

Risk factors for Emergency Caesarean Section in a Multiethnic Environment

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Introduction:

London hospitals have cosmopolitan environments, requiring a multifaceted approach to the management of pregnant women. Current care as well as patients' expectation is often based on a uni-ethnic population, not always appropriate for a multi-ethnic environment.

Objectives:

To :-

- Determine the risk factors contributing to emergency caesarean section rates within a diverse environment.
- Tailor our antenatal counselling and manpower planning on the labour ward to our findings.

Method:

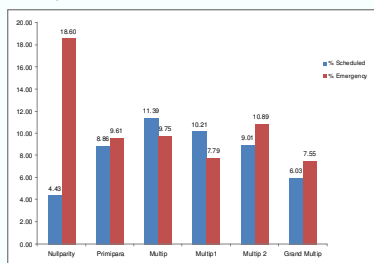
A retrospective analysis of 10,217 women who had caesarean sections at the North Middlesex hospital over a 3 year period was studied (2005-2008). 1,272 (12.4%) had an emergency caesarean (ECS) and 755 (7.4%) women had a scheduled caesarean section (SCS). Risk factors explored included age, parity, ethnicity, antenatal risk category and epidural analgesia.

Specific risk factors were combined in order to obtain a multifactorial analysis in an attempt to provide a better understanding of the effects of those risk factors on emergency caesarean section rates. Graphs were used to highlight significant differences and correlations between the numerous risk factors. Statistical analysis was carried out on several risk factors using chi square with Yates correction, as well as percentages and *p* values.

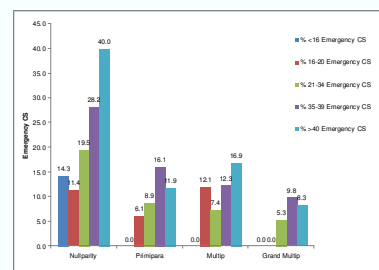
Results:

Data from 1,272 women who had an ECS were compared with 755 women who had a SCS. Our study has demonstrated that the following risk factors play a significant role in ECS rates. Controlling for nulliparity, our results showed a strong correlation of nulliparity and a higher rate of emergency caesareans.

1. Parity: Nulliparous women had the highest rate of ECS compared with multiparous women, 18.6% vs. 9.1%.



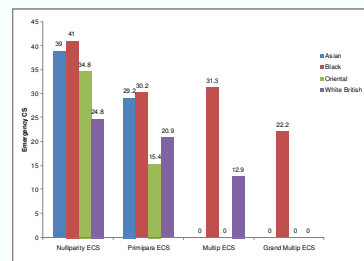
2. Age: Age was positively correlated with a maternal age >40 having the highest rate of ECS (18.6%) and SCS (16.5%) compared with 10.7% and 3.0% respectively for women aged 16-20. Nulliparous women for any age group had the highest rates of ECS with a statistically significant result (*p*= 0.0001).



3. Epidural analgesia: resulted in an increase in the ECS rate, 31% vs. 10% with no epidural. Again nulliparous women had the highest rate with a Statistically significant result (*p* value= 0.0001).

Risk Factors	χ^2	<i>P</i> Value
Epidural	61.903	0.0001
Age (16-34 vs. 35 - >40 yrs)	81.980	0.0001
Maternal Risk (High vs. Low)	145.072	0.0001
Ethnicity (black vs. white British)	22.245	0.0001

4. Ethnicity: Our results showed the highest rate of ECS in black women (17%) and lowest in white British women (10%), with a statistically significant result of *p* value= 0.0001. Combinations of nulliparity and increasing age also showed high risks of ECS in black women. Combinations of epidural, parity and ethnicity showed that black women irrespective of parity had the highest rate of ECS. Nulliparous black women who received epidurals had the highest risk of ECS in comparison with any other ethnic group.



Conclusion:

This study reveals important risk factors for ECS which include: age, parity, epidural analgesia and ethnicity. This provides a valuable guide to enable better preparation and management of pregnant women, hospital resources and health care professionals within our diverse multiethnic environment.

References:

Roshni R. Patel, Tim J Peteres, Deirdre J Murphy. Prenatal risk factors for Caesarean section. Analyses of the ALSPAC cohort of 12 944 women in England. *International Journal of Epidemiology* 2005; 10: 1-15.