

of CS using VF as a marker for maternal obesity and to compare it with Body Mass Index (BMI) as a predictor.

Women were recruited following ultrasound confirmation of a singleton first trimester pregnancy. Maternal VF was measured using Bioelectrical Impedance Analysis (BIA). Maternal BMI was measured. Data was analysed using SPSS.

Of the 3000 women recruited, 2825 women subsequently delivered a baby weighing >500 g. There were 45.9% primigravidas and 17.6% were obese. The CS rate was 21.4%. VF in the 3<sup>rd</sup> and 4<sup>th</sup> quintiles was associated with an odds ratio for CS of 1.6 (95% CI 1.3–2.1) and 2.2 (95% CI 1.7–2.9) respectively ( $p < 0.001$ ). BMI in the 3<sup>rd</sup> and 4<sup>th</sup> quintiles was associated with an OR for CS of 1.5 (95% CI 1.2–2.0) and 2.3 (95% CI 1.7–3.3) respectively ( $p < 0.001$ ). After controlling for parity, previous CS and birth weight the ORs were 1.8 (95% CI 1.3–2.4) and 2.3 (95% CI 1.7–2.1) for the 3<sup>rd</sup> and 4<sup>th</sup> quintiles for VF ( $p < 0.001$ ). The adjusted ORs for CS were 1.6 (95% CI 1.2–2.3) and 2.4 (95% CI 1.7–3.4) when the 3<sup>rd</sup> and 4<sup>th</sup> quintiles for BMI were used.

Maternal obesity is associated with an increased risk of CS. Maternal adiposity measured by BIA is as good a predictor of the risk of CS as BMI.

### PL.38 RECURRENCE RATE OF THIRD DEGREE PERINEAL TEARS AT ST MICHAEL'S HOSPITAL

doi:10.1136/archdischild-2013-303966.221

DL Davies, R Bahl. *Univeristy Hospitals Bristol NHS Trust, Bristol, UK*

**Introduction** A number of risk factors for third and fourth degree perineal tears or obstetric anal sphincter injury (OASI) have been identified, but the rate of recurrence is not consistent in the observational studies.

**Aim** To assess the rate of third degree tear following an OASI in the first pregnancy in a tertiary referral unit.

**Methods** Data was collected from maternity database, for women diagnosed with an OASI in their first pregnancy who went on to have a subsequent pregnancy at St. Michael's hospital. Data collection period was between 2007–2012. Data was limited to term, singleton, cephalic deliveries in subsequent pregnancy.

**Results** 210 women met the criteria. 63 (30%) had an elective caesarean section and 147 (70%) opted for vaginal delivery. 10/147 (6.8%) required an emergency LSCS. 14/137 (10.2%) women who had a vaginal delivery sustained a further OASI. When comparing the women who had OASI to women who did not sustain an OASI in the subsequent pregnancy, there was no significant difference between the mean birth weights or the mode of onset of labour.

**Conclusion** Over the five year period the recurrence risk of OASI was low. This information can be used to advise women when discussing mode of delivery in subsequent pregnancies. Further research is needed into the pelvic floor symptom profile of the women who have a vaginal birth following an OASI in the first pregnancy.

### PL.39 INCIDENCE AND RISK FACTORS FOR SEVERE PPH: A PROSPECTIVE SOUTH EAST COHORT STUDY (STOP)

doi:10.1136/archdischild-2013-303966.222

<sup>1</sup>A Briley, <sup>2</sup>G Tydeman, <sup>3</sup>PT Seed, <sup>3</sup>H Ballard, <sup>3</sup>J Sandall, <sup>3</sup>RM Tribe, <sup>3</sup>S Bewley. <sup>1</sup>Guy's and St Thomas' NHS Foundation Trust, London, UK; <sup>2</sup>NHS Fife, Kirkcaldy, UK; <sup>3</sup>King's College, London, London, UK

**Introduction** Postpartum haemorrhage (PPH) is common, rising and treatable (1). Most women are not compromised until estimated blood loss (EBL) exceeds 1000 ml (2). Major PPH remains a cause of maternal death (3) but definitions vary, making comparisons difficult. The Scottish population-based annual audit reported 0.55% incidence of PPH  $\geq 2500$  ml, the highest since inception (4).

