Socio-cultural determinants of fertility in peri-urban Tanzania

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Aim

1. Measure median fertility rate among women with a history of childbirth stratified by age
2. Analyze the relationship between socio-cultural determinants and above median fertility (AMF).

Background— Fertility in Sub Saharan Africa

- The total fertility rate within Sub Saharan Africa (SSA) and Tanzania is 5.2 and 5.4, respectively.
- Policies focus on maternal child health, reduction in unwanted pregnancies and adolescent pregnancy.
- Socio-cultural determinants of fertility in SSA include, history of any child death/stillbirth, polygamy, women status and religion.
- Although maternal and country level factors have been investigated using demographic health surveys and cross sectional surveys, socio-cultural determinants of fertility in a peri-urban setting is scant.

Methods

- Retrospective study of 3029 reproductive aged women (20-49 years) who had given birth prior to survey, in 2012/13
- Dependent variable: age-group specific above-median fertility
- Independent variables: Socio-cultural determinants operationalized by history of any child death, religion, ethnicity and women's status (index constructed from questions on perceptions about wife beating, a woman's power to refuse sex, to ask for condoms).
- Model 1: Multivariable logistic regression stratified by age and adjusted for demographic factors
- Model 2: Same as model 1, but adjusted for birth control use (in a subset of 1261 women who had this information available)
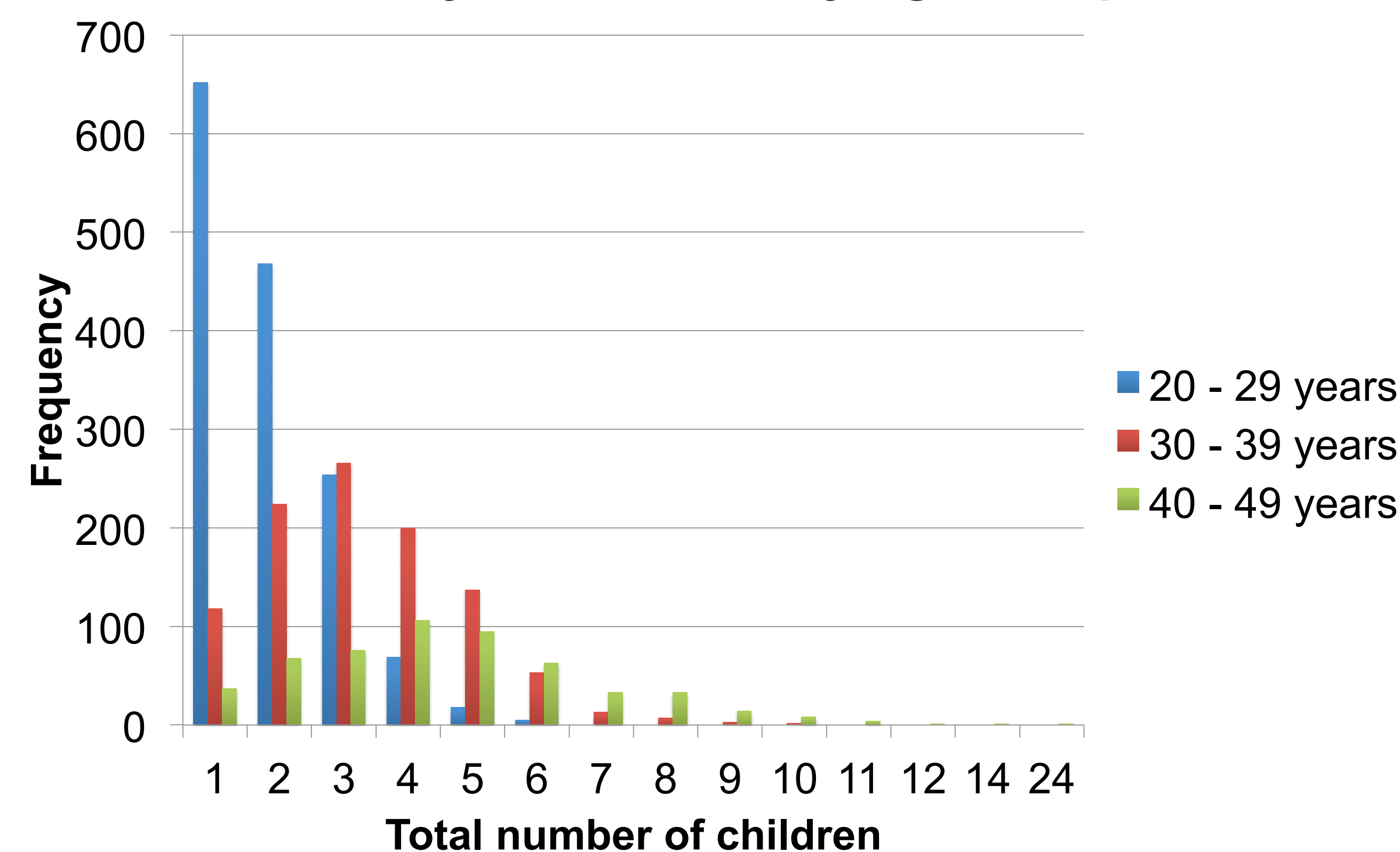
Ifakara Valley

