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Background: Maternal death is the death of a woman while pregnant or within 42 days of termination of pregnancy, irrespective of the duration and site of the pregnancy, from any cause related to or aggravated by the pregnancy or its management but not from accidental or incidental causes. Since the definition is complicated maternal mortality is more difficult to calculate than other cause of death statistics. The Swedish official maternal mortality statistics, reported to the WHO and used in international comparisons, is based on cases with an underlying cause of death related to pregnancy in the cause of death register. The thought behind this is to capture the direct maternal mortality, which to a larger extent is avoidable. When only underlying cause of death is used, indirect deaths when pregnancy aggravates a pre-existing condition are often excluded, cases that should be included according to the definition. Underreporting of maternal deaths is extensive, even in countries with vital statistics of high quality. The aim of this study is to use the existing information in national registers and cause of death certificates, to acquire statistics of maternal mortality which is more congruent with the international definition.

Methods: Among the 27 952 women of reproductive age who died during 1988–2007 we searched for diagnoses related to pregnancy in the 1) cause of death register, 2) medical birth register, and 3) national patient register. When such a diagnosis was found, we examined the cause of death certificates and maternal deaths were classified as direct or indirect.

Results: In 75 cases the underlying cause of death was related to pregnancy and thus constituting the official number of maternal deaths. Direct maternal deaths dominated in this group. After searching in the three national registers and examining the cause of death certificates 134 maternal deaths were identified. If this number is used to calculate the mean maternal mortality during the years 1988–2007 the figure increases from 3,6/100 000 live births to 6,5, which is an increase with 80%. Both direct and indirect maternal deaths were found among the additional cases.

Conclusion: By using information in existing registers and death certificates we identified 80% more maternal deaths than what is officially reported to the WHO. The study shows that the present method of reporting maternal deaths not only identifies the direct deaths, and that both direct and indirect are missed. If we want to identify maternal deaths according to the definition, we need instruments enabling that purpose. To improve the maternal mortality statistics we suggest routine linkage of registers, the introduction of a box on the death certificates for marking if the death occurred during or short after pregnancy, and further development of national surveillance systems. With improved statistics we can

easier follow trends in the maternal mortality and perform international comparisons.

Abstract 42 **Poster position PoOb 65**

Not too far to walk but too far for reciprocity: Maternal mortality in a migration context using the 'three delays' framework

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Introduction: African immigrants living in westernised countries are more susceptible to adverse obstetric outcomes than western-born women. Based on earlier findings, we coin the phrase maternal migration effect to describe this phenomenon in relation to women's utilisation of a fully-equipped hospital facility.

Aim: This study thus aims to contextualise a migration-based conceptual framework by identifying influences of pre-migration socio-cultural factors on post-migration care-seeking and utilisation of optimal obstetrics care.

Method and Material: Individual in-depth and focus group interviews were conducted in London, with 59 immigrant African or African-Caribbean women and 62 maternal care providers. Study design relies on a hermeneutic, naturalistic inquiry method as a proxy for anthropological data collection and analysis, and recruitment by snowball and purposive sampling. We modify the 'three delays' model, which was developed for exploring maternal mortality in rural Africa, for this high-income setting.

Results: Perceived mutual lack of trust, as a barrier to care-seeking, causes delays at facility-level during encounters between care providers and women – especially with regard to compliance of treatment interventions. The resulting lack of reciprocity at facility level suggests that migration-based phase 1 barriers have stronger influence on phase 3 delays than what was shown in the Africa-based model, where most perceived delays influence care-seeking at phase 1. Likewise, access barriers in phase 2 go beyond those described for infrastructure and instead involve mutual language discordance between providers and migrant women. These create facility-level delays for reciprocal care, especially when a suboptimal interpreter system exists. Limited availability of clinical guidelines meant to address women's refusal of treatment is identified as an additional barrier in phase 3.

