

3D Display of Stillbirth in Indonesian obstetrics Part 2: Booking, Referrals, and Emergency Arrivals

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Introduction

As part 1 of this pictorial risk report pointed to a weak referral system, all controlled variables should be co-controlled for the status of registration (type of admission for delivery). This "3D feedback" illustrates patterns of risk of stillbirth by registration status and the three co-controls: (a) maternal morbidity (ICD-9), (b) complication of delivery, and (c) birth weight. This is an expansion of previous analytical work (1).

Material and Method

As in part 1, standard computer outputs (SCO's) from the Maternity Care Monitoring (MCM)-library of the Indonesian departments of obstetrics and gynecology are the only source of this report. Figs. 4-6 were developed from secondary calculations by using isometric paper and the background information is programmed into the figures. The control scheme is detailed in Fig. 6.

Results

Co-control for the status of registration shows for all three control variables (a,b,c) a steep gradient of risks of stillbirth, lowest for booked admissions, and highest for emergency admissions (Figs. 4-6). Among booked cases, the lowest risk of stillbirth is noted for infants weighing 3000-3499 grams (3.9/1000; Fig. 6); against this "base risk", similar-weight infants born to mothers admitted in emergency exhibit a 78.6-fold risk of stillbirth (306.5/1000). Among booked cases, women

with prolonged/obstructed labor exhibit a risk of stillbirth of only 14.7/1000 as compared with a 30.8-fold risk (452.8/1000) for women with prolonged/obstructed labor admitted in emergency (Fig. 5). This risk is 1.90-fold that calculated for emergency admissions of placenta previa (237.9/1000). As shown in Fig. 5, prolonged/obstructed labor associated with "all other than booked cases" (not booked, referrals, and emergencies) contribute heavily to the stillbirth rate. Among healthy women the risk of stillbirth for emergency admissions (136.4/1000) is 23.5-fold that for booked cases (5.8/1000; Fig. 4). The "SB risk chain" across maternal morbidity for booked cases is informative: 5.8-72.2 (Fig.4)

Deduction and Analytical Continuation

By introducing as co-control the status of registration, new evidence emerged for the existence of a serious problem pertaining to prolonged/obstructed labor. But for this complication category the booked cases had a low risk of stillbirth. Since booked cases imply antenatal visits, the next analytical step is to co-control for antenatal visits - to be undertaken in part 3.

Reference

- 1) ARIAWAN S. et al.: Social and biological aspects of stillbirth: an Indonesian study of residence and referral. In: Maternal and perinatal mortality, proceedings, 3rd int. seminar, ed. Hingorani V., All India Inst. Med. Sciences, Delhi, pp 270-284 (1980)

