Birthweight distributions by gestational age for South Asian babies born in England

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Objective

To produce gestation-specific birthweight distribution charts for babies of Bangladeshi, Indian and Pakistani origin by mother’s country of birth, sex and parity.

The charts currently available at a national level are based on White British population data from the 1970s.
Method (1)

Linked dataset for all births occurring in England from 2005 to 2007 involving:

1. National Health Service (NHS) System used to allocate patient identifier at birth:
   Gestational age for live births, ethnic category of the baby, NHS number for the mother and baby, postcode, date of birth of mother and baby

2. Civil registration of births:
   Birthweight, country of birth of mother and father, registration status, father’s socio-economic status, sex, NHS number of baby, postcode, date of birth

3. Maternity hospital discharge record:
   Parity, area deprivation score, clinical information, NHS number of mother, postcode, date of birth of mother
Method (2)

• Singleton babies born between 24 to 42 weeks gestation

• Baby’s ethnic group recorded as White British, Pakistani, Bangladeshi, Indian

• Mother’s country of birth recorded as England, Pakistan, Bangladesh or India

• Birthweight distribution charts were constructed using GAMLSS models in the software programming language R
Pakistani babies, England 2005-07 (original data)
Pakistani babies, England 2005-07 (clean data)
Median birthweight by parity, sex and ethnicity, England
Median birthweight by parity, sex, ethnicity and mother’s country of birth, England

- Boys
- Girls

- Parity 0, migrant
- Parity 0, UK born
- Parity 1, migrant
- Parity 1, UK born
- Parity 2+, migrant
- Parity 2+, Uk born

Median birthweight, g

Bangladeshi  Indian  Pakistani  Bangladeshi  Indian  Pakistani
Gestation specific birthweight charts by sex and ethnicity, England
Gestation specific birthweight charts by ethnicity and mother’s country of birth, England
Conclusion

• Linkage of administrative data enabled production of gestation –specific birthweight charts
• There are issues with data quality and completeness in using administrative data
• Boys are heavier than girls
• South Asian babies are about 300g lighter than White British babies
• Median birthweight increases with parity for both sexes and all ethnic groups
• There is no significant difference in birthweight for South Asian babies by generation (migrant versus UK born)