Results

- Median overall fertility was 2 (Q1 – Q3: 1 – 4).
- Median fertility rates differed by age group with 20 – 29 years: 2 (Q1 – Q3: 1), 30 – 39 years: 3 (Q1 – Q3: 2) and 40 – 49 years: 4 (Q1 – Q3:3) (p≤0.01).

Fertility Distribution By Age Group

Socio-cultural determinants of Above Median Fertility in the 3 age groups

20 – 29 year old mothers:

Women with history of any child death had 4 times greater odds of having above median fertility (AMF) (OR 3.9; 95% CI (2.6-5.9)) than women whose children all lived (model 1). When adjusting also for birth control use, effect became stronger (OR 6.9; 95% CI (3.0-15.7)). Catholic women also had greater odds of having AMF (OR 2.3; 95% CI (1.1-4-8)) in comparison to women who were Muslim (model 2).

30 – 39 year old mothers:

Women with history of any child death had a 6.0 times greater odds of AMF in comparison to women whose children lived (95% CI: 4.0 – 9.0) (model 1). In Model 2, this effect became weaker after controlling for birth control use, with history of child death having a 5.6 times (95% CI: 3.1 – 9.8) greater odds of AMF than women who did not experience child death (model 2).

40 – 49 year old mothers:

Women with a history of child death had 3 times (95% CI: 1.8 – 4.8) greater odds of AMF, in comparison to women with no history of child death. Being part of the Mhehe, Mndamba and Mngindo tribe was also associated with 3.2 (95% CI: 1.04 – 9.6), 2.7 (95% CI: 1.3 – 5.6) and 3.3 (95% CI: 1.04 – 10.2) times greater odds of AMF respectively in comparison to Mpogoro tribe. Lastly, women with low women status index had a 1.9 times greater odds (95% CI: 1.1 – 3.4) of AMF in comparison to high women status (Model 1). After controlling for birth control use, women who had a history of any child death had a 4.8 times greater odds of AMF in comparison to women with no history of child death (95% CI: 2.4 – 9.4) (Model 2).

Logistic Regression on the Socio-Cultural Determinants of Fertility among Reproductive Aged Women (20 – 49 years) having a History of Child Birth in Ifakara, Tanzania stratified by Age in 2012/2013.

