


Maternal perceived safety and parenting practices with young children: a cross-sectional analysis from 15 low-income and middle-income countries

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ABSTRACT

Introduction Social environments can influence parents' caregiving capacities and the quality of nurturing care provided to children. These links, in turn, can shape children's developmental outcomes over the life course. We aimed to examine the relationship between maternal perceived safety at home and in the neighbourhood and maternal parenting practices in low-income and middle-income countries (LMICs).

Method We combined cross-sectional data from the Multiple Indicator Cluster Surveys in 15 LMICs (2018–2019). Mothers of children aged 36–59 months were included in the sample. We assessed maternal perceived safety at home and in the neighbourhood and two parenting outcomes of maternal stimulation and discipline. We used multiple logistic regression models to estimate the associations while adjusting for sociodemographic characteristics and maternal well-being in the pooled sample. Also, analyses were performed for each country separately.

Results After adjusting for covariates, maternal perceived safety at home was associated with increased odds of high maternal stimulation (OR: 1.15, 95% CI: 1.01; 1.32) and lower odds of aggressive psychological discipline (OR: 0.87, 95% CI: 0.77; 0.98). Maternal perception of safety in the neighbourhood was associated with lower odds of aggressive psychological discipline (OR: 0.79, 95% CI: 0.71; 0.88), aggressive physical discipline (OR: 0.87, 95% CI: 0.77; 0.98) and non-violent discipline (OR: 0.78, 95% CI: 0.63; 0.95).

Conclusion Maternal perceived safety at home and in the neighbourhood was positively associated with improved parenting behaviours with young children in LMICs. Interventions that address safety and security at home and across communities may have the potential to enhance maternal well-being and parenting practices to promote integral child development.

INTRODUCTION

Home and neighbourhood contexts have a critical role in shaping child and family well-being.^{1–3} A growing body of research, mostly from high-income countries, has shown links

WHAT IS ALREADY KNOWN ON THIS TOPIC

⇒ Research in high-income countries shows that household and community environments play a critical role in child development and parenting practices. Community factors such as perceived safety in the home and neighbourhood have received increasing attention as determinants of parents' well-being and parenting practices.

WHAT THIS STUDY ADDS

⇒ Our results show that maternal perceived safety at home was positively associated with maternal stimulation and negatively with aggressive psychological, physical and non-violent discipline. Maternal perceived safety in the neighbourhood was a protective factor for aggressive psychological, physical and non-violent discipline and was positively associated with stimulation in some countries.

HOW THIS STUDY MIGHT AFFECT RESEARCH, PRACTICE OR POLICY

⇒ Promoting safe environments across communities has the potential to improve caregiving and nurturing care for young children. More research should focus on addressing the safety surrounding parents' environments to facilitate positive parent–child interactions in low-income and middle-income countries.

between various early life contexts—such as home, neighbourhood and community environment—and a wide range of early child outcomes, including children's cognitive development and physical and mental health.^{4–6} These associations are especially pronounced for children exposed to economic and social disadvantages.^{7,8}

Stimulation and discipline have both short-term and long-term impacts on mother–child interactions. In the short-term, positive stimulation practices, such as interactive play and cognitive activities, can enhance the mother–child bond and foster a nurturing

environment. This helps in developing cognitive and emotional skills in children, as observed in studies where mother–child interactions were assessed through various methodologies, including observational measures and surveys.^{9 10} Long-term impacts of positive stimulation include higher academic achievement and better social skills.⁹ Discipline, on the other hand, if applied positively and consistently, can promote a sense of security and structure in children. Positive discipline techniques, such as setting clear expectations and positive reinforcement rather than punishment, help children learn self-regulation and respect for boundaries. However, harsh or inconsistent discipline can lead to increased parental stress and strained parent–child relationships, which might negatively affect children’s emotional development and behaviour over time.^{9 11} Research indicates that harsh discipline, including physical and psychological punishment, can have long-lasting negative effects on children’s mental health. A study following over 7500 Irish children found that those who experienced harsh discipline were significantly more likely to develop mental health issues by age nine.¹² These children exhibited higher levels of both internalising (eg, anxiety, depression) and externalising (eg, aggression, delinquency) symptoms compared with those who experienced less harsh or more supportive parenting styles.¹² Furthermore, harsh parental discipline has been linked to insecure parent–child attachment and difficulties in peer relationships. Children who face harsh discipline often struggle with trust and emotional regulation, which can persist into adolescence and adulthood, affecting their ability to form healthy relationships.¹³

These findings emphasise the importance of balanced approaches that integrate stimulation and positive discipline to foster healthy, long-lasting parent–child relationships.

