

Besaran Masalah Preterm Indonesia

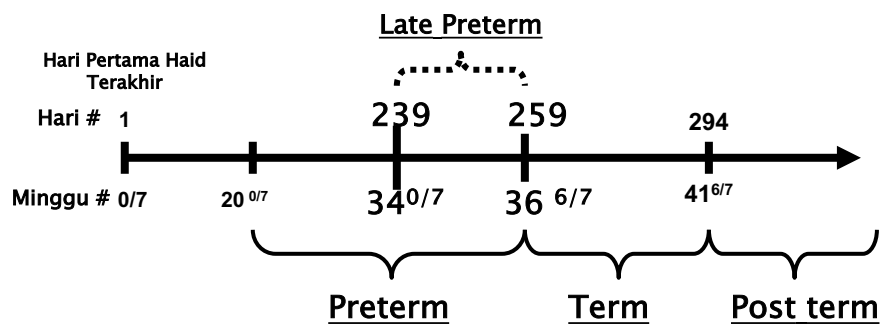


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Jakarta-Indonesia



Terminologi Usia kehamilan



❖ **Preterm:** Sebelum lengkap 37 minggu (36 6/7 minggu; atau sebelum 259 hari)

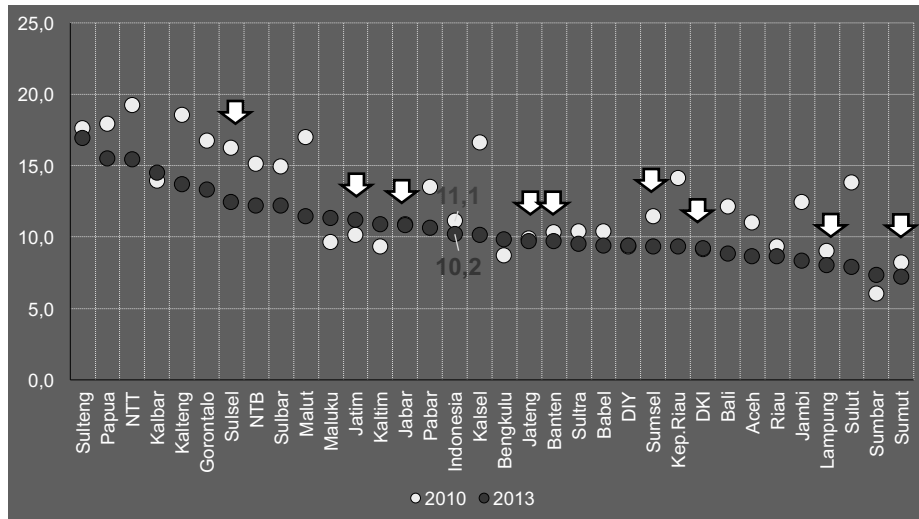
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Slide courtesy of Dr. Tonse Raju, 2007 presentation

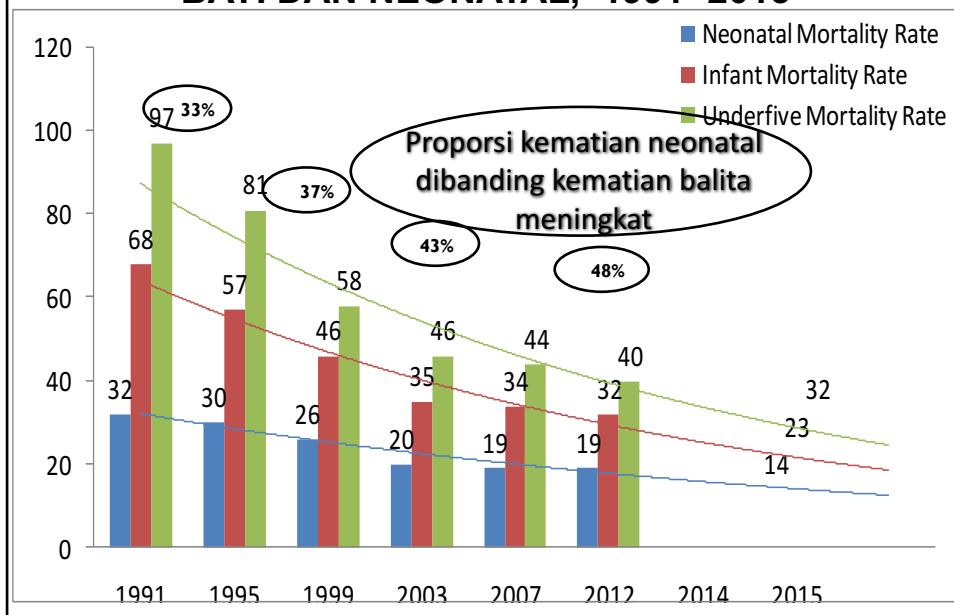
Drawing courtesy: William Engle, MD, Indiana University

