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Shattered or Strengthened? The Impact of Extended Lockdown on Family Functioning and Quality of Relationships during the COVID-19 Pandemic

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Abstract

Introduction: While much research has focused on mental health and well-being during the early stage of the Covid-19 pandemic, significantly fewer studies have directly explored the connection between lockdown policies, family functioning, and effects on the mental health of parents in highly vulnerable communities in low-income countries where pre-pandemic conditions were already unstable. This study aims to address this gap and examines the quality and nature of relationships with spouses, children, and extended families in highly vulnerable communities during an extended lockdown period.

Methods: With the approval of the appropriate Institutional Review Board and after receiving verbal consent, following standard local procedures, 30 individuals participated in in-depth semi-structured telephone surveys that were conducted three months following the lifting of the lockdown restrictions to assess the impact of the extended quarantine periods on mental health, overall family functioning, and relationships with spouses/partners, children, and extended family.

Results: Findings indicate that mental health distress post-lockdown predicts changes in the nature and quality of relationships with spouses, children, and extended family and increased risks for family violence.

Conclusion: Findings highlight the differential impact of global health crises on highly vulnerable communities facing complex issues with limited access to adequate care systems. By reframing large-scale pandemics as complex emergencies, our results can inform current policies and support interventions and preventive measures preparing families to better cope with similar emergencies.

Keywords: Family functioning, complex emergency, pandemic, mental health, domestic violence, community mental health

1. Introduction

The COVID-19 pandemic presents significant risks to the mental health and well-being of families on a global scale. Over the past two-and-a-half years, research documented extreme and unfamiliar challenges to couples, parents, and extended families (Authors, 2021a; Authors, 2021b). Some of these challenges include virus-related fears (i.e., contagion, illness, death) (Walsh, 2020); increased psychological distress, particularly burnout, stress and anxiety (Abbott, 2021; Authors, 2021a; Authors, 2021b); unemployment and economic losses (UN News, 2021); growing health care disparities in terms of race, ethnicity, age, ability/disability, pre-existing health or illness, gender identity, socioeconomic status, profession and rank, and citizenship status (Jensen, Kelly, & Avendano, 2021; Shadmi et al., 2020); loss of work/school routines (OECD, 2020a); loss of recreational activities; loss of housing (Center on Budget and Policy Priorities, 2021; OECD, 2020b); difficulty accessing food and other basic needs (FAO, PAHO, WFP, UNICEF, & IFAD, 2021); lack of consistent information about the level of risk of infection or guidance about best practices to reduce that risk (OECD, 2020c); increased risk of family violence due to extended lockdown with potentially abusive family with no opportunity for intervention or escape (The Chicago School, 2020); increased social isolation and a lack of social support (Cohut, 2021); a sense of foreboding, (Cohut, 2021; Holt-Lunstad, 2021); and, an overall disruption of life rites and ceremonies such as birthdays, weddings, holidays, and funerals (Gesi et al., 2020).

Yet despite the global reach of the pandemic, we might be all in the same storm, but NOT in the same boat. For most of the world's population, the COVID-19 pandemic revealed no boat at all. An otherwise global public health crisis, the Covid-19 pandemic, became a complex emergency for poor families and communities in low- and middle-income countries (LMIC), compounding multiple, ongoing crises with the new pandemic-specific health risks and stressors serving to exponentially increase internal and external vulnerabilities (Alonzo et al., 2021a). Several reports indicate that compared to other LMICs, countries in Latin America and the Caribbean have suffered to an extreme degree (Boadne, 2020; OECD, 2020c). Within these countries, highly vulnerable communities have been most affected, with fewer existing resources to help individuals cope with the pandemic's added health and mental health consequences (Alonzo et al., 2021a).

The effects of immediate policies in response to the pandemic must be considered within the socioeconomic context and the pre-existing local systemic crises. One of the most prevalent responses governments implemented shortly after the onset of the pandemic was mandatory quarantine or extended and repeated lockdown periods, aiming to contain the virus and mitigate its spread. Although this extended time together could potentially create opportunities for enhanced family closeness, for families in high-risk communities in LMICs, the pandemic-related lockdown period added to increased chronic stressors related to extreme poverty and deprivation, such as overcrowding and confinement to small spaces and low-quality housing conditions resulting in increased risks for disruptive behaviors in children, a significant decrease in parents' ability to address such behaviors, and consequently, a higher risk for child abuse (Alonzo et al., 2021b; Alonzo et al., 2022).