One key way through which social environments can influence young children’s development outcomes is through maternal parenting. For example, exposure to family and community violence can negatively impact maternal feelings of safety, which can affect the quality of care that mothers provide to their young children, and in turn, shape early child health and development.^{8 14} A significant body of evidence has documented associations between maternal exposure to contextual violence and caregiving, including stimulation and discipline.^{1 15} In addition to mothers’ individual-level exposures to violence, other aspects of the community beyond violence alone—such as street harassment, noisy neighbours and gang presence—can negatively impact maternal perceived safety.¹⁴ Perceptions of safety about the living environment have been linked to worse self-perceived health, increased stress and adverse birth outcomes.^{16–20} A few studies from high-income countries have revealed links between living in an unsafe environment and the quality of nurturing care children receive,^{15 21} for example, in terms of maternal–child responsive interactions.¹

In this study, we draw on Bronfenbrenner’s bioecological theory, which conceptualises human development as the product of the sustained interactions between children and their multiple nested environments,^{22 23} to explore how maternal perceived safety at home and in the neighbourhood affects maternal parenting. Despite the importance of family environments and neighbourhood, research efforts to understand how home and neighbourhood conditions influence parenting practices remain unexplored, especially in low-income and middle-income countries (LMICs). Mothers and children who live in LMIC are exposed to multiple environmental stressors, including poverty, crime, homicide and civil conflict.²⁴ Given the evidence gap, this study examines the relationship between maternal perceived safety at home and in the neighbourhood and maternal parenting practices in LMICs. The hypothesis is that maternal perceived safety is positively associated with child stimulation and negatively associated with harsh disciplinary practices.

METHODS

Study design and setting

This study used data from the Multiple Indicator Cluster Surveys (MICS), nationally representative cross-sectional surveys in LMICs. These are multipurpose household survey that collects internationally comparable data about women’s and children’s health and nutrition to monitor national and global progress of health indicators, such as the Sustainable Development Goals and other international commitments. We considered countries in the MICS round 6 that collected information about the exposures and outcomes of interest. Of the 35 available country surveys at the time of the search, 18 had the information of interest. However, three surveys were excluded due to the low response rate for the exposure variables (Kyrgyzstan 2018, Turkmenistan 2019 and Madagascar 2018). Therefore, 15 surveys were included with available data on maternal perceived safety at home and in the neighbourhood, maternal well-being, maternal stimulation and maternal disciplinary practices for the following countries and years: Bangladesh 2019, Belarus 2019, Central African Republic 2018, Chad 2019, Congo Democratic Republic (CDR) 2017, Costa Rica 2018, Iraq 2018, Kiribati 2018, Lesotho 2018, Mongolia 2018, Montenegro 2018, Serbia 2019, Suriname 2018, Tonga 2019 and Zimbabwe 2019.

All data for this study were taken from publicly available MICS data sources. Although the data is openly available, we contact the MICS survey team to get authorisation to use the data and clarify any questions related to the dataset. This study did not involve direct interaction with human participants, as it relied solely on secondary data analysis of previously collected datasets. Trained field-workers used standardised questionnaires to interview women of childbearing age (15–49 years). We restricted the analysis to mothers of children between 36 and 59 months of age, as caregivers of this age range were asked

about both maternal parenting practices: stimulation and discipline.

Patients and the public were not involved in our research design, conduct, reporting and dissemination plans.

Outcomes

We investigated two main outcomes: maternal stimulation and maternal disciplinary practices. Caregiver stimulation practices were assessed using a 6-item scale adapted from the Family Care Indicators²⁵ in the MICS, which included enriching activities like singing, storytelling and praising the child. For maternal stimulation, we identified mothers that reported on whether or not they had engaged in any of the following activities with the child in the past 3 days before the survey: (1) read books or looked at picture books, (2) told stories, (3) sang songs, including lullabies, (4) took child outside the home, (5) played with child or (6) named, counted or drew things. We assigned a score of one for each positive response, then we summed up the values ranging from 0 to 6. Based on guidelines from UNICEF²⁶ and prior research using the MICS in LMIC,^{27–29} we developed a count index to measure the number of activities each caregiver engaged in with their child based on the level of stimulation: ‘low maternal stimulation’ (score 0–3) and ‘high maternal stimulation’ (score 4–6).

We chose questions on maternal disciplinary practices from the MICS, which have been used in previous studies examining outcomes related to harsh disciplinary practices.^{24 30 31} These questions were adapted from a modified edition of the Parent–Child Conflict Tactics Scale.³² Three types of discipline were explored: aggressive physical, aggressive psychological and non-violent. The following questions were asked for each type of discipline: (1) aggressive physical discipline—(a) shook, (b) spanked, hit or slapped on the bottom with bare hand, (c) hit on the bottom or elsewhere on the body with something like a belt, hairbrush, stick or other hard object, (d) hit or slapped on the face, head or ears, (e) hit or slapped on the hand, arm or leg and (f) beat up, that is hit over and over as hard as one could; (2) aggressive psychological discipline—(a) shouted, yelled at or screamed and (b) called dumb, lazy or another name like that; and (3) non-violent discipline—(a) took away privileges, forbade something child liked or did not allow child to leave the house, (b) explained why child’s behaviour was wrong and (c) gave child something else to do. Harsh disciplinary practices were considered if the mother answered ‘yes’ to one or more of the above questions for a given type.