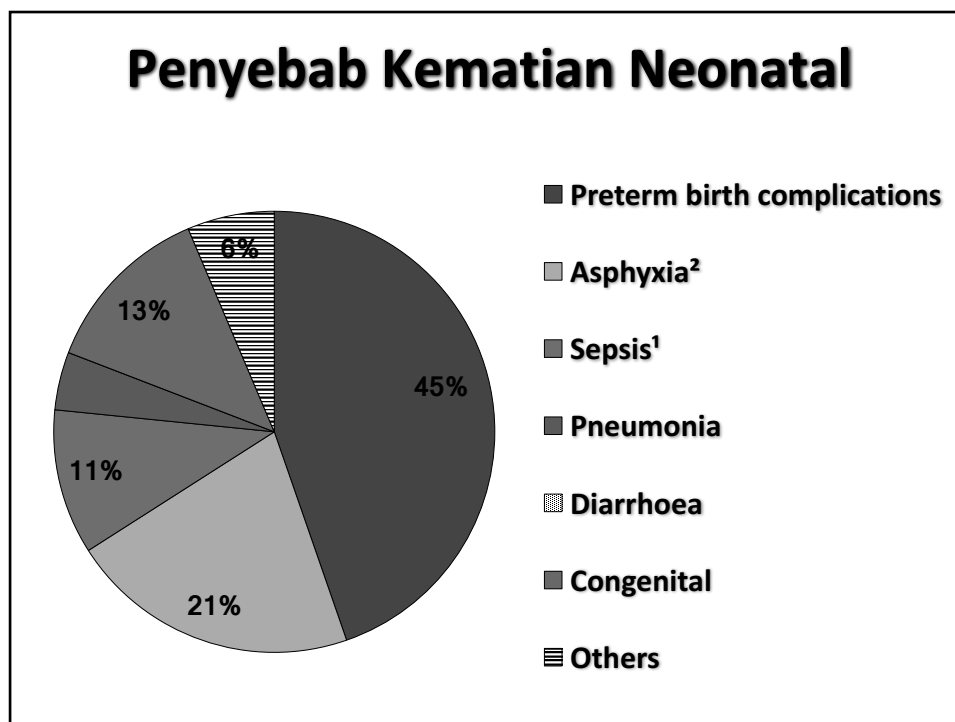
PROPORSI BBLR TAHUN 2010-2013 MENURUT PROVINSI



