

Early Female Marriage and Sex Differentials in Child Healthcare and Nutrition

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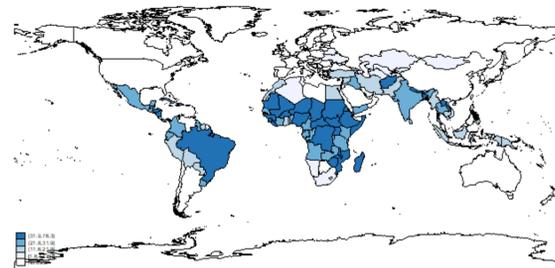
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Introduction

Figure 01: Incidence of child marriage in the developing world



Source: Authors' calculations using UNICEF global database 2018.

What the literature says?

Early marriage is shown to be associated with:

- mother's education (Delprato, 2015; Field and Ambris, 2008).
- mother's health (Clark, 2004; International Center for Research on Women, 2018; Nour, 2006).
- mother's say at home (Chari and al., 2017; Santya and al., 2009; Wodon and al., 2017; Yount and Crandall, 2018).
- children's education (Chari and al., 2017; Delprato and al., 2017; Sekhri and Debnath, 2014).
- children's health and nutrition (Chari and al., 2017; Delprato and al., 2017; Hombrados, 2017; Wodon and al., 2017).
- Few studies have hitherto analyzed the inter-generational gender dimensions of early marriage.

Objective:

- To study the interaction between women's early marriage and gender bias found in parental allocation of nutrition and healthcare resources.

Contribution:

- Focus on the role of women's early marriage in driving gender-specific health outcomes.
- Provides the evidence of role of maternal age at marriage in differential child health outcomes and investments.

Methodology

Model:

$$CBHND_{imj} = \delta_0 + \delta_1 EM_{ij} + \delta_2 Sex_{imj} + \delta_3 (EM_{ij} \times Sex_{imj}) + \delta_4 X_{imj} + \delta_5 Y_{ij} + \delta_6 Z_j + \mu_{ij}$$

- **Peri-natal care:** Child birth at home (binary), Weight at birth (binary), Miscarriage (binary)
- **Child healthcare:** Post-natal check up (binary), Full immunization course (binary), Doze of Vitamin A (binary), Treatment for Diarrhea (binary), Treatment for cough (binary)
- **Child nutrition:** Breastfeeding (count), Meat or fish (binary), Fruits (binary)
- **Child development outcomes:** Stunting (binary), Underweight (binary), Wasted (binary), Infant mortality (binary), Child mortality (binary).

Controls:

- Child's age, sex and birth order, the respondent mother's education level, employment status, exposure to electronic or print media, age difference with the husband, husband's education level, household size, household wealth, area of residence, availability of sanitation facilities, and access to improved water supply. Mother's Body Mass Index (BMI) is also included as a determinant of the child's health outcomes.

Data:

- Four waves of Pakistan Demographic and Health Surveys.
 - PDHS 1990-91: 408 PSU, 6,611 women with a total of 26,870 corresponding children.
 - PDHS 2006-07: 1,000 PSU, 10,023 women with a total of 39,049 corresponding children.
 - PDHS 2012-13: 500 PSU, 13,558 women with a total of 50,238 corresponding children.
 - PDHS 2017-18: 580 PSUs, 15,068 women with a total of 50,495 corresponding children.
- Pool sample consists of 45,260 women with 167,151 children, out of which 40,709 were under 5.