Exposures

Maternal perceived safety at home and neighbourhood were the main exposures. Each was self-reported by mothers through the following two questions: ‘How safe do you feel walking alone in your neighbourhood after dark?’ and ‘How safe do you feel when you are at home

alone after dark?’ For each question, mothers responded: very safe, safe, unsafe, very unsafe and never alone after dark. For the present analysis, we recategorised the available options into either ‘safe’ (very safe and safe) or ‘unsafe’ (unsafe, very unsafe and never alone after dark). By merging categories, we ensure a sufficient number of responses in each group, enhancing the reliability and robustness of statistical analyses.

Control variables

We controlled for the following covariates in the adjusted models: maternal well-being, marital status (current, former or never married), age of the child (months), sex of the child, age of mother, mother’s level of education, place of residence and household wealth. Maternal well-being was used as a proxy for mental health and was assessed by the question of happiness, ‘First, taking all things together, would you say you are very happy, somewhat happy, neither happy nor unhappy, somewhat unhappy or very unhappy?’ Child sex was categorised as male or female. The classification of the place of residence (urban or rural) and the mother’s level of education (none (no formal education), primary (7 years or less), secondary (8 or 9 years) or higher (9 or more years)) were country specific. The household wealth index was calculated based on a principal component analysis of the presence of different household assets (car, radio, washing machine, cellphone, etc) and infrastructure (electricity, presence of toilet, building characteristics, etc) that reflect the socioeconomic position of families while also considering the place of residency.³³ The final index was split into quintiles, where the lowest quintile represents the poorest and the highest, the richest. Maternal age was categorised into three groups: 15–19 years, 20–34 years and 35–49 years.

Analysis

After harmonisation and standardisation of the datasets and variables, we created a pooled dataset containing all individual-level data across the 15 countries. We calculated the prevalence of the study outcomes and exposures and distributions across countries. Collinearity between the covariates was investigated using Pearson’s correlation, and no evidence of lack of independence was found. Therefore, all variables were considered to be included in the adjusted models.

Crude and adjusted models were run to estimate the OR and 95% CI for the association between maternal feeling of safety at home and in the neighbourhood with maternal stimulation and maternal disciplinary practices. We employed a stepwise approach to select covariates that would be adjusted for in the models at the level of $p < 0.10$; all control variables were associated below this threshold and were included in the adjusted models. A p value < 0.05 was adopted to show statistical significance in the adjusted models along 95% CI. Analyses were performed for each country separately, and then, we estimated a pooled effect measure using a random-effect

meta-analysis approach, with weights reflecting survey sampling weights.³⁴ Due to the lack of convergence in the models, it was not possible to analyse maternal perceived safety non-violent discipline for Serbia, so it was not included in the meta-analysis. Heterogeneity was assessed using the I^2 statistics that represent the heterogeneity across studies that cannot be due to chance.³⁵

We used Stata V.17 to perform the analyses (StataCorp, College Station, Texas, USA). The sample weights were considered in the analysis to account for the complex design of the surveys using the *svy* command in the statistical package. MICS provides anonymous information freely available on request, and the institution that carried out the surveys was responsible for the ethical clearance.

RESULTS

The overall sample included 48 906 mother–child dyads, 36 325 mothers with valid data for mother stimulation; 48 837 for aggressive physical discipline; 48 851 for aggressive psychological discipline; and 47 863 for non-violent discipline. The general characteristics of the study population are shown in table 1. Only 2% of mothers were between 15 and 19 years old, and the majority were young adults (69.5%, 20–34 years). More than 50.0% of our population completed primary or had no formal schooling, and nearly 65.0% were living in rural areas. More than 40% of mothers reported at least three child stimulation activities (high stimulation). With respect to maternal disciplinary practices, roughly three-quarters of mothers reported using aggressive discipline, like either aggressive physical discipline (74.0%) or aggressive psychological discipline (76.5%), and 86.2% used non-violent discipline. Perceived safety at home and in the neighbourhood were reported by 75.7% and 62.0% of the mothers, respectively (table 1).

Table 2 shows the adjusted OR (aOR) of association between maternal perceived safety and maternal parenting (online supplemental table 1 is the complete table with p value). Maternal perceived safety at home was positively associated with maternal stimulation (OR: 1.21, 95% CI: 1.07; 1.37), even after adjustment for control variables (OR: 1.15, 95% CI: 1.01; 1.32). No significant association was found between maternal perceived safety in the neighbourhood and maternal stimulation. Figure 1 and online supplemental table 2 show five countries with a positive association between maternal perceived safety at home and maternal stimulation: Iraq (aOR: 1.30, 95% CI: 1.03; 1.64), Kiribati (aOR: 1.57, 95% CI: 1.14; 2.18), Mongolia (aOR: 1.56, 95% CI: 1.09; 2.25) and Tonga (aOR: 2.04, 95% CI: 1.02; 4.10). Concerning maternal perceived safety in the neighbourhood, only Iraq (aOR: 1.69, 95% CI: 1.35; 2.10) and Serbia (aOR: 3.32, 95% CI: 1.53; 7.22) showed positive interactions, while an inverse association was reported in Chad (aOR: 0.81, 95% CI: 0.67; 0.99) (online supplemental table 3).