	Model 1[†]			Model 2[§]		
	20 – 29 years AOR (95% CI) (n=996)	30 – 39 years AOR (95% CI) (n=701)	40 – 49 years AOR (95% CI) (n=362)	20 – 29 years OR (95% CI) (n=280)	30 – 39 years OR (95% CI) (n=353)	40 – 49 years OR (95% CI) (n=223)
History of any child death (%)						
No	1.0	1.0	1.0	1.0	1.0	1.0
Yes	3.9 (2.6 to 5.9)*	6.0 (4.0 to 9.0)*	3.0 (1.8 to 4.8)*	6.9 (3.0 to 15.7)*	5.6 (3.1 to 9.8)*	4.8 (2.4 to 9.4)*
Religion						
Muslim	1.0	1.0	1.0	1.0	1.0	1.0
Catholic	0.9 (0.6 to 1.3)	1.1 (0.7 to 1.6)	1.3 (0.7 to 2.2)	2.3 (1.1 to 4.8)*	0.9 (0.5 to 1.6)	1.0 (0.5 to 1.9)
Other Christian	1.1 (0.6 to 1.9)	1.6 (0.8 to 3.0)	1.2 (0.5 to 3.1)	2.4 (0.7 to 9.0)	1.5 (0.5 to 4.4)	0.6 (0.2 to 2.4)
Other/None	2.4 (0.2 to 26.0)	Dropped	Dropped	Dropped	Dropped	Dropped
Ethnicity						
Mpogoro	1.0	1.0	1.0	1.0	1.0	1.0
Mbena	1.2 (0.6 to 2.4)	0.9 (0.4 to 1.8)	0.9 (0.3 to 2.3)	2.2 (0.6 to 8.2)	1.8 (0.5 to 7.0)	1.5 (0.4 to 5.2)
Mskuma/Nyamwezi	1.8 (1.0 to 3.4) ‡	0.9 (0.4 to 1.9)	1.4 (0.4 to 2.3)	1.7 (0.2 to 16.6)	1.5 (0.3 to 6.4)	5.4 (0.5 to 63.1)
Mhehe	0.7 (0.3 to 1.6)	0.5 (0.2 to 1.3)	3.2 (1.04 to 9.6)*	0.6 (0.1 to 2.9)	0.3 (0.07 to 1.4)	2.6 (0.6 to 12.0)
Mngoni	0.6 (0.4 to 1.2)	0.7 (0.4 to 1.3)	1.5 (0.6 to 3.4)	1.1 (0.3 to 3.7)	0.8 (0.3 to 1.8)	2.1 (0.7 to 6.6)
Mndamba	0.7 (0.4 to 1.2)	1.0 (0.6 to 1.8)	2.7 (1.3 to 5.6)*	0.4 (0.1 to 1.5)	1.5 (0.7 to 3.4)	2.5 (0.9 to 6.6)
Mngindo	1.1 (0.6 to 2.1)	0.5 (0.2 to 1.0) ‡	3.3 (1.04 to 10.2)* ‡	2.1 (0.6 to 7.3)	0.5 (0.2 to 1.3)	3.3 (0.8 to 13.9)
Other	0.8 (0.5 to 1.2)	0.7 (0.4 to 1.1)	1.7 (0.9 to 3.5)	1.0 (0.4 to 2.6)	0.9 (0.4 to 1.8)	1.6 (0.7 to 4.1)
Women status index (%)						
High	1.0	1.0	1.0	1.0	1.0	1.0
Low	0.9 (0.6 to 1.3)	1.0 (0.7 to 1.5)	1.9 (1.1 to 3.4)*	1.1 (0.5 to 2.5)	1.01 (0.6 to 1.8)	1.8 (0.8 to 3.8)
Lowest	0.8 (0.5 to 1.2)	1.3 (0.8 to 2.0)	1.6 (0.8 to 3.2)	1.5 (0.6 to 3.6)	1.3 (0.7 to 2.6)	1.0 (0.4 to 2.6)

†: Controlling for education, marital status, age at first marriage, employment and HIV status
§: Controlling for education, marital status, age at first marriage, employment, HIV status and use of birth control
*: 95% CI demonstrates a correlation (not including 1.0) between fertility and explanatory variable after controlling for other predictors
‡: 95% CI demonstrates a weak correlation (0.05<p<0.06) between fertility and explanatory variable after controlling for other predictors

Conclusion

- The strong and consistent effect of previous child death on AMF shows that the 'replacement theory' of couples making additional children to help with farming and take care of them in their old age is still relevant in our peri-urban context. Future analysis should explore whether mere child absence, rather than death, also predicts AMF.
- When designing interventions to increase uptake of family planning and reproductive health services, an ecological perspective is needed to address social norms that shape fertility preferences

Acknowledgements