Similarly, extended lockdown under these conditions heightened pressures on the parents. It decreased their access to formal and informal (extended family, neighbors) sources of care, also increasing the risk of intimate partner violence (IPV) (Seddighi, Salmani, Javadi, & Seddighi, 2019; The Alliance for Child Protection in Humanitarian Action, 2020). Added stressors, such as family members with disabilities and/or chronic illnesses or who contracted Covid-19, further increase the risk of child abuse and affect overall family functioning (Teo & Griffith, 2020). Recent studies identified increased rates of domestic violence and child abuse within the first year of the pandemic (Teo & Griffith, 2020).

Within the past year, several studies explored the impact of the pandemic on child development (Araújo et al., 2021; Teo et al., 2020); child mental health; and couples' or parents' stress, anxiety, and burnout (Alonzo et al., 2021; Alonzo et al., 2022). However, there is little research directly exploring the connection between lockdown policies, family functioning, and the effects on the mental health of people living in highly vulnerable communities in LMICs, in general, and countries in Latin America, in particular. As of May 2020, Latin America was declared the pandemic's epicenter, accounting for over 40% of all COVID-related deaths (Reuters, 2020). As of October 1, 2021, there are 45,282,710 recorded COVID cases in Latin America and the Caribbean (WHO, 2021), accounting for 19% of the total confirmed cases. And while significant systemic changes occurring due to COVID-19 were difficult for many families, those at a social disadvantage who are already under substantial chronic stress and have the fewest resources available to manage these new challenges (Teo et al., 2020), have also received the littlest attention in research to inform the development of prevention and intervention efforts that they so sorely need.

Of the little research that does exist in such setting, one study examined the impact of the pandemic and related policies on parental mental health in high-risk communities across Guatemala and found heightened levels of stress, anxiety, and burnout overall and significantly higher levels of stress for families with children than for singles or couples without children Guatemala (Authors, 2021c). However, this study did not explore the implications for family/extended family and couple relationships, nor did it discuss the impact on family functioning and quality of relationships beyond the parental role. Such a specific focus on family well-being is warranted given existing evidence demonstrating that children's adjustment is largely contingent on the general climate and relationships in a family in addition to parental mental health (Browne, Plamondon, Prime, Puente-Duran, & Wade, 2015), and highlighting that interventions to support child well-being are more effective when they include family components (Haine-Schlagel & Walsh, 2015).

The quality/nature of the spouse/couple-relationship is even more important when attempting to understand the impact of the pandemic in highly vulnerable communities in LMICs. Overall et al. (2020) examined pre-existing vulnerabilities assessed before the pandemic (attachment insecurity) and the changes in anxiety and stress as couples endured a mandated quarantine. Controlling for pre-quarantine problems amongst individuals reporting high pressure, relationship quality, family environment, and greater partners' attachment anxiety predicted more significant relationship problems, lower relationship quality, and a less stable and cohesive family environment (Overall et al., 2020). Further, greater partners' attachment avoidance predicted lower problem-solving efficacy and family cohesion (Overall et al., 2020). The results emphasize that the impact of the COVID-19 pandemic on

relationship functioning is strongly influenced by the characteristics and pre-existing vulnerabilities of partners with whom individuals are confined during the pandemic.

Study Context

Our study focused on several highly vulnerable low-income communities in Guatemala, as they were disproportionately affected by the pandemic and the related lockdown governmental policies imposing extended periods of quarantine to prevent the spread of the virus.

Guatemala is the 5th poorest country in LAC, with 49% of its population living under the poverty line (Diaz-Bonilla, Laborde Debucquet, & Pineiro, 2021). Following the COVID-19 pandemic, it is expected that another 1 million people will fall below the poverty line (The World Bank, 2021). Guatemala also has the highest rate of malnutrition in LAC, and 4th highest rate in the world, with a major impact on children, particularly children in highly vulnerable and indigenous communities. Only 40% of families in Guatemala are food secure (The World Bank, 2021). In Guatemala, there are 570,463 recorded cases of COVID-19, and a total of 13,730 deaths (Worldometer, 2021).

