

Evidence Accelerator Brief Series

Gendered Dynamics and Behavioral and Social Drivers of Childhood Vaccination in Urban Slums of Pakistan

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Why This Matters

- The majority of zero-dose children, or children who have not received a single dose of any routine childhood vaccine, are concentrated in low- and middle-income countries (LMICs). In 2020, 16.6 million out of the estimated 17 million zero-dose children globally resided in LMICs. Over 65% of these children were concentrated in just 10 countries, including Pakistan, which ranks third globally for unvaccinated and under-vaccinated children.¹
- In many households, mothers are the primary caregivers, directly influencing childhood vaccination. However, in certain contexts, societal norms necessitate male approval from fathers or other male family members which can delay or affect vaccine-related decision-making.²
- In some settings, male children are prioritized over female children for healthcare, including vaccinations, due to cultural and economic biases.³
- The behavioral and social drivers of child vaccination, which are defined as the “beliefs and experiences specific to vaccination that are potentially modifiable to increase vaccine uptake,” can act as barriers to vaccination.⁴
- As Pakistan faces major challenges in routine childhood vaccination,⁵ it is imperative to explore the gendered behavioral and social drivers of childhood vaccination to develop effective and equitable vaccine interventions.

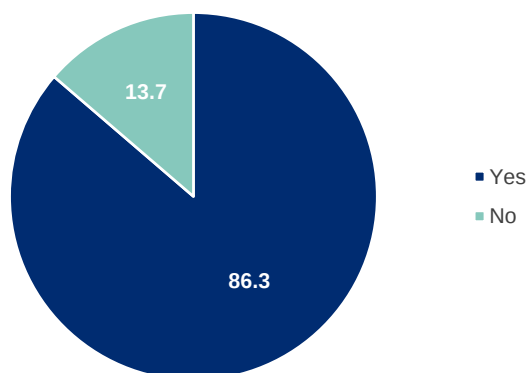
Key Findings

Among a sample of Pakistani mothers (N=1,391) surveyed about the vaccination status of their youngest child, vaccine uptake was approximately equal for boys and girls. Nearly 90% of mothers had taken their youngest child to get vaccinated, at 86.3% and 86.1% for girls and boys, respectively.

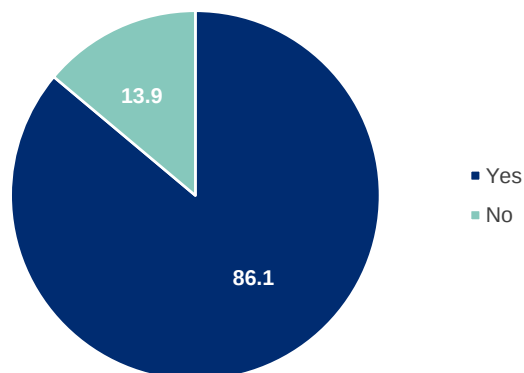
Figure 1. Percentage vaccine uptake, by youngest child's gender

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Vaccine uptake among girl children (n=693)



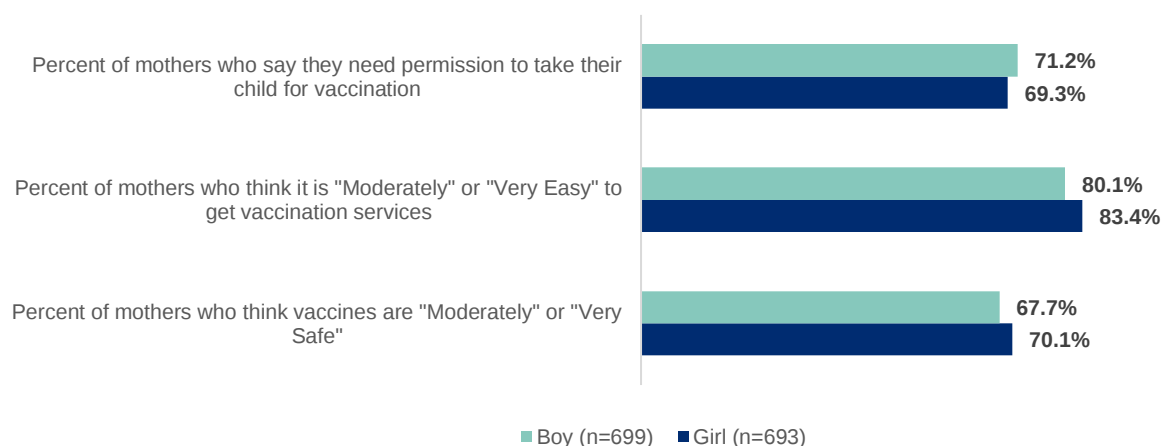
Vaccine uptake among boy children (n=699)



The behavioral and social drivers of vaccination slightly differed among mothers by the gender of their youngest child.