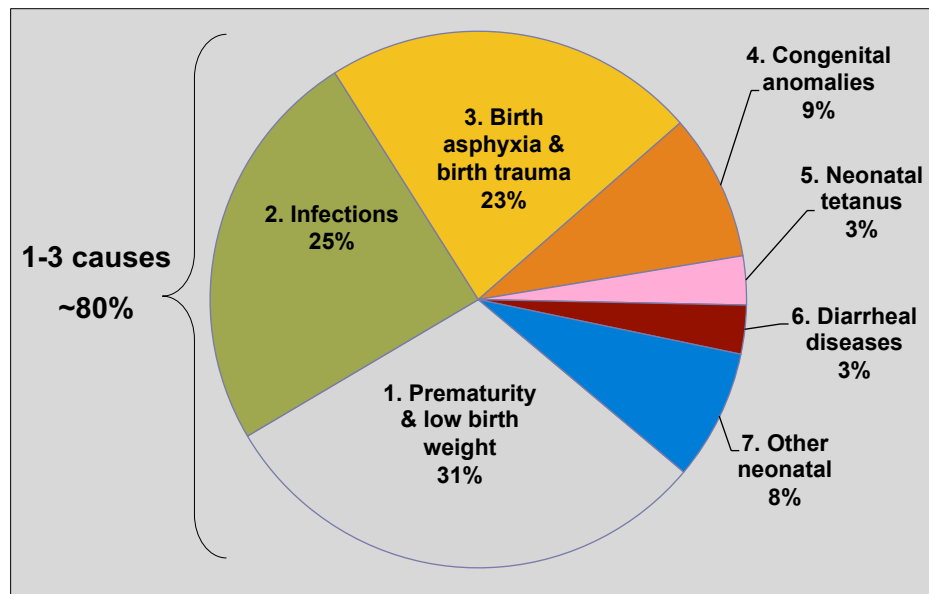
Riskseddas 2013

KECENDERONGAN ANGKA KEMATIAN BALITA, BAYI DAN NEONATAL, 1991 -2015





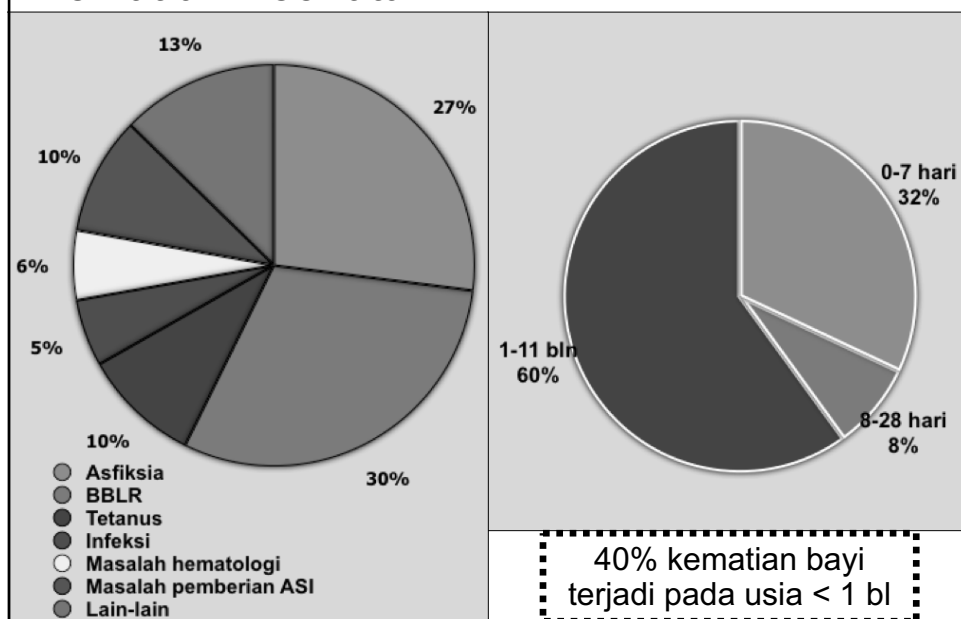
Penyebab Utama Kematian Neonatal

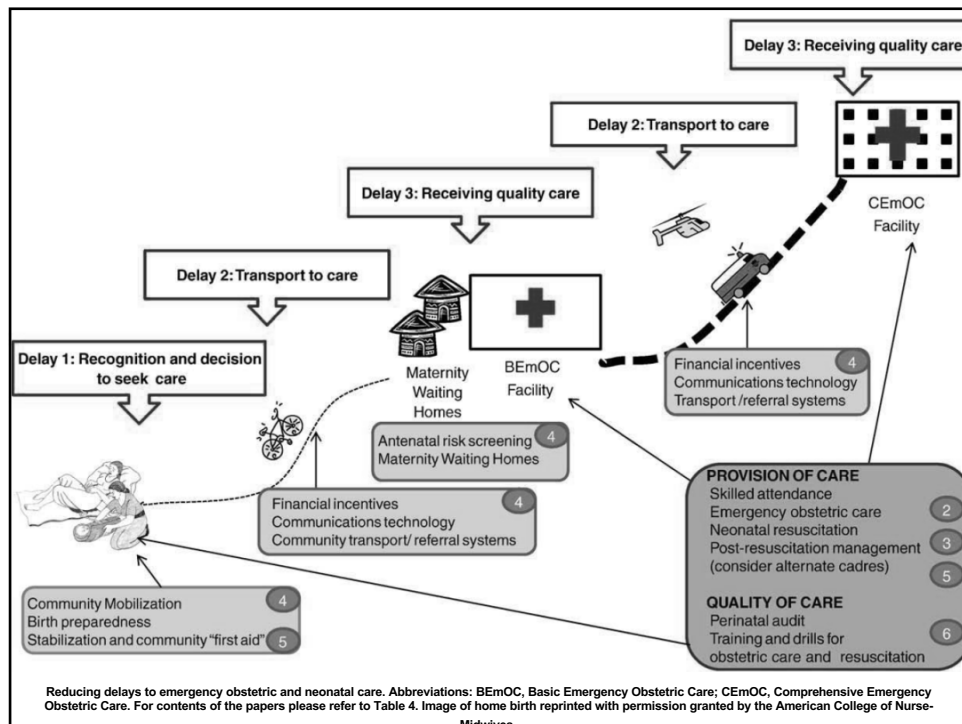


Source: World Health Organization. The Global Burden of Disease: 2004 update. WHO, Geneva, 2008.