In response to the onset of the pandemic, on March 5 2020, the Guatemalan government declared a 'State of Calamity', with a series of emergency measures (strict curfews, lockdown measures, and travel restrictions) put in place for the next seven months (Diaz-Bonilla et al., 2021) in an attempt to control the pandemic and mitigate the spread of the virus. These measures significantly impacted highly vulnerable urban communities (facing the highest rates of poverty and increased incidence of community, gang, and gender-based violence), also known as Red District Zones (RDZs). These communities have minimal access to health and mental health care, as well as other support services needed during emergencies in general and complex emergencies in particular (Alonzo et al., 2021c).

To address our gap in understanding the differential impact of the Covid-19 pandemic on family functioning/relationships and mental health and to inform the development of prevention and intervention efforts, this study examines patterns of parent-child (0–18 years), partner/spouse, and, extended family interaction (e.g., conflict, parenting practices, and quality of relationships) during the extended lockdown period in Guatemala.

2. Method

2.1 Sample and Design

With the approval of the appropriate Institutional Review Board and in collaboration with Hunger Relief International and International Social Work Solutions, a total of 330 individuals from 11 high-risk districts in and around Guatemala City participated in a more extensive study, the Covid Care Calls (CCC) Program. The CCC was established in response to the global Covid-19 pandemic to address developing community needs, including access to accurate information about Covid-19, the provision of emotional support to vulnerable individuals and families, and facilitating referrals for mental health and health care and other.

The CCC study entailed making weekly telephone calls to individuals and families served by HRI through its various programs in and around Guatemala and/or those receiving services from the HRI network of community partners. Callers administered a semi-structured interview to elicit information regarding health and mental health status, economic and social status, and interpersonal functioning (for additional details, see Authors, 2021a, 2021b).

Baseline assessments were completed between June 6, 2020, and September 30. The study PIs trained callers and provided support and supervision to in-country staff. The calls were made by HRI-based social workers and psychology interns. In December 2020, a sub-sample of the more extensive baseline study was asked to participate in a follow-up telephone survey conducted three months following the lifting of the lockdown restrictions and assessing the impact of the extended quarantine on mental health and family functioning/relationships with spouses, children, and extended family. Thirty (30) individuals were randomly selected from the baseline sample, and all agreed to participate. Verbal consent was obtained for participation in baseline and follow-up calls.

2.2 Measures

The follow-up survey was designed by the study PIs based on the data obtained during the baseline study and informed by relevant research focused on the impact of extended lockdown periods during previous global crises (i.e., SARS) and during the Covid-19 pandemic in other countries (for example, Golechha, 2020; Lancee et al., 2008; Msherghi et al., 2020; Richter et al., 2020; Rossi et al., 2020; Schützwohl & Mergel, 2020; Stein et al., 2020).

The overall survey comprised 66 items rated on a Likert scale of 1 (not difficult at all) to 5 (very difficult).

Sub-scales were created for each variable of interest by summing the scores of the items in the domain, with a higher score reflecting a more significant impairment in that area.

Sociodemographic variables were self-reported and included age (reported in years), gender, number of children under 18 in the household, number of relatives over 60 living in the same household, and a total number of household members. Mental health variables included: stress, anxiety, depression, and burnout. Family functioning composite variables included: Relationship with family (9 items), relationship with spouse (11 items), and relationship with children (10 items).

Table 1. Family functioning composite variables

Relationship with spouse	**Relationship with children**	**Relationships with other family members**
(Reporting behaviors and feelings occurring *more than usual)*		
Disappointed with spouse	Disappointed by children	Disappointed by family
Lack of love from a spouse	Lack of love from children	Lack of love from family
Lack of love toward a spouse	Lack of love toward children	Lack of love toward family
Lack of appreciation from a spouse	Lack of appreciation from children	Lack of appreciation from family
Afraid of my spouse	Having to discipline my child	Physical fights with family members
Verbal arguments with spouse	Verbal arguments with my children	Verbal arguments with extended family
Stressed by spouse	Stressed by my children	Stressed by family
Frustrated by spouse	Frustrated by my children	Frustrated by family
Angry towards spouse	Angry towards my children	Angry towards family
Worried for my children's safety	Hitting my children	
Feeling unsafe at home		