Table 1 Descriptive sample characteristics

Variables	Characteristics	
	Total	n (%)
Child sex	48 906	
Female		24 207 (49.5)
Male		24 699 (50.5)
Child age, months*	48 906	47.9 (6.8)
Maternal age, years	48 906	
15–19		928 (1.9)
20–34		34 014 (69.5)
35–49		13 964 (28.6)
Maternal education†	48 335	
None		13 118 (27.1)
Primary		13 302 (27.5)
Secondary		17 446 (36.1)
Higher		4469 (9.3)
Area of residence	48 906	
Urban		17 081 (34.9)
Rural		31 825 (65.1)
Wealth (quintiles)	48 906	
Poorest		12 896 (26.4)
Second		11 129 (22.7)
Third		9406 (19.3)
Fourth		8360 (17.1)
Wealthiest		7115 (14.5)
Maternal well-being‡	48 857	
Happy		33 272 (68.1)
Unhappy		5682 (11.6)
Neither		9903 (20.3)
Marital status†	48 883	
Currently married		44 853 (91.8)
Formerly married		2889 (5.9)
Never married		1141 (2.3)
Maternal stimulation†	36 325	
Low stimulus		20 854 (57.4)
High stimulus		15 471 (42.6)
Maternal disciplinary practices†		
Non-harsh, yes	48 863	42 138 (86.2)
Aggressive physical discipline, yes	48 837	36 122 (74.0)
Aggressive psychological discipline, yes	48 851	37 370 (76.5)
Maternal perceived safety†		
Safe neighbourhood, yes	48 894	30 362 (62.1)

Continued

Table 1 Continued

Variables	Characteristics	
	Total	n (%)
Safe home, yes	48 896	36 981 (75.7)
*Mean (SD).		
†Missing information.		

In terms of the associations with maternal disciplinary practices, maternal perceived safety at home demonstrated a protective effect for aggressive psychological discipline (aOR: 0.87, 95% CI: 0.77; 0.98) (table 2). Maternal perceived safety in the neighbourhood was associated as a protective factor for aggressive psychological (aOR: 0.79, 95% CI: 0.71; 0.88), physical (aOR: 0.87, 95% CI: 0.77; 0.98) and non-violent discipline (aOR: 0.78, 95% CI: 0.63; 0.95) (table 2). Figure 2 and online supplemental tables 4–6 show maternal perceived safety at home and maternal discipline by country, only in Mongolia a protective effect of maternal perceived safety at home and aggressive psychological discipline was observed (aOR: 0.59, 95% CI: 0.43; 0.79); Bangladesh (aOR: 0.65, 95% CI: 0.51; 0.83), CDR (aOR: 0.70, 95% CI: 0.50; 0.96) and Mongolia (aOR: 0.65, 95% CI: 0.47; 0.90) displayed a protective effect between maternal perceived safety at home and aggressive physical discipline, while in Chad a positive effect association was reported (aOR: 1.37, 95% CI: 1.15; 1.62); three countries showed a protective effect of maternal perceived safety at home and non-violent discipline (Bangladesh: aOR: 0.61, 95% CI: 0.47; 0.79; Chad: aOR: 0.73, 95% CI: 0.58; 0.93; CDR: aOR: 0.68, 95% CI: 0.50; 0.93).

Figure 3 and online supplemental tables 7–9 present the results of the association between maternal perceived safety in the neighbourhood and discipline. Bangladesh (aOR: 0.68, 95% CI: 0.56; 0.82), Belarus aOR: 0.68, 95% CI: 0.53; 0.87, CDR aOR: 0.65, 95% CI: 0.50; 0.84 and Mongolia aOR: 0.61, 95% CI: 0.48; 0.77) showed a protective effect for the aggressive psychological discipline.

Similar findings were observed for aggressive physical discipline in Bangladesh (aOR: 0.70, 95% CI: 0.60; 0.82), CDR (aOR: 0.63, 95% CI: 0.48; 0.83) and Kiribati (aOR: 0.47, 95% CI: 0.25; 0.89). Last, four countries showed a protective effect of maternal perceived safety in neighbourhood and non-violent discipline (Bangladesh: aOR: 0.53, 95% CI: 0.44; 0.63; Chad: aOR: 0.58, 95% CI: 0.48; 0.71; CDR: aOR: 0.69, 95% CI: 0.54; 0.88; Kiribati: aOR: 0.35, 95% CI: 0.13; 0.97).

DISCUSSION

This is one of the largest analyses of the associations between maternal perceived safety and parenting practices in LMICs. Our results show that maternal perceived safety was generally associated with improved parenting practices with their young children. At the same time, we found some differences in the associations depending on the particular context of environmental safety (home or neighbourhood), the type of maternal parenting outcome and by country.

