Gender Inequality and Child Stunting: Intersections between Household Headship and Multiple Deprivations across 43 Low- and Middle-income Countries

P1 – R17

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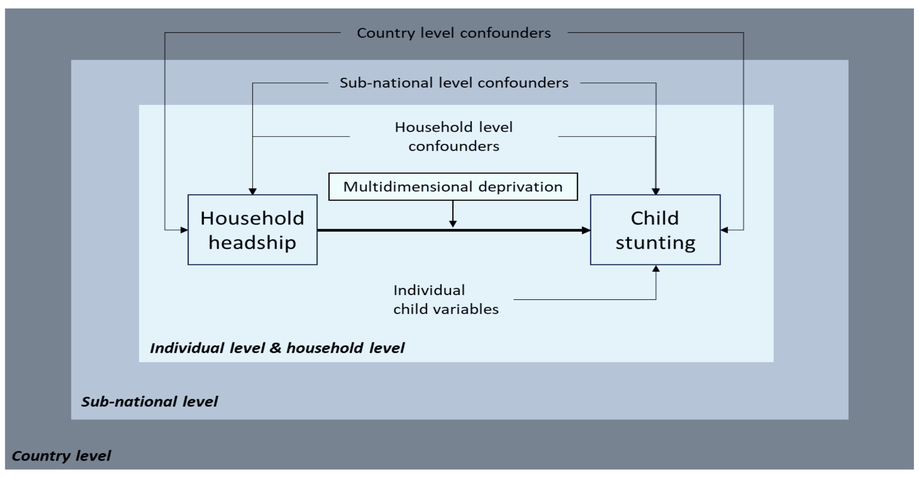
This research challenges the assumption that children in female-headed households (FHHs) have poorer health than those in male-headed households (MHHs). Findings suggest that household headship is not a significant determinant of child stunting, and FHHs aren't strong indicators of stunting risk, particularly when considering household multidimensional deprivation and the presence of other adults.

BACKGROUND

- The health of children in female-headed households (FHHs) is commonly assumed to be less optimal than the health of their counterparts in male-headed households (MHHs).
- Recent literature emphasizes the heterogeneity of FHHs and that health of children within these households may not necessarily be worse off than children within MHHs.
- Research on the impact of household structure, specifically headship, on child stunting is limited and the findings are inconsistent.
- Studies exploring the intersection between household headship and household deprivation on child stunting were non-existent.
- In this study, we aimed to assess the association between household headship and child stunting and to examine whether household multidimensional deprivation modifies this association (the research follows a conceptual framework in Figure 1.

Figure 1: Conceptual model of the association between household headship and child stunting



METHODS

DESIGN: Cross-sectional study using large nationally representative household surveys, global in scope

DATA SOURCE: Latest DHS survey since 2010 for each country with a survey that included anthropometric data - 43 low- and middle-income countries

SAMPLES: All children sample - 434,644 under-five children & children of the head sample - 290,130 children under five years old

OUTCOME: Child stunting - height-for-age score less than two standard deviations below the reference median

EXPOSURE: Household headship – 6 categories adapted from Saad et al FHH16 typology [1] **(Table 1**)

ANALYSIS: Multilevel logistic regression analyses using two samples: All children and a subgroup sample of children of the heads. For each sample, models were run, considering all potential confounds:

- Unstratified model – socioeconomic deprivation status (SDS) is considered as an effect modifier in the model. **Table 2** describes the SDS index dimensions, indicators and weights.
- Stratified models – SDS deprived households vs. non-SDS deprived households

Table 1: Household headship variable made up of 1 MH category and 5 FHH types

Headship Category	Description
MHH	Male-headed household
FHH_H	Female-headed household with husband present
FHH_W	Female-headed household with other adult women present
FHH_M	Female-headed household with other adult men present (not husband)
FHH_WM	Female-headed household with other adult women and men present
FHH_child_only	Female-headed household with children only present

Table 2: Construction of the SDS, used as an effect modifier [2]