2.3 Data Analysis

The statistical analyses were performed using IBM SPSS Statistics for Windows, version 27 (IBM Corp., USA). Descriptive statistics (means, standard deviations, and percentages) were used to describe the sample sociodemographic, mental health, and family functioning characteristics. Bivariate analyses were conducted to examine the relationship between interval level sociodemographic, mental health and family functioning variables; independent samples t-tests were utilized to analyze the change in family functioning and quality/nature of relationships with family, spouse, and children based on categorical variables - gender, anxiety and stress. Multiple linear regression was utilized to examine predictors of family functioning. Odds ratios are reported. The level of significance was set to $p = .05$.

3. Results

The sociodemographic, mental health, and family functioning characteristics of the sample are presented in Table 2. On average, participants were 38 years old. Most of the participants were women (73%); lived with family (96%); including children under 18 years (79%). Only 8% reported living with relatives over 60 years old.

Most of the participants identified elevated levels of stress (77%), and more than a third indicated moderate to high anxiety (37%). Scores for depression ranged between 2 and 6, with a mean of 3.47, a median of 3.00, and a standard deviation of .937. The range for burnout experience was 3 to 5, with a mean of 3.47, a median of 3.00, and a standard deviation of .681. The family functioning scores ranged between 0 to 15, with a mean of 5.20, a median of 4.50, and a standard deviation of 4.612.

The range for the quality/nature of the relationship with family was 0 to 8, with a mean of 1.53, a median of 1.00, and a standard deviation of 1.795. The range for the quality/nature of the relationship with spouse was also 0 to 8, with a mean of 2.20, a median of 2.00, and a standard deviation of 2.172. The range for the quality/nature of relationship with children was 0 to 10, with a mean of 1.57, a median of .50, a standard deviation of 2.251 (Table 2).

Table 2. Sample characteristics

Socio-demographic Characteristic	**N (%)**	**Mean (± SD)**
Age (in years)	24	37.75 (**±18.78)**
Sex		
Female	22 (73)	
Lives with Family		
Yes	23 (96)	
Children under 18 years old in the house		
Yes	19 (79)	
Relatives over 60 in the home		
Yes	2 (8)	
Number of Household Members		
1-3	8 (33)	
4-6	13 (54)	
7-10	2 (8)	
11-15	1 (4)	
Mental Health Characteristics		
Stress	23 (77)	
Anxiety	11 (37)	
Depression		3.47 (±.937)
Burnout		3.47 (±.681)
Family Functioning	30	5.20 (±4.61)
Relationship with Family	30	1.53 (±1.80)
Relationship with spouse	30	2.20 (±2.17)
Relationship with child(ren)	28	1.57 (±2.25)

Table 3 shows the results of the correlation analyses. The correlations between depression and burnout experience (r = .511, p = .004); family functioning (r = .401, p = .028); and quality/relationship with children (r = .479, p = .010); burnout, and quality/nature of the relationship with extended family (r = .438, p = .016); anxiety, and family functioning (r = .463, p.010); and quality/nature of the relationship with children (r = .580, p = .001); and stress, and family functioning (r = .642, p<.001); relationship with extended family (r = .492, p = .006); quality/relationship with spouse (r = .550, p = .002); and quality/nature of the relationship with children (r = .375, r = .049) were all positive and statistically significant.

Table 3. Correlation coefficients for study variables

Variable		**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
1. Size of Household	Pearson corr.								
	N	23							
2. Burnout	Pearson corr.	.22							
	N	23							
3. Depression	Pearson corr.	.160	.511**						
	N	23	30						
4. Anxiety	Pearson corr.	-.089	.067	.216					
	N	23	30	30					

Variable		1	2	3	4	5	6	7	8
5. Stress	Pearson corr.	-.159	-.119	-.018	.091				
	N	23	30	30	30				
6. Family functioning	Pearson corr.	..038	.156	.401*	.463**	.642**			
	N	23	30	30	30	30			
7. Rel. w. extended family	Pearson corr.	.142	.438*	.236	.150	.492**	.761**		
	N	23	30	30	30	30	30		
8. Rel. w. Spouse	Pearson corr.	.064	-.158	.156	.260	.550**	.760**	.449*	
	N	23	30	30	30	30	30	30	
9. Rel. w. Child	Pearson corr.	-.070	.095	.479**	.580**	.375*	.714**	.306	.231
	N	22	28	28	28	28	28	28	28

** p < 0.01 level (2-tailed).

* p < 0.05 level (2-tailed).