Maternal perceived safety at home was positively associated with maternal stimulation in the pooled analysis, and specifically in Iraq, Kiribati, Mongolia and Tonga. Maternal perceived safety at home was also associated as a protective factor against aggressive psychological discipline. Mother–child interaction involves a mutual response with mental and physiological coordination,³⁶ if the mother is not emotionally available this will impact her interaction with her child. A study showed that the child's physiological response to the environment might depend on the maternal physiological response.³⁷ The interaction mechanism will be affected if the mother is not responsive or emotionally available due to unsafe feelings and stress.³⁸ Providing mother–child dyads a safe and nurturing environment for responding to each other's social cues may foster a positive social context, promoting long-term socioemotional development and appropriate disciplinary practices. Parents that felt unsafe in their houses and neighbourhoods were found

Table 2 Associations between maternal perceived safety at home and in the neighbourhood and maternal parenting practices

Variables exposures	Variables outcomes	Unadjusted			Adjusted		
		OR	95% CI		OR	95% CI	
Maternal perceived safety at home	Maternal stimulation	1.21	1.07	1.37*	1.15	1.01	1.32*
	Aggressive psychological discipline	0.85	0.75	0.96*	0.87	0.77	0.98*
	Aggressive physical discipline	0.84	0.71	0.99*	0.85	0.72	1.00
	Non-violent discipline	0.93	0.77	1.12	0.89	0.75	1.07
Maternal perceived safety in the neighbourhood	Maternal stimulation	1.07	0.93	1.22	1.06	0.92	1.22
	Aggressive psychological discipline	0.78	0.71	0.86*	0.79	0.71	0.88*
	Aggressive physical discipline	0.85	0.76	0.96*	0.87	0.77	0.98*
	Non-violent discipline	0.80	0.64	1.00	0.78	0.63	0.95*
*P value<0.05.							

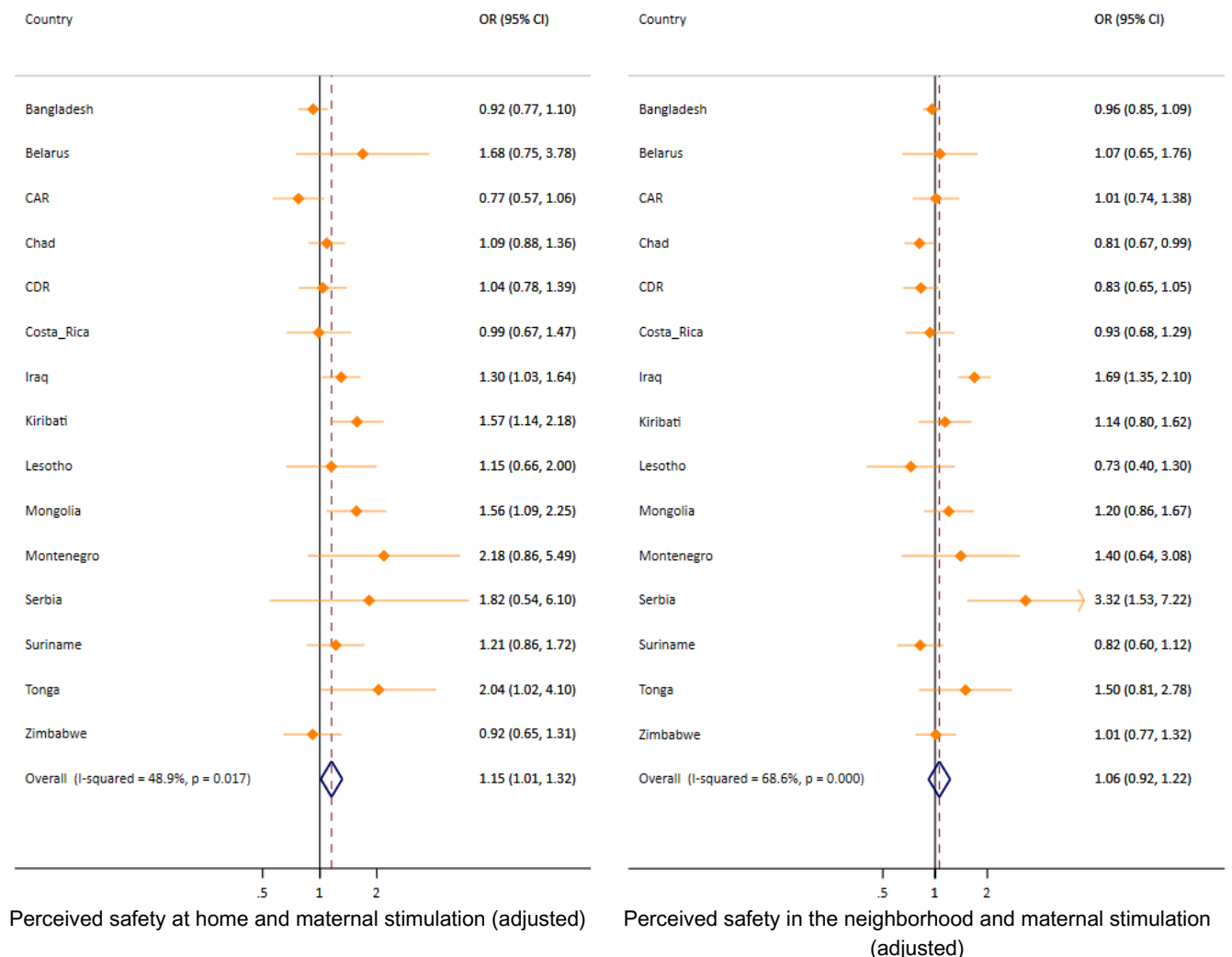


Figure 1 Maternal perceived safety at home, neighbourhood, and maternal stimulation by country. CAR, Central African Republic; CDR, Congo Democratic Republic.