Penyebab Kematian Neonatal

Proporsi kematian 0-1 th





Komplikasi Bayi Prematur

Permasalahan jangka pendek dan jangka panjang pada bayi prematur dengan VLBW

Organ / sistem yang terganggu	Permasalahan jangka pendek	Permasalahan jangka panjang
Paru	Sindrom gagal napas, kebocoran udara, displasia bronkopulmonar, henti napas	Displasia bronkopulmonar, asma, penyakit paru reaktif
Gastrointestinal / nutrisi	Hiperbilirubinemia, intoleransi makanan, enterokolitis nekrotikans, gagal tumbuh	Failure to thrive short-bowel syndrome, kolestasis
Imunologi	Hospital-acquired infection, defisiensi imun, infeksi perinatal	Respiratory syncytial virus infection Bronkiolitis
Sistem saraf pusat	Perdarahan intraventrikel, periventricular white-matter injury, hidrosefalus	Cerebral palsy, hidrosefalus, atrofi serebral, keterlambatan perkembangan saraf, gangguan pendengaran
Mata	Retinopati prematuritas	Kebutaan, retinal detachment, miopia, strabismus
Kardiovaskular	Hipotensi, PDA, hipertensi pulmonal	Hipertensi pulmonal, hipertensi pada usia dewasa
Ginjal	Ketidakseimbangan cairan dan elektrolit, gangguan keseimbangan asam basa	Hipertensi pada usia dewasa
Hematologi	Anemia iatrogenik, kebutuhan untuk transfusi anemia pada prematuritas	
Endokrin	Hipoglikemia, rendahnya hormon tiroksin (transien), defisiensi kortisol	Gangguan regulasi glukosa, peningkatan resistensi insulin

Biaya Persalinan Bayi Preterm Bayi Sehat Normal - \$3,640

Kondisi bayi	Jumlah Bayi	Rerata Biaya	Total Biaya
Late Preterm	4,546	\$ 8,032	\$ 36,515,327
Preterm	6,686	\$19,781	\$132,255,522
Very Preterm	1,332	\$59,320	\$ 79,013,727
Very Low Birthweight	1,217	\$63,877	\$ 77,738,693
Birth Defect	1,622	\$34,713	\$ 56,304,736
Infant Death	485	\$35,327	\$17,133,818
Neonatal Death (< 28 days of life)	263	\$ 16,581	\$ 4,360,854
At Risk Birth	3,523	\$36,976	\$130,268,583

Estimasi biaya akibat persalinan preterm selama periode 12 bulan setelah lahir (Inggris)

No	Komponen biaya	Biaya yang dikeluarkan (UK£)
1.	Biaya rawat inap di rumah sakit	605
2.	Biaya rawat jalan	255
3.	Biaya layanan sosial dan komunitas	422
4.	Biaya obat	10
5.	Biaya pendidikan	7.620
6.	Pengeluaran tambahan keluarga	573
7.	Biaya tidak langsung	56
	Total	9.541

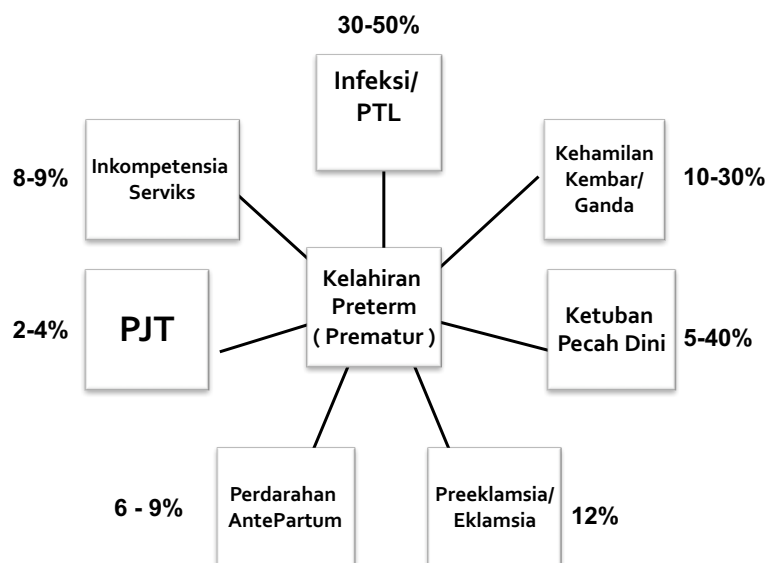
Petrou S, Henderson J, Bracewell M, Hockley C, Wolke D, Marlow N. Pushing the boundaries of viability: the economic impact of extreme preterm birth. *Early Human Development* (2006) 82, 77—84.