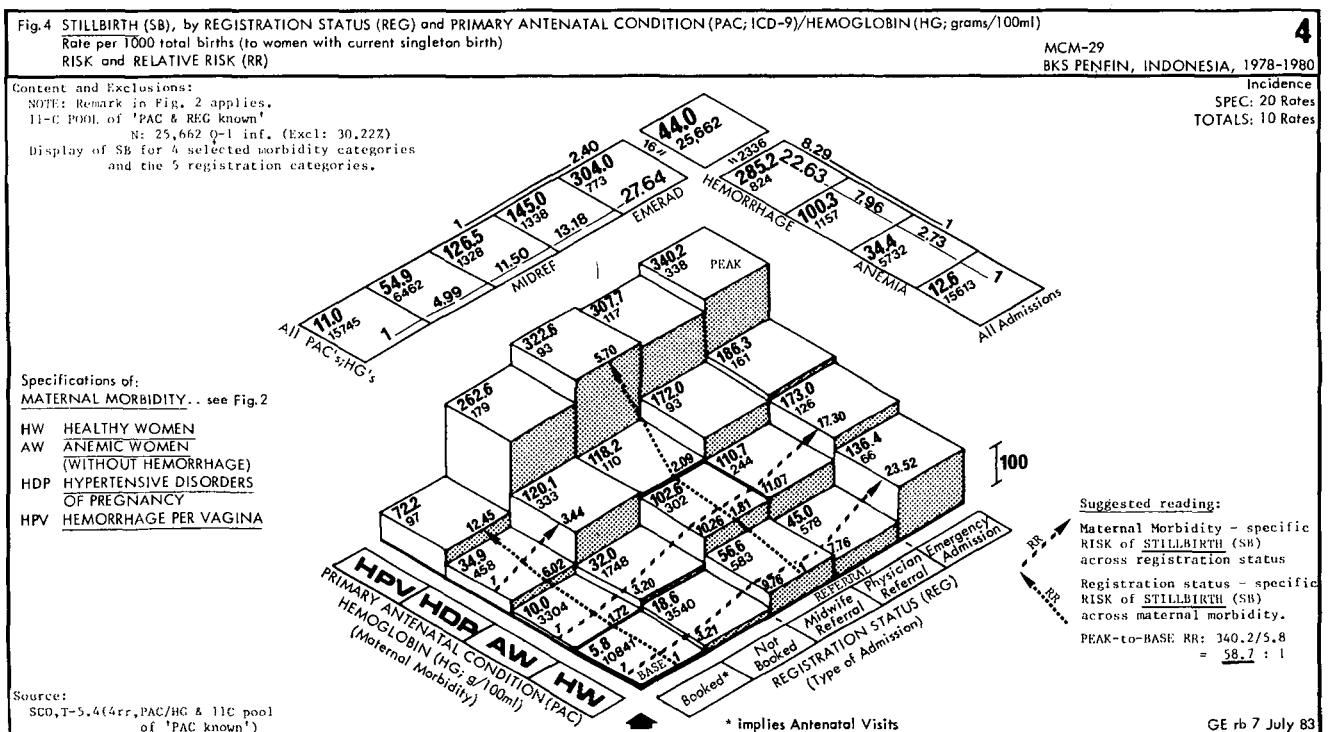


Fig.5 STILLBIRTH (SB), by REGISTRATION STATUS (REG) and PRIMARY COMPLICATION OF LABOR/DELIVERY (PCLD)
Rate per 1000 total births (to women with current singleton birth)
RISK and RELATIVE RISK (RR)

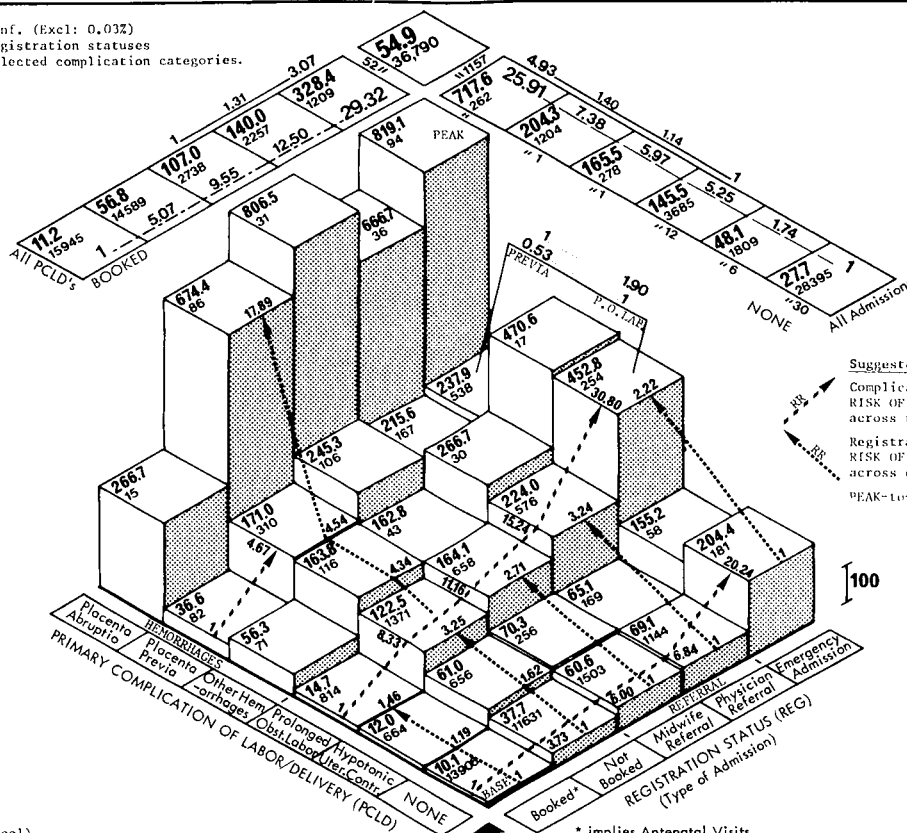
MCM-29
BKS PENFIN, INDONESIA, 1978-1980

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Content and Exclusions:

11-C POOL, N: 36,790 0-1 inf. (Excl: 0.03%)
Display of SB for the 5 registration statuses
and 6 selected complication categories.

