lysen als «surveillance instrument» auf Dauer zu implementieren.

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Summary
Surveillance of occupational cancer risks using mortality data: the example of furniture and foundry workers
This article presents the conditions necessary for the use of mortality statistics to investigate occupational cancer risks. These include the use of various data sources (linked files for verification of death certificate items, cancer registries for histological information) and the consideration of trends and cohort effects. In such a way, arguments for or against specific causal relations between occupation and disease can be gained.

Résumé
Surveillance de risques professionels de cancer basée sur la statistique de mortalité: l'exemple des menuisiers-ébénistes et des travailleurs de fonderies
Cet article présente les conditions qui permettent l'usage des statistiques de mortalité pour l'investigation des risques professionels de cancer. Ces conditions comprennent la possibilité d'accès à des sources de données variées (fichiers fusionnés pour la vérification des rubriques du certificat de décès, registres de tumeurs pour l'histologie) et la considération des tendances et des effets de cohorte. De cette manière, des arguments pour ou contre une relation causale peuvent être établis.

Bibliographie
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Malpresentation by Birth-weight and Infant Outcome: Fetal version and Obstetric needs in Indonesia

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Introduction

As recent as in the late seventies, malpresentation among optimal birth weight infants (3000–3499 g) was associated in Indonesian university obstetrics with striking excess risks of perinatal death as compared with the vertex occiput anterior (VOA) presentation (20.8 per 1000 single births = 1). Breeches carried an excess risk of 403%, vertex occiput transverse/posterior (VOTP) an excess risk of 544%, and transverse lies an excess risk of 1823%! Obviously, there was at that time great scope for timely and appropriate obstetrical intervention to significantly reduce the institutional risk of perinatal death. This short report studies epidemiologically the later phase of *physiological fetal version* and the prevalence of *specific malpresentations* controlled for both birth weight and infant outcome.

Material and Method

This report is part of a programmed analysis of a 12-university data set (n=36,802 women with single birth) collected in Indonesia from 1978–1980. Data collection and methods of analysis and feedback are unchanged [1]. The results are preferably given in table-charts – multifunctional and rich information conveyors. In a first step, type of presentation is given by birth weight to quantify fetal version. Then, infant outcome is added as control of three specific malpresentations – thus enabling the study of relationships with perinatal death components across birth weight.

Results

As shown in table 1, the maternity care monitoring (MCM) data are picking up the physiological process

Tab. 1. Percent Type of Presentation within 9 Birth weight classes.

BIRTH WEIGHT (grams)	ALL Presentations	Vertex Occiput Anterior	Vertex Occiput Tr./Post.	Transverse Lie	Breech	Other
N:	36540	= 31816	+ 2017	+ 573	+ 1883	+ 257
<1000	323	62.84	3.41	3.41	27.55	2.79
1000-1499	519	66.47	5.20	5.97	21.77	0.58
1500-1999	974	72.69	6.98	5.85	13.04	1.44
2000-2499	2847	80.37	6.64	3.30	8.75	0.95
2500-2999	11358	87.81	5.27	1.47	4.69	0.75
3000-3499	14390	89.46	5.09	1.08	3.79	0.58
3500-3999	5182	88.75	6.27	0.98	3.49	0.50
4000-4499	808	87.87	6.31	0.50	4.58	0.74
4500+	145	79.31	10.34	2.07	6.21	2.07
ALL BWs		87.06	5.52	1.57	5.15	0.70

Note: Mode shift of Type of Presentation with Birth-weight from breech to VOA is an expression of Fetal version

of fetal version from breech to transverse lie to VOTP to VOA presentation. Along the BW axis (a proxy for gestational age), the dynamics of fetal version are captured by four discontinuous categories of presentation. MCM is thus adding a new function to its objectives: *the epidemiologic study of biological processes during pregnancy and birth.* This potential strengthens by implications the findings by MCM of morbidities and mortalities. As an example, one may add infant outcome to BW control and study for specific malpresentations their prevalences in a BW/INFOUT control system. This generates a *case-control arrangement* (perinatal death components vs infants alive at discharge) and thus permits to derive BW-specific prevalence ratios (PR) of specific malpresentations. Such indices may be monitored over time in serial cross sectional MCM-rounds and thus provide a rich source for evaluation of genuine progress.