**Estimasi biaya akibat persalinan preterm selama periode
1 bulan setelah lahir di perawatan Perinatologi RSCM**

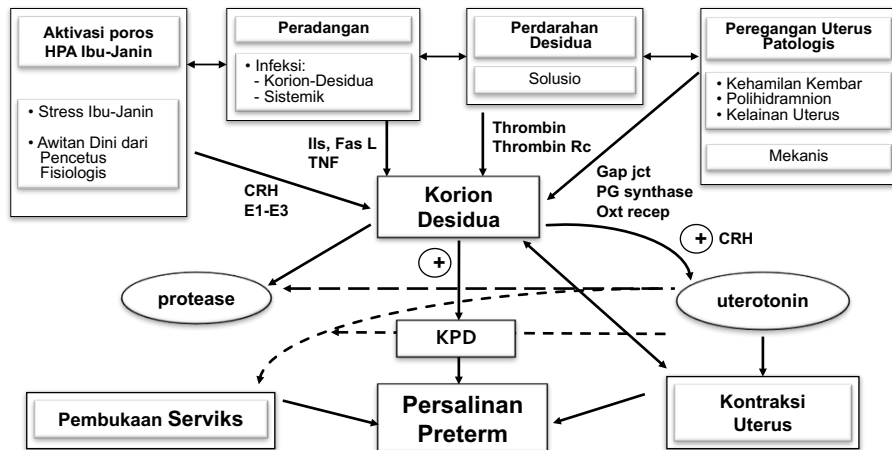
No	Komponen biaya	Biaya yang dikeluarkan 28 – 32 mg (30 hr) / Jt Rp
	Biaya rawat inap di rumah sakit	
1.	SCN 1- 2	30 x 1.5 = 45
	NICU	30 x 2.5 = 75
2.	Biaya rawat jalan	
3.	Biaya layanan sosial dan komunitas	
4.	Biaya obat	30 x 3.5 = 105
5.	Biaya pendidikan	
6.	Pengeluaran tambahan keluarga	30 x 0.05 = 1.5
7.	Biaya tidak langsung	30 x 0.05 = 1.5
	Total	30 hari = 153 - 183