**Aims** To ascertain the incidences of severe PPH defined as EBL  $\geq 1000$  ml,  $\geq 1500$  ml and  $\geq 2500$  ml in a prospective cohort from

South East England. To determine risk factors associated with EBL at, and progressing from, these levels.

**Methods** Routine data were imported from 10,213 women delivering in two units 2008–9. All cases with imported EBL  $\geq 1000$  ml and/or identified via blood transfusion services were reviewed. Weighted sampling and chronological stepwise regression analysis were performed. Incidence was compared historically (same geographical population 1997–8) and contemporaneously (Scottish Audit 2009).

**Results** Incidence of PPH  $\geq 1000$  ml,  $\geq 1500$  ml and  $\geq 2500$  ml were 10.1% (95%CI 4.8–6.0), 4.7% (95%CI 3.3–6.1) and 0.8% (95%CI 0.6–1.0) respectively. Historical rate of PPH  $\geq 1500$  ml = 1.12% (95%CI 0.92–1.38). Contemporaneous PPH  $\geq 2500$  ml was 0.55% (95%CI 0.5 to 0.6). Risk factors for severe PPH included BMI, generally unwell without diagnosis, anterior placenta praevia, chorioamnionitis, no labour, physiological 3<sup>rd</sup> stage of labour and interval to suturing. Previous, elective and emergency caesarean section were protective.

**Conclusions** Severe PPH rates are rising rapidly. These demonstrated are comparable with contemporaneous UK data. Risk factors for PPH and severe PPH differ. The underlying causes originate pre-pregnancy, through pre-existing health status and previous obstetric history, some are associated with quality of care.

### REFERENCES

1. Knight M, Knight M, Callaghan WM *et al*, Trends in postpartum haemorrhage in high resource countries: a review and recommendations from the International Postpartum Hemorrhage Collaborative Group. *BMC Pregnancy & Childbirth* 2009; 9.
2. Brace V, Penney G, Hall M. Quantifying severe maternal morbidity: a Scottish population study. *BJOG* 2004; 111(5):481–4.
3. CMACE Saving mothers' Lives. *BJOG* 2011;118:1–203.
4. Scotland Health Improvement. Scottish Confidential Audit of Severe Maternal Morbidity 7<sup>th</sup> Annual Report 2011.

### PL.40 ACCESS TO OBSTETRIC SERVICES IN RURAL SUB-SAHARAN AFRICA: A HOSPITAL BASED SURVEY

doi:10.1136/archdischild-2013-303966.223

<sup>1</sup>RE Harris, <sup>1</sup>LM Staffurth, <sup>1</sup>L Irvine, <sup>1</sup>NL Hezelgrave, <sup>2</sup>S Edmunds, <sup>1</sup>AH Shennan. <sup>1</sup>Division of Women's Health KCL, Women's Health Academic Centre, KHP, London, UK; <sup>2</sup>Hospitali Teule, Muheza, United Republic of Tanzania

**Background** Access to Emergency Obstetric Care (EmOC) is an indicator used to monitor progress towards the achievement of Millennium Development Goals 4 and 5. Lack of access or delay in transportation to hospital is recognised as part of 'The Three Delays Model' and is a major barrier to accessing care for pregnant women living in rural Sub-Saharan Africa.

**Objective** To determine time taken (minutes) by any mode of transport, to reach an obstetric facility by pregnant women in Zambia, Tanzania and Zimbabwe.

**Methods** A structured questionnaire in Swahili was used to interview pregnant women from 20–42 weeks gestation who presented to hospital.

**Results** 750 women were interviewed on the labour ward and antenatal clinics in referral hospitals served by rural antenatal clinics in Zambia (N = 128), Tanzania (N = 246) and Zimbabwe (N = 376). Median gestation was 33.4 weeks (N = 681). 38.8% were primiparous (N = 614). The mean time taken to get from home to obstetric care was 48.3 minutes (IQR = 15–60, median 30). The most common mode of transport was bus (40.6%), followed by foot (30.7%), car (19.3%), bike (9.0%) and other (0.4%) (N = 512).

**Conclusion** In a sample population of antenatal women who successfully reached the referral site during dry season, average time taken to travel from home to hospital was > 48 minutes. In the wet season and for women in remote rural areas, this is likely to be higher. On foot, during an obstetric emergency, this may represent a significant delay. It is vital that maternal health interventions are designed to address this.

**Funder** Bill Gates Foundation Grand Challenges Explorations (GCE).