Tables 4a, b, c, and d show the rest of the bivariate analyses. Independent Samples t-tests were utilized to analyze differences in family functioning and quality/ nature of relationships with family, spouse, and children based on categorical variables-- gender, anxiety, and stress. The results show that participants with greater levels of anxiety (Mean difference= 3.416) and stress (Mean difference= 5.48) reported significantly lower family functioning scores.- you need to add p-values.

The quality/ nature of the relationship with family didn't present any significant differences by gender, anxiety, or stress (see Table 4b). The quality/ nature of the relationship with the spouse (see Table 4c) and children (see Table 4d), on the other hand, was impacted by participants' stress levels. Participants with more significant stress reported significantly lower quality relationships with their spouse (Mean difference=2.497) and their children (Mean difference= 2.000). – you need to add p-values.

It is worth noting that bivariate analyses between individual items of the relationship with spouse and relationship with children composite variables, and the other variables included in this study reveal several significant correlations between post-lockdown anxiety, stress and depression, and specific items measuring relationships with spouse or children. Findings show substantial correlations between post-lockdown anxiety and feeling stressed by children (p = .511**), and feeling angry towards children (p = .493**); between post-lockdown stress and increased verbal arguments with children (p = .391*), and feeling stressed by children (p = .625**); and between post lockdown depression and increased verbal arguments (p = .477**) and feeling stressed by children (p = .453*). Also, there are significant correlations between post lockdown anxiety and feeling stressed towards spouse more than usual (p = .457*); and between post lockdown stress and increased verbal arguments (p = .487*); anger towards spouse (p = .634**); stressed by spouse (p = .567**); feeling unsafe at home (p = .400*); and feeling worried for the safety of the children (p = .676**).

Table 4a. Changes in Family Functioning by Gender, Anxiety and Stress Variables

Variables	Test group			Comparison group			Comparison			
	N	Mean	SD	N	Mean	SD	T	Df	P	Cohen's d
Gender	22	5.41	4.65	8	4.63	4.78	0.406	28	0.688	0.165
Anxiety	11	7.36	3.83	19	3.95	4.65	-2.062	28	**0.049***	0.801
Stress	23	6.48	4.48	7	1	1.53	-4.988	27.37	**0.000****	1.637

** p < 0.01 level (2-tailed).

* p < 0.05 level (2-tailed).

Table 4b. Changes in Relationship with Family by Gender, Anxiety and Stress Variables

Variables	Test group			Comparison group			Comparison			
	N	Mean	SD	N	Mean	SD	T	df	P	Cohen's d
Gender	22	1.82	1.99	8	0.75	0.71	1.470	28	.153	
Anxiety	11	1.64	1.36	19	1.47	2.04	-0.235	28	.816	
Stress	23	1.78	1.93	7	0.71	0.95	-1.401	28	.061	

Table 4c. Changes in Relationship with Spouse by Gender, Anxiety and Stress Variables

Variables	Test group			Comparison group			Comparison			
	N	Mean	SD	N	Mean	SD	T	df	P	Cohen's d
Gender	22	2.18	2.09	8	2.25	2.55	-0.075	28	.941	
Anxiety	11	3.18	1.99	19	1.63	2.11	-1.976	28	.058	
Stress	23	2.78	2.13	7	0.29	0.76	-4.726	27.018	.000**	

** p < 0.01 level (2-tailed).

* p < 0.05 level (2-tailed).

Table 4d. Changes in Relationship with Child by Gender, Anxiety and Stress Variables

Variables	Test group			Comparison group			Comparison			
	N	Mean	SD	N	Mean	SD	T	df	P	Cohen's d
Gender	20	1.55	2.42	8	1.63	1.92	-0.078	26	.938	
Anxiety	10	2.80	2.97	18	0.89	1.41	-2.320	26	.028	
Stress	22	2.00	2.37	6	0.00	0.00	-3.957	21.000	.001**	

** p < 0.01 level (2-tailed).

* p < 0.05 level (2-tailed).

