



The Association Between Maternal Exposure to Intimate Partner Violence and the Prevalence of Infections Among Children in Guatemala

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Background

- Intimate partner violence (IPV) is widely prevalent in Latin American countries, including Guatemala.^{1,5}
- Maternal IPV exposure can have a negative impact on children, leading to consequences such as anxiety, poor school performance, and increased risk of mortality for children under the age of five.⁵
- Although acute respiratory infections (ARIs) and diarrheal infections (DIs) are leading causes of childhood mortality,⁴ little is known about their association with maternal exposure to IPV in Guatemala.
- Studies have shown that there is an association between maternal exposure to IPV and childhood infections in countries like Bangladesh and Nigeria.^{2,3}
- The purpose of this study was to explore the association between childhood infections and maternal IPV exposure in Guatemala. It was hypothesized that children of mothers exposed to IPV are at greater risk for infection in Guatemala.

Methods

- A secondary data analysis was completed using 2014-2015 Demographic and Health Survey data from Guatemala.
- Using SAS software, a multivariable logistic regression analysis was performed to assess the relationship between a mother's exposure to IPV and if at least one of her children aged five and younger had an ARI or DI.
 - DI was defined as the recent presence of blood in the stool or diarrhea.
 - ARI was defined as the recent presence of fever and a runny nose/problem in the chest, cough, or short, rapid breaths.
- A total sample of 3,436 mothers with children aged five and younger was included in the final multivariable logistic regression analysis.
- Potential confounding variables were adjusted for in the model, such as water source, mother's age, mother's literacy, and the number of children under five in the same household.

References

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Findings

Table 1. Descriptive statistics for mothers with at least one child aged five or younger.

Characteristic	n	%	Characteristic	n	%
Mother experienced IPV (N=3,846)			Wealth Index (N=3,846)		
Yes	975	25.35	Poorest	966	25.12
No	2871	74.65	Poorer	815	21.19
Mother's literacy (N=3,844)			Middle	760	19.76
Cannot read at all	754	19.61	Richer	749	19.47
Able to read only parts of sentence	462	12.02	Richest	556	14.46
Able to read whole sentence	2621	68.18	Type of Toilet Facility (N=3,812)		
No card with required language	7	0.18	Flush	1980	51.94
Mother's employment status (N=3,846)			Latrine	1469	38.54
Currently working	1288	33.49	No Facility	363	9.52
Not currently working	2558	66.51	Source of Drinking Water (N=3,797)		
Residence (N=3,846)			Improved Methods	3630	95.60
Urban	1396	36.30	Unimproved Methods	167	4.40
Rural	2450	63.70	Time to Get Water (N=3,812)		
			On Premises	3269	85.76
			Less than or equal to 30min	486	12.75
			More than 30min	57	1.50

	DI			ARI		
	OR	95% CI	P-value	OR	95% CI	P-value
Mother experienced IPV (N=3,485)						
Yes	1.5	1.25, 1.86	<.0001	1.7	1.39, 2.06	<.0001
No (ref)	--	--		--	--	
Mother's employment status (N=3,485)						
Currently working (ref)	--	--	0.8104	--	--	0.2705
Not currently working	1.0	0.83, 1.26		1.1	0.90, 1.34	
Wealth index (N=3,485)						
Poorest	1.3	0.90, 1.77	0.5402	2.0	1.35, 2.88	<.0001
Poorer	1.2	0.82, 1.63		1.6	1.09, 2.32	
Middle	1.2	0.80, 1.66		1.6	1.10, 2.40	
Richer	1.1	0.73, 1.69		0.9	0.63, 1.43	
Richest (ref)	--	--		--	--	
Drinking water source (N=3,437)						
Improved methods (ref)	--	--	0.7776	--	--	0.1487
Unimproved methods	1.1	0.66, 1.72		1.4	0.86, 2.24	
Toilet facility (N=3,451)						
Flush (ref)	--	--	0.7663	--	--	<.0001
Latrine	1.0	0.82, 1.22		1.4	1.10, 1.67	
No Facility	1.1	0.79, 1.57		1.8	1.33, 2.45	
Mother's literacy (N=3,484)						
Cannot read at all	0.9	0.71, 1.20	0.0485	1.4	1.10, 1.74	0.0009
Able to read only parts of sentences	0.8	0.55, 1.02		1.4	1.07, 1.91	
Able to read whole sentences (ref)	--	--		--	--	
No card with required language	2.5	2.18, 2.75		1.8	1.54, 2.00	

Note. CI is confidence interval for odds ratio (OR)

Table 2. Unadjusted relationship between each variable and the prevalence of diarrheal infections and acute respiratory infections.

Findings

Table 3. Multivariable logistic regression predicting childhood infections

	OR	95% CI	P-Value
Relationship between maternal experience of IPV and prevalence of ARIs	1.7	1.42, 2.12	<0.0001
Relationship between maternal experience of IPV and prevalence of DIs	1.5	1.26, 1.88	<.0001

- Among 3,436 mothers with children aged five and younger, 21.01% had at least one child with an ARI and 21.65% had at least one child with a DI.
- Children under the age of five with mothers exposed to IPV had an increased risk of having an ARI (OR=1.7; 95% CI=1.42-2.12) and DI (OR=1.5, 95% CI=1.26-1.88) in comparison to children with no maternal IPV exposure.
- There was no significant association between the drinking water source and DIs (OR=1.1, 95% CI=0.66-1.72).
- There was a statistically significant association between the variables wealth index and type of toilet facility with the prevalence of an ARI.

Conclusions

- Maternal exposure to IPV is associated with increased risk of ARIs and DIs among children aged five and under in Guatemala.
- Mothers who have experienced IPV often have limited decision-making capacity and resources, which can negatively impact children's health and could explain the relationship between maternal IPV exposure and increased risk of childhood infections.
- The significant association between wealth index and toilet facility and the prevalence of ARI among children aged five and under in Guatemala suggest that this is another direction for future research.
- A limitation of this study is that evidence of infection was based on symptoms rather than laboratory confirmation.
- This preliminary evidence suggests that IPV prevention may help reduce the prevalence of childhood infections and mortality in Guatemala.
- The DHS Program is currently collecting survey responses for the year 2022. This analysis should be repeated to evaluate the current need for IPV prevention strategies.