**Definition: SIDS**

**Infant:**
- Live-born baby
- Less than 1 year of age

**Mortality (SUID):**
- Sudden
- Unexpected

**SIDS:**
- Unexplained (even after investigation)
- Usually sleep-related
Significance of SIDS Research

• Premature loss of life
• Seeking resolution
• Providing path to prevention
SIDS Body of Knowledge

The KNOWN

• Risk Factors
  • High maternal BMI
  • Low birth weight
  • High birth weight
  • 90% before 6 months of age
  • Brain abnormalities and genetics
  • Sleep environment
  • Sleeping position (prone)

• Protective Factors
  • Breastfeeding
  • Pacifiers
  • Prenatal and postnatal care

• Race Disparities
• Triple-Risk Model proposed

The UNKNOWN

• Triple-Risk Model validity
• Everything else
Hypothesis

Are Growth Standards Related to SIDS Mortality?

• Development Indicators (for age and trajectory)
  • Length/height
  • Weight
  • Head circumference
  • Arm circumference for age
  • Skinfold measurements

• **Null Hypothesis:** They are not significantly different from control
Hypothesis

Are Growth Standards Related to SIDS Mortality?
The Clues

Georgetown University, National Center for Education in Maternal and Child Health
Reframed...

The KNOWN
✓ Risk Factors
  ✓ High maternal BMI
  ✓ Low birth weight
  ✓ High birth weight
  ✓ 90% before 6 months of age
  ✓ Brain abnormalities and genetics
Sleep environment
  ✓ Sleeping position (prone)
✓ Protective Factors
  ✓ Breastfeeding
Pacifiers
  ✓ Prenatal and postnatal care
✓ Race Disparities
✓ Triple-Risk Model proposed

The UNKNOWN
• Triple-Risk Model validity*
• Everything else

*Growth & Development
Methodology

RAW DATA
- Age
- Sex
- Race
- Ethnicity
- Length/height
- Weight
- Head circumference
- Arm circumference
- Skinfold- Subscapular
- Skinfold- Tricep

INCLUSION CRITERIA:
- Live-Born
- Currently deceased
- Passed before the age of 1
- Sleep-related death

EXCLUSION CRITERIA:
- Cause of Death Homicide
Methodology (continued)

GROWTH STANDARD*
- Length/height for age for age
- Weight for age
- for length/height
- BMI for age
- Head circumference for age
- Arm circumference for age
- Skinfolds
  - Subscapular for age
  - Triceps for age

IF 2 or MORE RAW DATA POINTS
- Length/height for age velocity
- Weight velocity
- Head circumference velocity

= Z-Scores
Percentiles

Potential Research Challenges

Definitions:
- Historical Definitions
  - SIUD, SIDS
  - International Classification of Diseases
  - Growth Standards (WHO, CDC)
- Cause vs. Contributor
- Circular Definitions
- Stigma

Data:
- Variations in Data Collection Methodology of Raw Data
- Matched pair difficulties
- Statistically valid sample sizes
Is the Null Hypothesis True?

Let’s find out!

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