- 69% of mothers with a girl said they required permission from a male family member for child vaccination compared to 71% for those with a boy.
- 83% of mothers with a girl reported that it was easy for them to get vaccination services compared to 80% of those with a boy.
- 70% of mothers with a girl thought vaccines were safe for their child as compared to 68% of those with a boy.

Figure 2. Behavioral and social drivers of vaccination, by youngest child's gender



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The behavioral and social drivers of vaccination were significantly associated with vaccine uptake for both boy and girl children.

- Among those whose youngest child was a boy, vaccine uptake was significantly associated with mothers needing permission to take their child for vaccination ($p < 0.01$); however, this was not the case for those with a girl as their youngest child.
- 54% of mothers said it was not easy to get vaccination services if their youngest child was a girl, while 59% of mothers said it was not easy to get vaccination services if their youngest child was a boy. Perception of ease related to obtaining vaccination services was significantly associated with vaccine uptake for both girl and boy children ($p < 0.001$).
- Perceived level of vaccine safety was significantly associated with vaccine uptake for boys and girls ($p < 0.001$), with 100% of mothers reporting perceived safety taking their children to get vaccinated.

Table 1. Relationship of behavioral and social drivers of vaccination to vaccine uptake, by youngest child's gender

	Girl child (n= 693)			Boy child (n= 699)		
	Vaccine uptake %, row	No vaccine uptake %, row	p-value	Vaccine uptake %, row	No vaccine uptake %, row	p-value
Mothers who say they do need permission to take child for vaccination						
No – do not need permission	85.0	15.0	0.503	80.3	19.7	0.005
Yes – do need permission	86.9	13.1		88.4	11.6	
Parents who say it is “moderately” easy to get child vaccination services						
No – not easy	53.9	46.1	<0.001	59.0	41.0	<0.001
Yes - easy	92.7	6.3		92.9	7.1	
Perceived level of vaccine safety “moderately” or “very” safe to get child vaccination						
No – not safe	54.1	45.9	<0.001	57.1	42.9	<0.001
Yes - safe	100.0	0.0		100.0	0.0	
Bolding signifies significant p<0.05						

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Action Steps

- Findings indicate that parents may be more hesitant to vaccinate their boy children than girl children, given perceptions of vaccine safety, which suggests a greater emphasis on safeguarding boys' health compared to girls.
- Culturally appropriate campaigns are needed to educate parents about the equal importance of boys' and girls' health, including the safety and efficacy of routine vaccination.
- Healthcare workers should be trained to identify and address gender biases in caregiving, should they exist, and address specific concerns of parents related to vaccination.
- Integrated maternal, newborn, and child health services can encourage families to seek equal care for all their children, regardless of gender.
- Further analyses on the behavioral and social drivers of childhood vaccination are needed, including focus on parents' education and number of living children.⁵

Methods

This is an analysis of data collected by the National Institutes of Health-Pakistan, with support from the Sabin Vaccine Institute, Washington DC, USA. Data were collected from June 2023 to March 2024 within seven major cities, one city from each sub-geography (four provinces and three regions) of Pakistan. The sample was comprised of mothers living in urban slums (N=1,392) across the seven cities. Mothers were administered a survey exploring the structural determinants of childhood vaccination. For this brief, analysis was limited to the behavioral and social drivers of childhood vaccination, as defined by the World Health Organization.³

The behavioral and social drivers explored as exposure variables in this analysis are the following:

- Mothers need permission from husband to take child for vaccination (yes/no)
- Mothers' report of easiness to get child vaccinated (more easy/less easy)
- Mothers' perceived level of vaccine safety (more safe/ less safe)

The outcome variable of interest is vaccine uptake for the mother's youngest child. All analyses were stratified by the youngest child's gender. Analyses were conducted in Stata 18.

Suggested citation:

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