Data perawatan perinatologi RSCM 2010

Penyebab Kelahiran Preterm

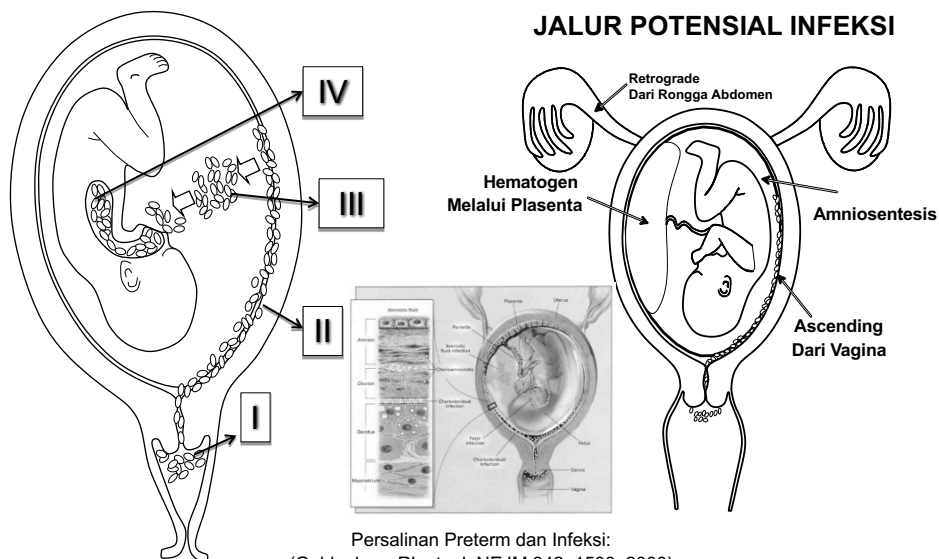


Jalur Menuju Kelahiran Preterm

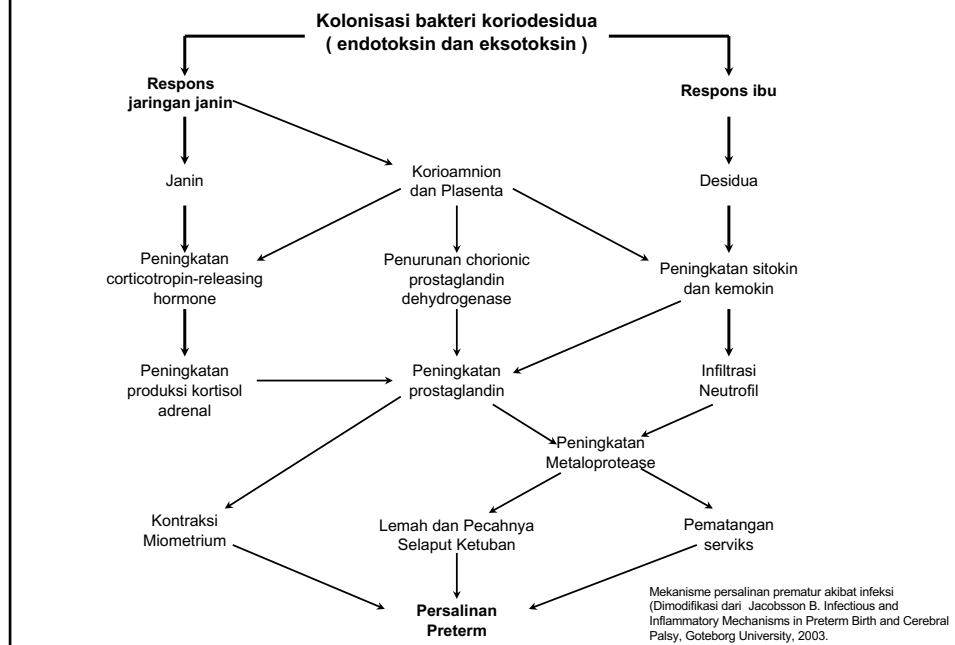


Sumber: Lockwood CL.2002.

Infeksi dan Kelahiran Preterm



Hubungan Respon Inflamasi & Persalinan Preterm



Faktor Risiko Persalinan Preterm

- Riwayat Persalinan Preterm (15-30%)
- Riwayat Keguguran
- Riwayat Merokok
- Keputihan
- Infeksi gigi/Periodontal
- Usia >35 Atau <17
- Status Socioeconomi Rendah
- Berat badan Kurang < 50kg
- Perdarahan Pervaginasi Trimester 1
- Beban Kerja berdiri 40 jam / minggu
- Kelainan Uterus
- Riwayat Ketuban Pecah

Infeksi yang berhubungan dengan kelahiran preterm

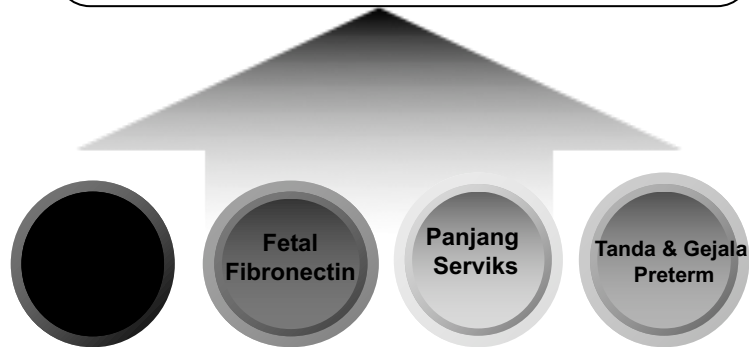
- ✓ Infeksi Menular Seksual
- ✓ Vaginosis Bakterialis
- ✓ Infeksi Saluran Kemih
 - Bakteriuria asimtomatis
 - Pielonefritis
- ✓ Pneumonia
- ✓ Peritonitis
- ✓ Penyakit Periodontal (Gigi dan Mulut)

Penilaian Pasien dg Ancaman Persalinan Preterm

- Anamnesa Risiko (Riw Preterm, Status Ketuban, Cairan vagina/keputihan, Demam, Jumlah janin, Riwayat medis terkait infeksi)
- Rekaman Toco dynamometer & FHR (CTG)
- Pemeriksaan Fisik- Tinggi fundus dan kontraksi
- Lab Darah lengkap, Urinalisa-kultur, elektrolit
- Pem spekulum steril: BV, kultur, fFN
- Pengukuran panjang serviks
- Pemeriksaan dalam jika diperlukan

Persalinan Preterm

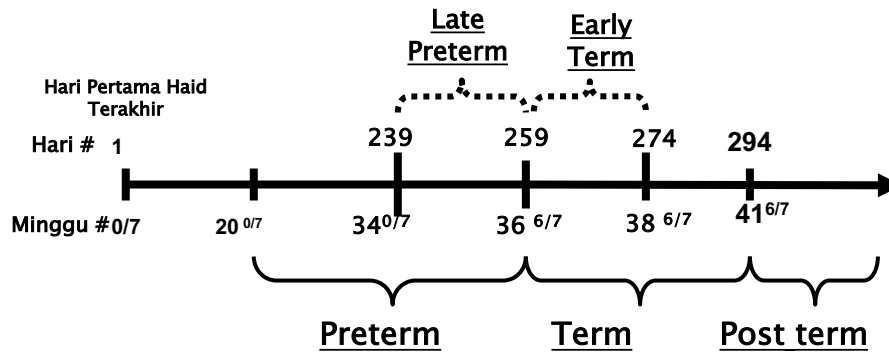
Analisa Faktor Risiko untuk Deteksi Dini



