.5	2,973	6,199	48.0	1,728	5,271	32.8			
2010	5,388	13,007	41.4	2,485	5,990	41.5	1,216	4,374	27.8	1,687	2,430	69.4
2011	6,754	17,029	39.7	3,381	7,982	42.4	1,728	5,945	29.1	2,036	3,461	58.8
2012	10,045	20,408	49.2	5,509	10,377	53.1	2,405	6,456	37.3	2,131	3,367	63.3
2013	9,037	16,738	54.0	5,375	8,913	60.3	2,164	5,445	39.7	1,498	2,336	64.1
2014	9129	15952	57.2	5223	8428	62.0	2225	5018	44.3	1681	2440	68.9
2015	9399	16734	56.2	4888	8132	60.1	2206	5039	43.8	2305	3541	65.1
2016	8607	15038	57.2	4215	6950	60.6	2152	4601	46.8	2240	3474	64.5
2017	9439	16269	**58.0**	4131	7302	**56.6**	1893	4225	44.8	3415	4734	**72.1**

Skin to skin in Da Nang

	Vaginal				C-section			
Bệnh viện	N	<2500g	SSC	Early BF	N	<2500g	SSC	SSC
1. Provincial hospi								
BV Phụ sản-Nhi	6906	737	6477	6454	8516	762	8230	8236
2. PRivate								
Bình Dân	15	0	15	15	75	0	75	75
Hoàn Mỹ	260	2	254	254	591	11	547	547
Phụ Nữ	395	6	391	391	1150	8	1147	1147
Gia đình	485	0	482	482	1226	0	1225	1225
Tâm Trí	282	0	282	282	600	0	600	600
3. Districts								
Ngũ Hành Sơn	13	1	13	13	0	0	0	0
Thanh Khê	23	0	23	23	1	0	1	1
Cẩm Lệ	831	2	832	832	762	4	763	763
Hoà Vang	8	0	6	8	0	0	0	0
Liên Chiểu	238	0	238	238	86	0	86	86
Sơn Trà	485	2	474	485	343	0	343	343
Hải Châu	770	7	768	768	798	0	753	750
City	10711	757	10255	10245	14148	785	13770	13773
Tỷ lệ		7%	96%	96%		5.5%	97%	97%

Maitain EENC

- Frequent EENC team meeting
- Interview mothers before discharge
- Observe practice
- Gap finding and solution
- Collaborate with public media
- Support from different sources

Challenges

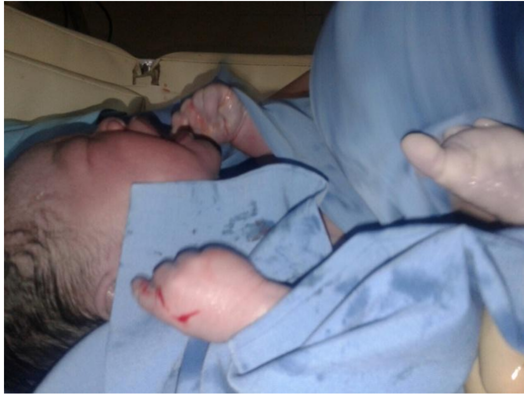
- Incomprehensive prenatal care and consultation
- Obstetric care: unfriendly delivery room, inpatient labour monitoring, high C-section rate.
- Low percentage of C-section babies with skin-to-skin care
- Basic newborn care has not been paid adequate attention: steps for the first embrace and neonatal resuscitation
- Routine separation of mothers and preterm/LBW babies in many hospitals
- High rate of formula use
- Not been paid adequate attention to basic equipment for newborn care and infection control

Our Actions

- Strengthen laws, regulations, policies, guidelines and advocacy
  - Include in strategy for women and child health
  - Update national guidelines
  - Include in hospital standards
  - Include in curriculum of medical/nursing university
- Cascade EENC & KMC with Centres of Excellence and national/provincial hospital playing leading role
- Enhance and maintain EENC quality
  - Establish functional EENC team in hospital
  - Frequent monitoring
  - Establish good data system and frequent report to MOH

Our Actions

- Overcome barriers in obstetric care
  - High C-section rate: comprehensive prenatal care and consultation, establish women friendly labour ward
  - Implement the first embrace for all eligible C-section babies
- Overcome barriers in neonatal care
  - Pay attention on basic: EENC, KMC, infection control
  - Stop routine separation mothers and preterm/LBW babies
  - Sufficient basic equipment for newborn care
- Close collaboration between obstetrics and newborn care
- Involve multiple supportive sources



Drying

Exclusive breastfeeding

Skin to skin

Delayed cord clamping