Tables 5a and b present the results of the multivariate analyses.

Table 5a shows the results of the different regression models run to identify predictors of family functioning. Model 3, including sex (OR =-2.153, p =.317), age (OR = .044, p =.526), number of people living in the household (OR =-.038, p =.913), anxiety (OR =4.734, p =.045), and stress (OR =4.391, p =.036) was significant and explained 2% of the variance in family functioning. Results demonstrated that individuals with more significant anxiety and stress levels were more likely to report impaired family functioning.

Model 4 was also significant and explained 1% of the variance in family functioning. Variables included in Model 4 were sex (OR =-4.678, p =.055), age (OR = .091, p =.184), number of people living in the household (OR =-.317, p =.365), anxiety (OR =4.489, p =.039), stress (OR =4.284, p =.027), and depression (OR = 2.161, p =.054). Results again indicate that males with greater anxiety, stress, and depression are more likely to report impaired family functioning.

Model 5 was significant and explained 2% of the variance in family functioning. Variables included in Model 5 were sex (OR =-4.851, p =.067), age (OR =.097, p =.201), number of people living in the household (OR = -.337, p =.367), anxiety (OR =4.545, p =.045), stress (OR =4.092, p =.059), depression (OR = 2.350, p =.103) and burnout experience (OR =-.351, p =.820). Results demonstrated that being male and experiencing greater anxiety and stress were associated with an increased likelihood of experiencing impaired family functioning.

Table 5a. Multiple regressions for predictors for family functioning

	β	T	P	Adj. R^2
Model 1				**-0.106**
Gender	-1.50	-0.57	0.578	
Age	-0.03	-0.47	0.643	
Size of Household	0.07	0.15	0.882	
Model 2				**0.081**
Gender	-3.13	-1.37	0.188	
Age	0.09	1.27	0.223	
Size of Household	-0.04	-0.11	0.912	
Anxiety	6.62	2.94	0.009	
Model 3				**0.024***
Gender	-2.15	-1.03	0.317	
Age	0.04	0.65	0.526	
Size of Household	-0.04	-0.11	0.913	
Anxiety	4.73	2.17	0.045	
Stress	4.39	2.29	0.036	
Model 4				**0.010****
Gender	-4.68	-2.08	0.055	
Age	0.09	1.39	0.184	
Size of Household	-0.32	-0.93	0.365	
Anxiety	4.49	2.26	0.039	
Stress	4.28	2.45	0.027	
Depression	2.16	2.09	0.054	
Model 5				**0.023***
Gender	-4.85	-1.99	0.067	
Age	0.10	1.34	0.201	
Size of Household	-0.34	-0.93	0.367	
Anxiety	4.55	2.20	0.045	
Stress	4.09	2.06	0.059	
Depression	2.35	1.75	0.103	
Burnout	-0.35	-0.23	0.82	

** $p < 0.01$ level (2-tailed).

* $p < 0.05$ level (2-tailed).

Multiple linear regression analyses were conducted to examine the quality/nature of relationships with extended family, partner/spouse, and children. Among these analyses, two models predicting the quality/nature of relationships with children revealed significant results (Table 5b). Model 4 was significant and included sex (OR =-2.933, p =.014), age (OR =.082, p = .035), number of people living in the household (OR =-.386, p =.029), anxiety (OR =3.016, p =.008), stress (OR =1.373, p =.114), and depression (OR =2.033, p =.001). Model 5 (p=.003), including sex (OR =-3.310, p = .008), age (OR =.092, p = .021), number of people living in the household (Beta = -.426, p =.018), anxiety (OR =3.056, p =.007), stress (Beta =.843, p =.360), depression (OR=2.481, p =.001) and burnout experience (OR =-.880, p =.206). Model 4 explains 61% of the variance in

relationships with children; adding the burnout experience in the model (Model 5) increased the explained variance to 63%. These results suggest that being male, older, having fewer household members, and having higher levels of anxiety and depression predicted greater impairment in the quality/nature of relationships with children. There were no significant predictors for the relationship with extended family or partner/spouse following the lockout/quarantine period of the pandemic.