Incidence
SPEC: 30 Rates
TOTALS: 12 Rates



Suggested reading:
Complication - specific
RISK OF STILLBIRTH (SB)
across registration status
Registration status - specific
RISK OF STILLBIRTH (SB)
across complications
PEAK-to-BASE RR: 819.1/10.1
= 81.1 : 1

Source:
SCO,T-11,7(5rr,REG & 11C pool)

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Fig.6 STILLBIRTH (SB), by REGISTRATION STATUS (REG) and BIRTH WEIGHT (BW)
Rate per 1000 total births (to women with current singleton birth)
RISK and RELATIVE RISK (RR)

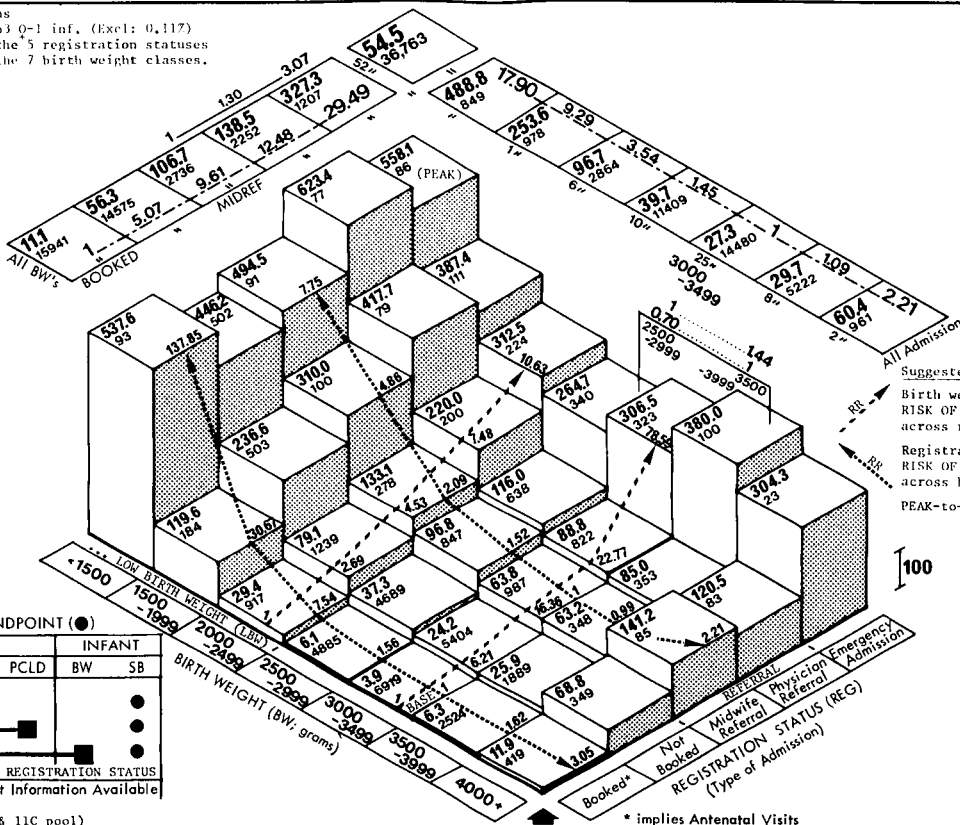
MCM-29
BKS PENFIN, INDONESIA, 1978-1980

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Content and Exclusions:

11-C POOL, N: 36,763 0-1 inf. (Excl: 0.117)
Display of SB for the 3 registration statuses
and the 7 birth weight classes.

Incidence
SPEC: 35 Rates
TOTALS: 13 Rates



Suggested reading:
Birth weight - specific
RISK OF STILLBIRTH (SB)
across registration status
Registration status - specific
RISK OF STILLBIRTH (SB)
across birth weight
PEAK-to-BASE RR: 558.1/3.9
= 143.1 : 1

Scheme of:

'MCH'	MOTHER		INFANT	
	REG	PAC/HG PCLD	BW	SB
Fig. 4	■	■	●	●
Fig. 5	■	■	●	●
Fig. 6	■	■	●	●

CONTROL LINKAGE WITH REGISTRATION STATUS
%IA** 99.9%** Percent Information Available

Source:
SCO,T-19,1(5rr,REG & 11C pool)

* implies Antenatal Visits

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