Pemberian Antenatal Steroids

- Menurunkan kejadian dari RDS, IVH, NEC, Sepsis & kematian sampai 50 % pd 1 x pemberian
- Diberikan pada selaput ketuban Utuh / Pecah : 24-34 minggu
- Betamethasone 12 mg/12 jam, 24 jam
- Dexamethasone 6 mg/ 12 jam, 48 jam

Terminologi Gestational Age



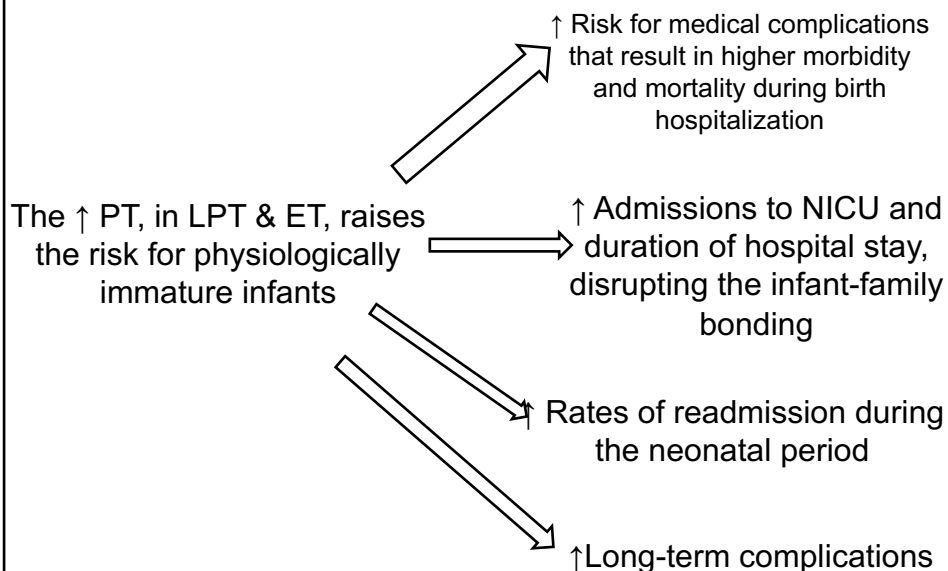
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Preterm ≠ Late Preterm ≠ Early term ≠ Term



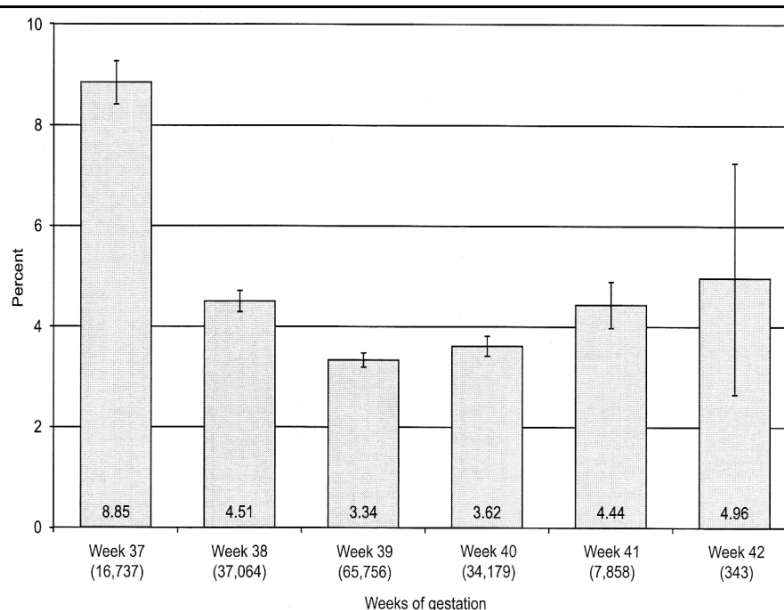


Fig. 1. Rate of neonatal intensive care unit admissions for normal pregnancies by gestational age. Two standard deviations shown by vertical lines. Data from Intermountain Healthcare.

Oshiro. *Decreasing Elective Deliveries Before 39 Weeks.* *Obstet Gynecol* 2009.

TABLE
Elective delivery and neonatal outcome

Variable	37 wk	38 wk	39+ wk
Elective inductions	112	678	2004
NICU admissions	17	44	61
%	15.2 ($P = .003$)	7.0 ($P < .001$)	6.0
Elective repeat cesarean	105	696	776
NICU admissions	21	58	62
%	20.0 ($P < .001$)	8.3 ($P = NS$)	8.0
Elective primary cesareans	24	97	153
NICU admissions	5	16	12
%	20.8 ($P = NS$) ^a	16.5 ($P = NS$) ^a	7.8
Total elective deliveries	241	1471	2933
NICU admissions	43	118	135
%	17.8 ($P < .001$)	8.0 ($P < .001$)	4.6

NICU, neonatal intensive care unit; NS, nonsignificant.