to have higher levels of socioemotional and parental psychological distress, resulting in less warmth and more harsh discipline toward their children.³⁹ Such parental stress can lead to poor parenting behaviour in the form of aggressive and less responsive parenting, which can put a strain on this primary parent–child relationship. Maternal mental health and well-being are complex systems that interact with each other and affect the ability to deliver nurturing care.

In the pooled analysis, no association was found between maternal perceived safety in the neighbourhood and child stimulation. However, in country-specific analyses, Iraq and Serbia presented positive associations. In the present study, maternal perceived safety in the neighbourhood was associated with reduced use of aggressive psychological, physical and non-violent discipline. Specifically, in the pooled analysis, perceived safety was linked as a protective factor for aggressive psychological discipline in Bangladesh, Belarus, CDR and Mongolia; aggressive physical discipline in Bangladesh, CDR and Kiribati; and

non-violent discipline in Bangladesh, Chad and CDR. In line with our findings, a study in the USA showed that people living in neighbourhoods with higher incomes and perceived safety had better health outcomes.⁴⁰ In contrast, people living in lower-income neighbourhoods with less perceived safety had poor overall health status, as greater cardiometabolic risk.⁴⁰ Another study with 511 urban families in six LMICs (China, Colombia, Jordan, Kenya, the Philippines and Thailand) found associations between chaos, danger, affectionate and harsh parenting, and adolescent adjustment problems.⁴¹ The neighbourhood represents the social environment where perceptions of fear and feeling unsafe will be constituted based on individuals' perceptions and experiences in their community.⁴² Social psychology refers to the importance of measuring the perceived safety in the house and neighbourhood as an important contributor to mental well-being and is often identified as a key element of sustainable communities.⁴² A study in Colombia used data from Colombia's 2010 Demographic

