Sex Differentials in Child Mortality: Challenges and Future Directions

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Child mortality estimates

“IAGCME”: Estimates for both sexes combined vs.
Population Division: Estimates by sex

UNPD Inputs: e0 estimates with abridged life table or e0 estimates with choice of model life table (+ impact of AIDS in selected countries)

- Countries with abridged life tables by sex
- Countries with official life expectancy estimates by sex and independent childhood and/or adult mortality estimates
- Countries with 5q0, 4q1 and 1q0 estimates by sex
Point estimates vs. time-series

- Point estimates: use available information at a given time
- Challenge of producing coherent time-series that reflect changes in mortality patterns
- Due to the complexity of the exercise, we need to develop a more systematic approach
Data collection process

- Currently compiling mortality data by sex from a wide range of sources
- Incorporate direct and indirect estimates by sex
- Development of a database
Examples of trends in sex ratios using DHS data

- 5q0, 4q1 and 1q0: Direct estimates by sex
  (10-year average/Stat Compiler)

- Sex ratio: male/female
Trends in Sex Ratio of Under-Five Mortality in Selected African Countries with two or more DHS

Including the results from: Côte d’Ivoire 2005, Enquête sur les indicateurs du Sida, ORC macro
Trends in Sex Ratio of 4q1 in Selected African Countries with two or more DHS
Trends in Sex Ratio of Infant Mortality in Selected African Countries with two or more DHS

<table>
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<tr>
<th>Country</th>
<th>Sex ratio of 1q0 (male/female)</th>
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Trends in Sex Ratio of Under-Five Mortality in Selected Asian Countries with two or more DHS

![Graph showing trends in sex ratio of under-five mortality in selected Asian countries between 1980 and 2005, with data points for Bangladesh, Cambodia, India, Indonesia, Nepal, Philippines, and Vietnam.](image-url)
Trends in Sex Ratio of Under-Five Mortality in Selected Countries with two or more DHS
Trends in Sex Ratio of 4q1 in Selected Countries with two or more DHS
Trends in Sex Ratio of Infant Mortality in Selected Countries with two or more DHS
Some concern and word of caution!

- Even with the DHS direct estimates (10-year average), we get a substantial amount of “noise” overtime.

- With a wide range of estimates from different sources and methods (direct and indirect) the “cloud of points” will certainly be greater.

  - The more you know, the less you understand (Tao Te Ching)
  - The more data you have, the more doubts you have
Future directions

- Need to compute 5q0, 4q1 and 1q0 by sex (sex ratios differ across indicators)
- Start with estimated levels of mortality for both sexes combined (more robust)
- Thorough analysis of sex ratios overtime:
  - Assign weights to values (criteria!) and /or
  - Exclude outliers (unless we have good reasons not to)
- Fit curve across the different points to establish a trend over several decades (using a loess regression)
- Apply “smoothed” sex ratios to the estimated mortality levels for both sexes in order to derive estimates by sex
- Method should be applied to 5q0 and 1q0 only (4q1 is derived from these two indicators)
- Control trend in 4q1 sex ratio (revise, if necessary)
Questions and Issues

- What to do for countries with hardly no data or where sex ratios are erratic?

- Should all countries be done individually or should we develop models and apply them?

- Issues with respect to adult mortality levels (when using model life tables).
Thank you
Country Examples
Sex ratios in Colombia
Egypt

Sex ratios

- q5
- 4q1
- q1
Jordan

Sex ratios


q5 4q1 q1
Vietnam

Sex ratios

- q5
- 4q1
- q1

Bangladesh

Sex ratios

- q5
- 4q1
- q1
India

Sex ratios

- q5
- 4q1
- q1