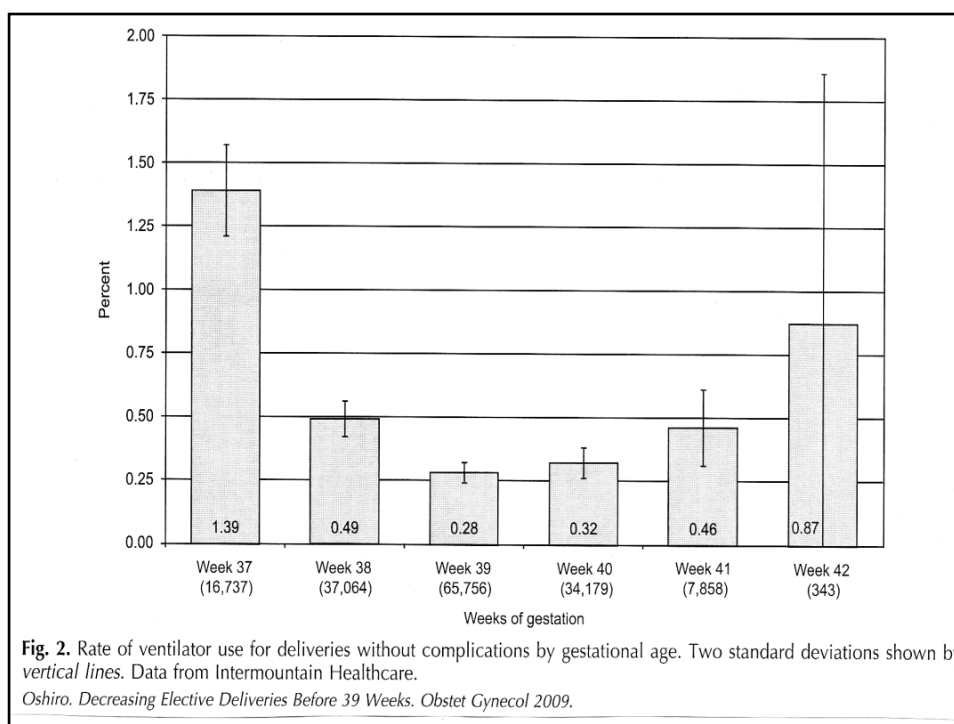
Statistical analysis represents a comparison of each gestational age to the subsequent gestational age category.

^a For 37 + 38 wk elective primary cesarean vs 39+ wk elective primary cesarean, $P = .027$.

Clark. *Neonatal and maternal outcomes associated with elective term delivery.* *Am J Obstet Gynecol* 2009.

Outcome During Initial Birth Hospitalization	Late-Preterm Morbidity		Term Morbidity		OR (95% CI)	P
	No.	%	No.	%		
Feeding difficulties	29	<u>32.2</u>	7	<u>7.4</u>	—	—
Hypoglycemia	14	<u>15.6</u>	5	<u>5.3</u>	3.30 (1.1–12.2)	.028
Jaundice	49	<u>54.4</u>	36	<u>37.9</u>	1.95 (1.04–3.67)	.027
Temperature instability	9	10.0	0	0.0	Infinite	.0012
Apnea	—	7.0	—	<0.1	—	—
Henderson-Smart ³⁸ (34–35½ wk)	6	12.0	0	0.0	12.0 (4.5–24.3)	.0267
Merchant et al ⁴² (35–36½ wk)	4	4.0	0	0.0	—	.054
Respiratory distress	345	10.7	975	2.7	—	—
Escobar et al ⁴⁴ (34–36½ wk)	1167	3.6	843	0.8	—	—
Gilbert et al ⁷⁰ (34–36½ wk)	314	9.6	359	0.6	—	—
Rubaltelli et al ³³ (34–36½ wk)	26	<u>28.9</u>	4	<u>4.2</u>	9.14 (2.9–37.8)	.00001
Received intravenous infusion	24	<u>26.7</u>	5	<u>5.3</u>	6.48 (2.3–22.9)	.0007
Underwent sepsis evaluation	33	<u>36.7</u>	12	<u>12.6</u>	3.97 (1.8–9.2)	.00015
Received mechanical ventilation	1103	3.4	950	0.9	—	—
Gilbert et al ⁷⁰ (34–36½ wk)						

OR indicates odds ratio; CI, confidence interval; —, data not reported.





Terima Kasih