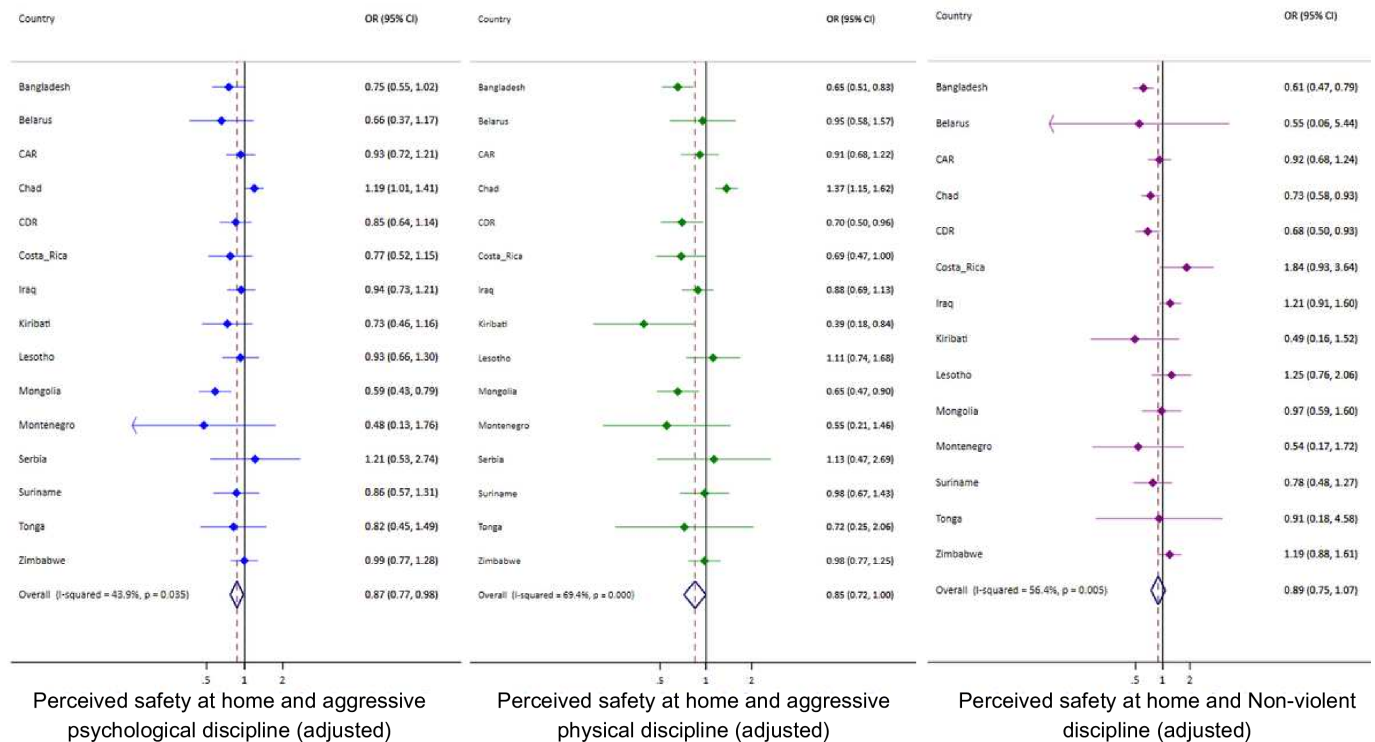


Figure 2 Maternal perceived safety at home and maternal discipline by country. CAR, Central African Republic; CDR, Congo Democratic Republic.

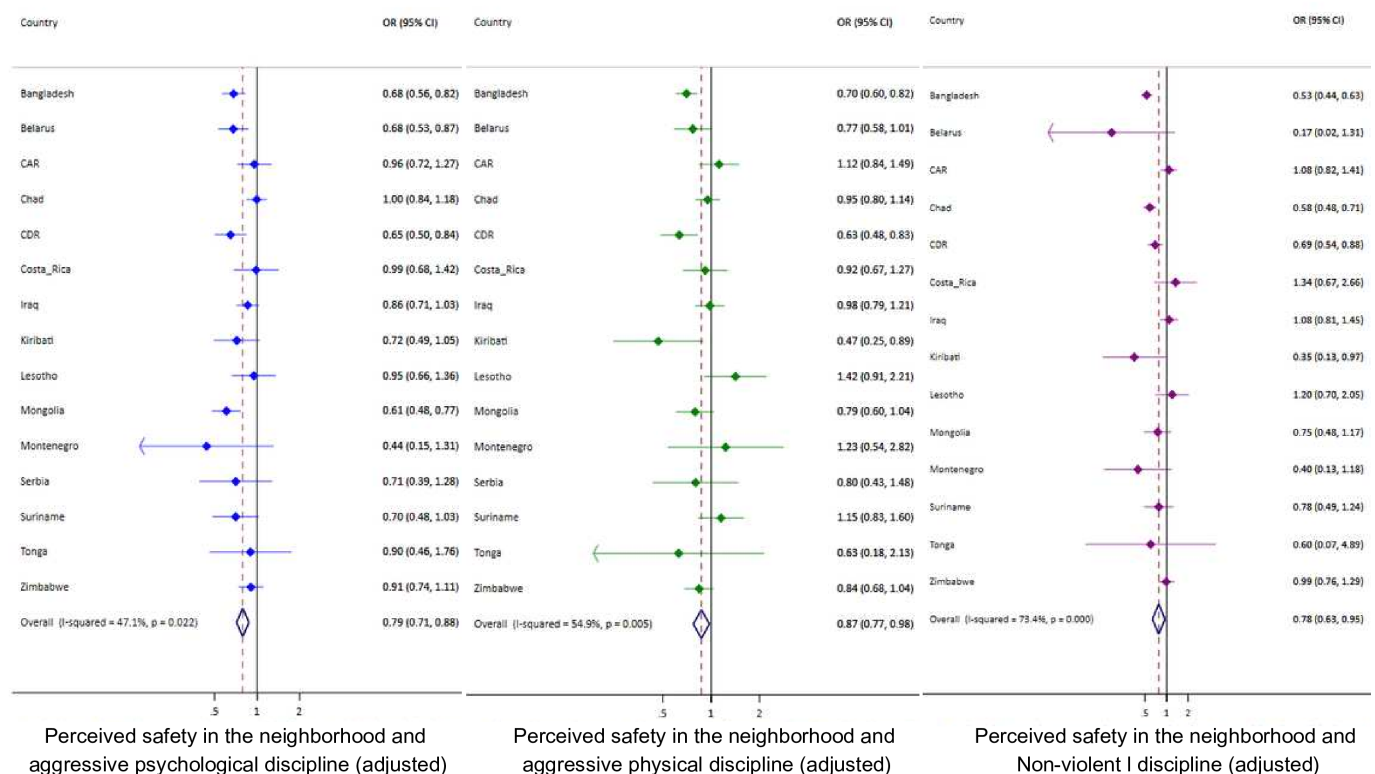


Figure 3 Maternal perceived safety in the neighbourhood and maternal discipline by country. CAR, Central African Republic; CDR, Congo Democratic Republic.

and Health Surveys for women aged 13–49, and children younger than 5 years old, which showed that exposure to violent crimes, such as homicides and personal injuries, predicts a higher probability of aggressive parental discipline among mothers, suggesting that households' walls are permeable, and outside threats may interfere with families' dynamics and well-being.¹⁵ Another study from the Families and Child Wellbeing Study (FFCWS) showed that aggressive maternal discipline was associated with negative beliefs about the neighbourhood.⁴³ A study from the FFCWS, a population-based birth cohort study of approximately 4800 children born in large USA cities during the period 1998–2000, showed that perceived parent social control and social cohesion were associated with better mental health outcomes when compared with low collective efficacy neighbourhoods.³ These findings highlight the importance of multilevel interventions analysing different characteristics of the neighbourhood and maternal parenting practice.⁴³

