

Understanding perinatal influences on child growth and development in rural Western India



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Specific Aims

- Investigate causes of adverse birth outcomes and development of children within Anand district of Gujarat
- Provide insight into impact of physical, mental, nutritional, and social health
- Experience the culture and observe global health research in action
- Assist research coordinator with follow up visits
- Perform quality checks on collected data and help with entry into REDCap



Significance

- Almost 27 million children are born in India each year ¹
- India is home to >1/3 of the world's stunted children ¹
- 38% of children under the age of 5 are stunted ²
- 36% of children under the age of 5 are underweight ²
- Maternal mortality rate is 174 per 100,00 live births ³
- Infant mortality rate is ~39 per 1,000 live births ⁴

Innovation

- India's current and past efforts to address these issues have failed to produce significant impact
- The focus of many current efforts is on the child, while factors such as mother's age at time of marriage and conception, educational level, caste, female autonomy, family support, psychosocial health, etc. can all affect child nutrition
- Results of this study can guide development of specific interventions and inform policy change

References

- UNICEF, 2015, https://www.unicef.org/infoycountry/india_statistics.html
- World bank, 2016, <https://data.worldbank.org/country/india>
- WHO, 2015, http://www.childmortality.org/index.php?r=site/graph&ID=IND_India
- CIA world fact book, 2017, <https://www.cia.gov/library/publications/the-world-factbook/geos/in.html>

Study Design

- Follow mother and infant from first trimester until 3-5 years post-partum
- Prospective longitudinal study with three phases
 - 3 visits during the prenatal period and time of delivery
 - 4 postpartum visits in 6 months after delivery
 - 1 time-point when the child is between 3-5 years of age
- Study began in fall 2013, most children born in the summer-winter of 2014

Study Population

- Pregnant women from rural Western India during first trimester of pregnancy
- Recruitment: via village health workers or research coordinators upon presenting to Shree Krishna Hospital for prenatal care
- Eligibility criteria: pregnant women aged 18-40, between 10w0d-13w6d gestational age, single gestation, plans to stay in the area, understanding of Gujarati
- Recruited 218 women: >50% less than 25 years old, 1 in 5 attended college, 71% report belonging to a backward caste



Table 2: Characteristics of the 218 pregnant women from rural western India enrolled in the prospective cohort study

		N	%
Age	<25	111	52.1
	25-30	65	30.5
	>30	37	17.4
Education	<7 th grade	29	13.3
	7 th -12 th grade	144	66.1
	>12 th grade	45	20.6
Income	< \$0.50	42	19.8
	\$0.50-1.25	99	46.7
	>\$1.25	71	33.5
Caste	General	60	28.9
	Other Backwards Caste	122	58.7
	Scheduled Caste or Tribe	26	12.5
Age difference with spouse	+/- 5 years	152	69.7
	> 5 years	66	30.3
Perception of income	More than enough	7	3.2
	Sufficient	67	30.7
	Less than sufficient	141	64.7
	Refuse to answer	3	1.4

Outcome Measures

- Measured sociodemographic, nutritional, psychosocial, mental, and clinical characteristics using:
 - Standardized questionnaires, clinical examinations,
 - Anthropometric measurements, laboratory investigation
- In the phase 3 follow up visits we measured:
 - Child: height and weight
 - Mother: female autonomy, SRQ-20, GAD-7, EPDS
 - Contraception use, discrimination, gender preference



Medical Experiences

- OB/GYN
- Neurosurgery
- NICU
- Village Health Worker Program
- First Person Account



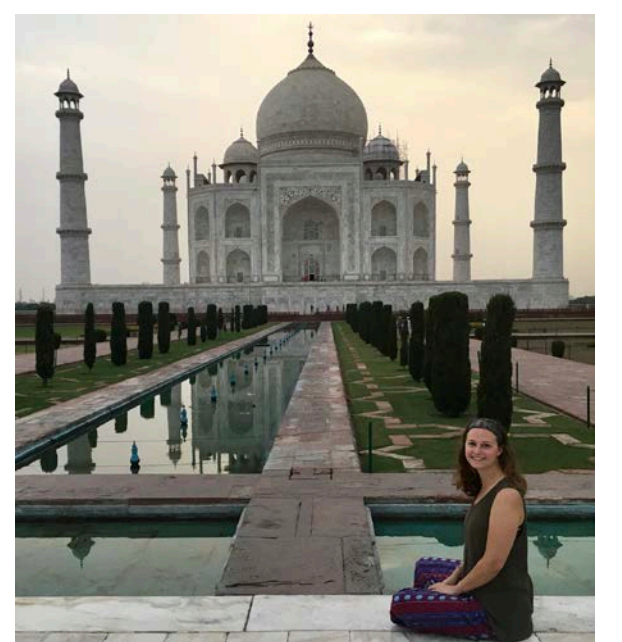
Travel Experiences



Ghandi Ashram at Sabarmati, Amhedabad



Champaner-Pavagadh Archaeological Park, Panchmahal



Taj Mahal, Agra



Laxmi Vilas Palace, Vadodara



Tea market, Darjeeling



Himalayan foothills in the morning