Breech by BW/INFOUT (Fig. 1).
For both controls (infants discharged alive) and cases (ND and SB), the peak prevalences of breeches pertain to the low extreme of birth weight. Note also the high *'breech crest'* at higher birth weights among neonatal deaths: a suspected causal sequence of *breech – ND.* At BW 3000–3499 g, the case-control prevalence ratios (PR) are 5.04 (ND) and 2.68 (SB). Their reduction depends mainly on timely and appropriate obstetrical intervention.

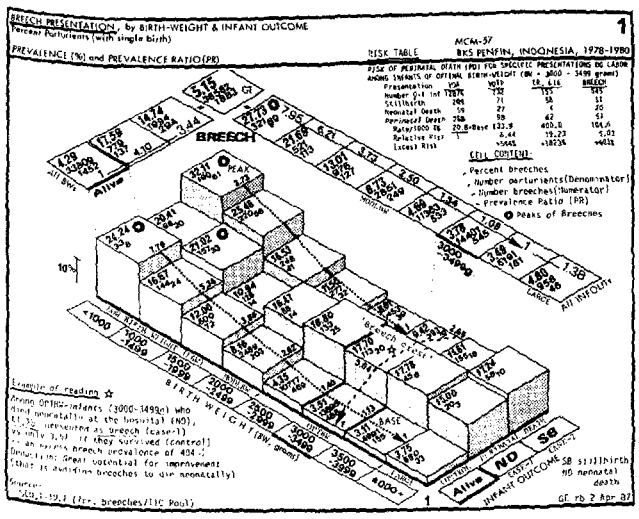

Fig. 1. Breech presentation, by birth weight & outcome.

Transverse Lie by BW/INFOUT (Fig. 2).
A totally different profile emerges. Peak prevalences move along the BW axis, most importantly so among stillbirths (DAL: 3.47%, ND: 10.94%, SB: 17.00%), as marked in Fig. 2. Note then the high *'transverse lie crest'* for a broad BW front among stillbirths: a suspected causal sequence of *transverse lie – SB.* At BW 3000–3499 g, the case-control prevalence ratios (PR) are 5.28 (ND) and 22.03 (SB). Their reduction depends mainly on timely and appropriate obstetrical intervention.

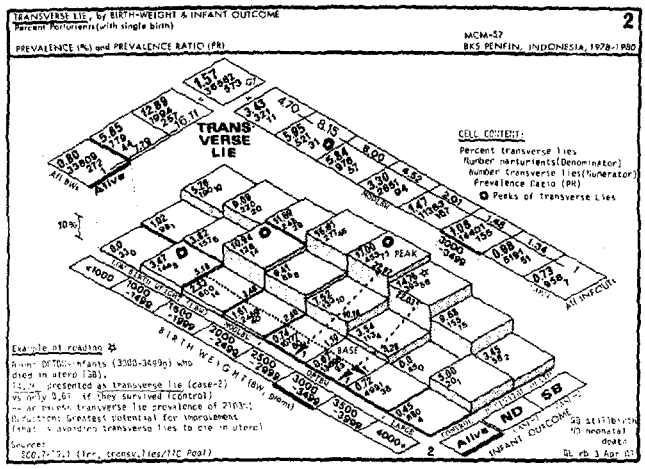

Fig. 2. Transverse lie, by birth weight & outcome.

VOTP presentation by BW/INFOUT (Fig. 3).
A new profile emerges. For both controls (DAL) and cases (ND and SB) VOTP peak prevalences pertain to high birth weights. Striking is the *'VOTP crest'* at higher birth weights among neonatal deaths: a suspected causal sequence of *VOTP – ND.* At BW 3000–3499 g, the case-control prevalence ratios (PR) are 5.24 (ND) and 3.96 (SB). Their reduction depends mainly on timely and appropriate obstetrical intervention.