The negative association between maternal perceived safety at home and neighbourhood and non-violent discipline (eg, redirecting the child for another activity, offering explanations and removing privileges) was unexpected and contrary to our initial hypothesis. However, other studies have noted how non-violent discipline commonly co-occurs with harsh forms of punishment, including physical and psychological aggression.⁴⁴ Moreover, it is possible that an explanation or redirection to be given in an aggressive or threatening way.⁴⁴ These results highlight the need for more research, particularly on non-violent discipline, including attention to ensure culturally appropriate measurement of this construct.

Our findings contribute to the broader literature about maternal feelings of safety and parenting practices in LMICs. Perceived safety has received increasing attention as a barrier to optimal health and well-being.³⁶ Residing in a neighbourhood perceived as unsafe at night is a barrier to daily activities, especially for women living in urban low-income housing.³⁶ Also, a study showed that perceived safety is a proxy for the sense of social vulnerability, or insecurity, among those living in deprived circumstances, especially in the women population.³⁸ The findings from this study are consistent with previous research asserting that children of mothers raising their children in unsafe and socially disadvantaged neighbourhoods have poorer nurturing care outcomes.^{1 2 4} These results may suggest that caregivers with a good perceived feeling of safety in their home and neighbourhood reflect better overall mental and behavioural outcomes.

For future research, studies focusing on fathers' perceptions of neighbourhood safety and its association with parental outcomes are warranted to gain a broader understanding of the impact on family dynamics. Research indicates that fathers' engagement in parenting activities and their perceptions of safety significantly affect family well-being and children's developmental outcomes.⁴⁵ These programmes can mitigate the adverse effects of perceived neighbourhood dangers by promoting positive

parenting practices and increasing fathers' involvement in their children's lives.

This study has several strengths, such as no research, to our knowledge, has attempted to analyse this topic using large-scale, nationally representative data from 15 countries from different continents. Additionally, our study offers significant findings that enhance understanding of the effects of perceived safety and parenting practices. These findings also provide valuable insights for policy and outreach efforts in the field.

This study presents some limitations that should be considered in future studies. The MICS data are cross-sectional; therefore, causality in the observed associations cannot be established. The analytic sample is based on the 15 country surveys from the most recent round of MICS that collected data on the perceived maternal feelings of safety, child stimulation and harsh punishment, and the findings are not generalisable to all LMICs. The measures used in this study to assess the primary exposure variables and outcomes were relatively brief and consisted of a limited set of items that did not fully capture duration, quality or severity. These measures of maternal feeling of safety, child stimulation and harsh punishment were based on the maternal report, which raises the possibility of recall, common reporter and social desirability biases. We used maternal happiness as a proxy for maternal mental health due to the lack of information on maternal mental health. Furthermore, the stimulation and harsh punishment measures were based on relatively brief measures that do not fully capture duration, quality or severity. Finally, our selection of covariates was limited to the available data collected in the MICS, and we were unable to control for other important variables, such as community violence and other types of violence, which may be possible confounders of the association between perceived maternal feeling of safety, stimulation and harsh punishment. Despite all these limitations, our study advances knowledge about the influence of home safety, neighbourhood safety and maternal parenting practices of nurturing care.

CONCLUSIONS

Our results show that maternal perceived safety at home and in the neighbourhood was positively associated with improved parenting behaviours with young children in LMICs. Being a parent is difficult under the best of social and environmental circumstances, but the feeling of unsafety in parenting introduces an added layer of physical and emotional burden. Stakeholders should consider the perceived safety when designing and implementing programmes. It is important to connect communities in need with available resources to enhance and promote a better collective quality of health and well-being within the most vulnerable demographics. Early intervention among at-risk, under-supported parent populations will facilitate a more positive health trajectory for their children. Interventions to improve maternal parenting

during childhood must include a socioecological framework to reduce the family-level and community-level risk factors while capitalising on local resources to create sustainable social networks for caregivers. Implementing programmes addressing the maternal feeling of safety in the social environment must be promoted within the most vulnerable parent-child demographics to foster safer and healthier communities both now and for generations to come. Future research should investigate qualitatively how parents assign how house environment and neighbourhood conditions impact feelings of control and social identity. Studies focusing on addressing fathers' feelings of safety and its association with parental outcomes are also warranted for a broader understanding of the impact on family dynamics.

Contributors CRdO is responsible for conceptualisation, data curation, methodology, original draft writing and review/editing. PN is responsible for conceptualisation, data curation, statistical analysis and writing—review and editing. CVNC, CNTP and JJ are responsible for writing—reviewing and editing the final version of the manuscript. All authors have reviewed and approved the final version. CRdO accepts full responsibility for the finished work and/or the conduct of the study, had access to the data and controlled the decision to publish.

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