Conclusion: Findings theorised an explanatory lack of reciprocal trust between women and providers, discordant health

communication, and incongruent conceptualisation of preventive obstetrics care as a matter of course to explain adverse maternal outcome in this setting. The model could be tested in future audit studies in multi-ethnic settings.

Abstract 43 Poster position PoOb 30

Induction of labour at 41 + 3 and impact on clinical practise An evaluation of a changed practice towards prolonged pregnancy in a Danish hospital

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Background: A change in the national guideline on post-date pregnancy led to a change in practise. Until Oct 2010 induction was offered at 42 + 0 weeks of gestation. After Oct 2010 induction was offered at 41 + 3 weeks of gestation.

Objective: To evaluate the effect of induction of labour at 41 + 3 weeks of gestation and how pregnant women received the offer.

Design: Register study

Setting: a local study based on data collected from deliveries in Sygehus Sønderjylland 15 months before and 15 months after the intervention.

Population: 262 lowrisk woman induced due to prolonged pregnancy.

Method: Data from all deliveries in the area were collected in a database (SPSS)

Results: The rate of induction on the indication prolonged pregnancy increased from 4,2% (induction at 42 + 0) to 11,2% (induction at 41 + 3).

The rate of caesarean section for women induced due to prolonged pregnancy decreased from 17,6% to 15,7%.

The need for epidural analgesia for women induced due to prolonged pregnancy decreased from 42% to 39,1%

The rate of newborn with Apgars score less than 7 at 5 minutes with gestation 41 + 3 and more was 1 out of 2805 before the intervention and 1 out of 2422 after the intervention.

When induction was offered at 42 + 0 33% of the low risk post date women delivered without induction.

When induction was offered at 41 + 3 23.5% of the low risk post date women delivered without induction.

Conclusion: Induction of labour at 41 + 3 weeks of gestation due to post-date pregnancy did not result in an increase of caesarean section or epidural analgesia. There was no change in newborn with asphyxia. The changed practice was well accepted according to the decreased rate of pregnancies, delivering without induction.

Abstract 44 Poster position PoGy 58

ErbB2 (HER2/neu) and transcription factor GATA-4 are new prognostic factors for granulosa cell tumor recurrence

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Background: Granulosa Cell Tumors (GCTs) are hormonally active and highly vascularized ovarian tumors, representing 5% of all ovarian cancers. GCTs are characterized by their slow growth and indolent prognosis with a tendency toward late recurrence. Advanced stage at primary diagnosis is the only prognostic factor explicitly associated to worse prognosis in GCTs. Since the majority of GCTs are diagnosed at stage I, molecular prognostic factors are needed. ErbB2 (HER2/neu) is a known oncogene that is associated to worse prognosis in ovarian and breast cancers, but its prognostic role has not been clarified in GCTs. We previously showed that aggressive behavior of GCTs is linked to high expression of transcription factor GATA-4.

Objective: To study the prognostic significance of ErbB2 and GATA-4 protein expressions in GCTs.

Patients and Methods: We utilized a tumor tissue microarray (TTMA) of 80 consecutive GCT patients diagnosed at Helsinki University Central Hospital 1956–2003. Full clinical data were retrospectively collected from hospital files, and survival data was retrieved from death certificates. The TTMA was immunohistochemically stained for ErbB2 and GATA-4 and the expression profiles were correlated to clinical data. Histopathological features of the tumors, e.g. nuclear atypia, mitotic index and tumor subtype, were evaluated from the TTMA.

Results: We found that high ErbB2 and GATA-4 expressions associate to tumor recurrence, and that ErbB2, GATA-4 and high nuclear atypia are prognostic to shorter progression free survival (PFS). In cox regression analysis, high expression of both ErbB-2 and GATA-4 was independently prognostic to shorter PFS (RR 6.3, 95%CI 1.85–24.59, $p = 0.003$), also when studied only in stage I or stage Ia tumors (RR 11.5, 95%CI 1.76–79.41, $p = 0.01$). The disease specific survival was shorter in tumors of advanced stage (II-III), with high GATA-4 expression and with high nuclear atypia.