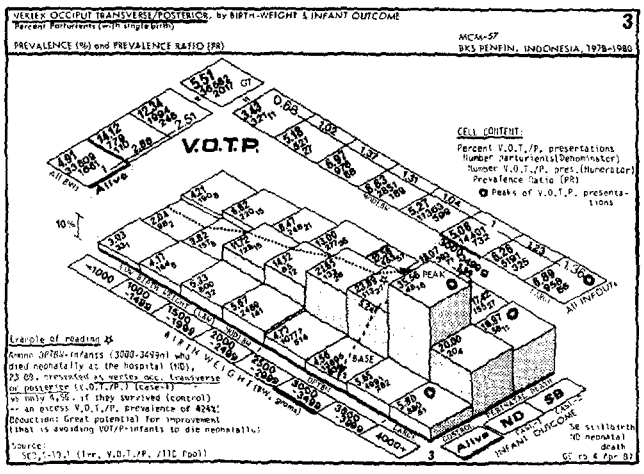

Fig. 3. Vertex O.T/P, by birth weight & outcome.

Discussion

Documentation of fetal version with routinely collected MCM data opens the way to the study of physiological processes linked with late mid-trimester and third trimester pregnancies and the birth process per se. As important, the BW/INFOUT control system stratifies prevalences of malpresentations in such manner that probing induction for causal reasoning

becomes attractive. Finally, it was shown that for optimal birth weight infants (3000–3499 g), specific malpresentations (breech, transverse lie, VOTP) link differentially with the two components of perinatal death: neonatal death and stillbirth. Improvement by weakening such 'deadly associations' – that are totally unrelated to problems of low birth weight a/o preterm births – is to be a matter of timely (referral!) and appropriate obstetrical intervention (type of delivery). The current national pool figures may serve in Indonesia as a baseline against which to measure genuine progress in future MCM evaluation rounds.

Summary and Outlook

The physiological process of fetal version may be shown by maternity care monitoring (MCM). Specific malpresentations may be studied in relation to components of perinatal death in a case-control arrangement, BW specific. Quantified cause-to-effect relationships (non/late intervention for malpresentations associated with components of perinatal death) may be used as baselines for measuring cross sectionally progress over time.

Zusammenfassung und Ausblick

Lage- & Haltungsanomalien nach Geburtsgewicht und postnatalem Foetalstatus: Physiologische Version und geburtshilflicher Bedarf in Indonesien

Im Rahmen einer breitangelegten Uberwachung von 36802 Geburten auf indonesischen Universitätskliniken dokumentiert diese Analyse zuerst den physiologischen Prozess der Version des Föten. Nach Geburtsgewicht gruppiert, ist eine dynamische Kontinuität der Lagen (Steiss – Quer – Kopf) festzustellen. Dann werden bestimmte Anomalien der Lage und Einstellung nach Geburtsgewicht und Kindesstatus analysiert und dreidimensional dargestellt *(Fig. 1–3)*. Für Kinder mit optimalem Geburtsgewicht (3000–3499 g) besteht eine enge Beziehung zwischen Steisslage, okzipitotransversaler/ -posteriorer Einstellungen und der frühen Neugeborenensterblichkeit (0–6 Tage); während die Querlagen äusserst stark mit Totgeburten korrelieren. Der grösste Teil dieser perinatalen Mortalität, die mit pathologischen Lagen/Einstellungen assoziiert, ist vermeidbar durch zeit-/ fachgerechte Geburtshilfe. Diese Daten erlauben nun den «nationalen Fortschritt» im nächsten Jahrzehnt besser zu erfassen.

Résumé et Perspectives

Présentations pathologiques selon le poids de naissance et état du nouveau-né: Version céphalique physiologique et besoins obstétricaux en Indonésie

Cette analyse de 36802 accouchements vise à documenter, dans un premier temps, la version céphalique physiologique du foetus, à partir des données d'une surveillance des soins de maternité (SSM) en Indonésie. En fonction du poids de naissance, une continuité dynamique des présentations (siège – transverse – céphalique) est observée. Ensuite des présentations pathologiques sont données en fonction du devenir de l'enfant et du poids de naissance, et représentées sur un schéma tri-dimensionnel *(Fig. 1–3)*. Parmi les enfants de poids optimal (3000–3499 g), les présentations podalique et céphalique transverses ou postérieures sont très fortement liées à la mortalité néonatale précoce (0–6 jours); tandis que les présentations transverses sont très fortement associées à la mortalité foetale. La plus grande part de cette mortalité périnatale associée à des présentations pathologiques spécifiques aurait pu être évitée par une prise en charge obstétricale adéquate. Ces données pourront servir de référence pour mesurer le «progrès national» au cours de la prochaine décennie.

Reference

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