Results

- Table 01: Early marriage and peri-natal care (Partial results)

VARIABLES	Child birth at home	Weight at birth	Miscarriage
	(1)	(2)	(3)
Early Marriage (ref: Late Marriage)	0.190*** (0.051)	-0.151 (0.248)	-0.235 (0.203)
Sex (ref: female)			
Male	-0.055 (0.044)	-0.016 (0.156)	-0.190 (0.166)
Early Marriage × Sex	-0.044 (0.069)	0.097 (0.326)	0.345 (0.270)
Constant	0.219* (0.113)	-0.944 (0.703)	-2.007*** (0.547)
Observations	6,937	445	1,625
Controls	YES	YES	YES
Region Fixed Effects	YES	YES	YES
Time Fixed Effects	YES	YES	YES
Mother Fixed Effects	YES	YES	YES

- Table 02: Early marriage and child healthcare

VARIABLES	Post-natal check up	Full immunization course	Dose of Vitamin A	Treatment for Diarrhea	Treatment for cough
	(1)	(2)	(3)	(4)	(5)
Early Marriage (ref: Late Marriage)	-0.095** (0.042)	-0.128*** (0.026)	-0.071*** (0.027)	0.043 (0.048)	-0.042 (0.034)
Sex (ref: female)					
Male	0.028 (0.037)	0.063*** (0.024)	0.001 (0.023)	0.093** (0.043)	0.059* (0.031)
Early Marriage × Sex	0.080 (0.056)	0.009 (0.035)	0.004 (0.036)	-0.031 (0.063)	0.005 (0.045)
Constant	-1.646*** (0.084)	-1.366*** (0.056)	0.985*** (0.059)	-1.073*** (0.103)	0.478*** (0.072)
Observations	9,741	23,084	26,806	6,902	14,585
Controls	YES	YES	YES	YES	YES
Region Fixed Effects	YES	YES	YES	YES	YES
Time Fixed Effects	YES	YES	YES	YES	YES
Mother Fixed Effects	YES	YES	YES	YES	YES

- Table 03: Early marriage and child nutrition

VARIABLES	Breastfeeding	Meat and fish	Fruits
	(1)	(2)	(3)
Early Marriage (ref: Late Marriage)	0.733 (0.593)	0.007 (0.031)	0.025 (0.025)
Sex (ref: female)			
Male	0.635 (0.500)	0.012 (0.027)	0.025 (0.022)
Early Marriage × Sex	-0.345 (0.786)	0.047 (0.041)	-0.015 (0.033)
Constant	10.083*** (1.348)	-1.649*** (0.058)	-0.938*** (0.046)
Observations	2,086	27,434	27,423
Controls	YES	YES	YES
Region Fixed Effects	YES	YES	YES
Time Fixed Effects	YES	YES	YES
Mother Fixed Effects	YES	YES	YES

- Table 04: Early marriage and child development outcomes

VARIABLES	Stunting	Underweight	Wasted	Infant Mortality	Child Mortality
	(1)	(2)	(3)	(4)	(5)
Early Marriage (ref: Late Marriage)	0.075 (0.048)	0.073 (0.052)	-0.038 (0.068)	-0.001 (0.032)	-0.004 (0.030)
Sex (ref: female)					
Male	0.100** (0.041)	0.119*** (0.045)	0.034 (0.057)	0.075** (0.031)	0.048 (0.029)
Early Marriage × Sex	-0.053 (0.065)	-0.059 (0.069)	0.083 (0.089)	0.009 (0.042)	0.024 (0.040)
Constant	0.461*** (0.115)	0.422*** (0.124)	-0.001 (0.158)	-1.461*** (0.073)	-1.401*** (0.070)
Observations	7,021	7,138	7,034	33,319	33,319
Controls	YES	YES	YES	YES	YES
Region Fixed Effects	YES	YES	YES	YES	YES
Time Fixed Effects	YES	YES	YES	YES	YES
Mother Fixed Effects	YES	YES	YES	YES	YES

Conclusion

- Few studies have hitherto analyzed the inter-generational gender dimensions of early marriage.
- We come up with no evidence to support the contention that women's early marriage is associated with gender bias in early investments on child's health.
- Whether or not a woman married early or late does not modify the male gender bias prevalent in the society.
- Preferential treatment of sons, be it in the form of pre- or post-natal care, access to nutritious food or healthcare the male child receives does not depend upon the mother's age at the time of marriage.