Dimensions of Disadvantage	Indicator	Deprived if…	Weight
Education	Years of schooling	**No** eligible household member has completed at least **six years** of **schooling**.[a]	1/4
	School attendance	Any school-aged child is **not attending** school **up to** the age at which they would complete **class 8**.[b]	1/4
Living Standards	Cooking fuel	A household cooks using **solid fuel**, such as dung, agricultural crop, shrubs, wood, charcoal, or coal	1/12
	Sanitation	The household has **unimproved** or **no** sanitation **facility** or it is improved but **shared** with other households.[c]	1/12
	Drinking water	The household's source of **drinking water** is **not safe** or safe drinking water is a **30-min** or **longer walk** from home, roundtrip.[d]	1/12
	Electricity	The household has **no electricity**.[e]	1/12
	Housing	The household has **inadequate** housing materials in **any** of the three components: **floor**, **roof**, or **walls**.[f]	1/12
	Assets	The household does **not own more than one** of these **assets**: radio, TV, telephone, computer, animal cart, bicycle, motorbike, or refrigerator, and does not own a car or truck	1/12

RESULTS

ALL CHILDREN SAMPLE – Table 3

Unstratified model:

- Household headship had a statistically non-significant relationship with child stunting
- SDS deprivation was a significant factor in the model yet the interaction terms of SDS and headship were statistically non-significant

Stratified models:

There was no significant association between headship and stunting

Table 3: Adjusted multilevel models for the association between household headship and child stunting for all children in the surveys. Data source: 43 DHS, 2010-2019.

	FINAL MODEL - Unstratified dataset				FINAL MODEL Stratified to SDS deprived Households				FINAL MODEL Stratified to Non-SDS deprived Households			
Fixed Effects	**OR**	**95% CI**		**p value**	**OR**	**95% CI**		**p value**	**OR**	**95% CI**		**p value**
Exposure of Interest												
Household headship												
MHH	1			0.634	1			0.113	1			0.424
FHH_H	1.03	0.97	1.09		1.06	0.97	1.15		1.03	0.96	1.10	
FHH_W	1.01	0.97	1.04		1.08	0.99	1.18		0.97	0.93	1.02	
FHH_M	0.97	0.88	1.08		0.93	0.77	1.12		0.99	0.88	1.11	
FHH_WM	0.99	0.96	1.03		1.00	0.91	1.10		1.00	0.97	1.04	
FHH_C_only	1.01	0.97	1.05		1.02	0.96	1.07		1.01	0.96	1.06	

CHILDREN OF THE HEAD SAMPLE – Table 4

Unstratified model:

- Household headship had a statistically significant relationship with child stunting
- FHHs with other women and FHHs with other women and men were protective against child stunting compared to MHHs
- SDS deprivation and interaction terms were significant

Stratified models:

- Among deprived households - No significant association
- Among non-SDS deprived households - Children of women heads in households with other women and in households with other women and men were less likely to be stunted than those in MHHs

Table 4: Adjusted multilevel models for the association between household headship and child stunting only for children of the household heads. Data source: 43 DHS, 2010-2019.

	FINAL MODEL - Unstratified dataset				FINAL MODEL Stratified to SDS deprived Households				FINAL MODEL Stratified to Non-SDS deprived Households			
Fixed Effects	**OR**	**95% CI**		**p value**	**OR**	**95% CI**		**p value**	**OR**	**95% CI**		**p value**
Exposure of Interest												
Household headship												
MHH	1			<0.0001	1			0.568	1			<0.0001
FHH_H	1.02	0.93	1.13		1.09	0.98	1.23		1.03	0.95	1.11	
FHH_W	0.88	0.79	0.98		1.03	0.89	1.19		0.89	0.81	0.99	
FHH_M	1.00	0.89	1.13		0.99	0.78	1.26		1.01	0.89	1.14	
FHH_WM	0.67	0.55	0.81		1.07	0.81	1.42		0.68	0.56	0.83	
FHH_C_only	1.00	0.97	1.04		1.02	0.94	1.10		1.01	0.97	1.05	

CONCLUSIONS

- Headship influences child stunting in certain circumstances: a- When focusing on children of the household heads and b- When the household is not multidimensionally deprived
- Children of women heads in households with other women and with other women and men were protective against stunting than those in MHHs
- Household headship was not as important a determinant of child stunting as hypothesized
- FHH is not a good intervention marker for identifying higher risk of stunting

REFERENCES

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ADDITIONAL INFORMATION

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