Table 5b. Multiple Regressions for Predictors of Relationship w. Children

	β	T	P	Adj. R^2
Model 1				**-0.069**
Gender	0.14	0.10	0.921	
Age	-0.05	-1.21	0.244	
Size of Household	-0.02	-0.08	0.935	
Model 2				**0.154**
Gender	-0.70	-0.56	0.581	
Age	0.03	0.65	0.528	
Size of Household	-0.10	-0.46	0.653	
Anxiety	3.26	2.34	0.032	
Model 3				**0.165**
Gender	-0.47	-0.37	0.717	
Age	0.02	0.48	0.638	
Size of Household	-0.10	-0.49	0.630	
Anxiety	2.87	2.01	0.063	
Stress	1.30	1.09	0.291	
Model 4				**0.606****
Gender	-2.93	-2.81	0.014	
Age	0.08	2.34	0.035	
Size of Household	-0.39	-2.44	0.029	
Anxiety	3.02	3.07	0.008	
Stress	1.37	1.69	0.114	
Depression	2.03	4.22	0.001	
Model 5				**0.626****
Gender	-3.31	-3.14	0.008	
Age	0.09	2.63	0.021	
# of Household	-0.43	-2.71	0.018	
Anxiety	3.06	3.20	0.007	
Stress	0.84	0.95	0.360	
Depression	2.48	4.30	0.001	
Burnout	-0.88	-1.33	0.206	

** $p < 0.01$ level (2-tailed).

* $p < 0.05$ level (2-tailed).

4. Discussion

This is the first study to explore the impact of the pandemic and extended quarantine and lockdown periods on family functioning, specifically regarding relationships with partner/spouse, children, and the extended family, in under-resourced, highly vulnerable communities in RZDs in Guatemala. There are three significant findings of this study. First, stress and anxiety levels are inversely correlated with family functioning. Second, there is a strong correlation between high stress and anxiety levels and relationship with children. And third, being male and older, living with fewer family members, and having higher levels of anxiety and depression predicts a strong negative impact on the relationship with children. These results align with previous findings that link more elevated stress and anxiety levels in parents to increased risks for child maltreatment/abuse (Abramson, 2020). They also signal the need for increased attention to the impact of complex emergencies on *fathers*' mental health in developing appropriate prevention policies and programs.

Another aspect worth noting is that most of the respondents in our study were women (73%), and while both stress and anxiety were identified as core mental health characteristics for this group, depression was not expressly identified as a mental health issue. Yet, post-lockdown depression is one of the critical variables in the two statistically significant regression models, raising questions about the proper identification of symptoms and the possibility of underrecognized depression, particularly by women caregivers.

The regression models showed smaller households, gender (being male), anxiety, and depression as significant predictors for variance in the relationships with children. However, bivariate analyses identified relevant significant correlations between post-lockdown stress, anxiety, and depression, and both increased child-related stress or anger and increased verbal arguments with children. Similarly, there are significant correlations between post-lockdown stress and anxiety, increased stress and anger towards spouse, increased verbal arguments with spouse, feeling worried for children's safety, and feeling unsafe at home. Given the strong association between parental mental illness and both negative home environment and increased risk of offspring maladjustment, these findings emphasize the importance of developing programs to support parental well-being. Further, these findings signal the need for proper interventions to support families with children in highly vulnerable communities to mitigate the risk of child abuse and intimate partner violence.

This last finding raises a key question that merits consideration, namely, what is the importance of focusing on the couple's relationship in the context of a wide-scale pandemic affecting families and communities around the world? The fact that stress is identified as directly impacting couple relationships raises an essential flag for policy development and prevention, and intervention efforts. According to reports by the Council on Foreign Relations (Bettinger-Lopez & Bro, 2020), the WHO Regional Office for Europe (UN Regional Information Center for Western Europe, 2020), Reuters (Sigal, Ramos Miranda, Martinez, & Machicao, 2020), and the UN (UN Women, 2020) rates of domestic violence have skyrocketed globally, many due to "situational couple violence," in which conflicts that usually do not involve physical violence have escalated due to added stress and unrelenting proximity (University of Nevada Las Vegas, 2020. Couples that are separated from an otherwise useful extended family support system due to shelter-in-place and social distancing restrictions, and have added caregiving responsibilities due to the closing of schools, presence of older parents in the household, and remote work, are at risk of experiencing higher levels of stress with decreased. Couples with more limited financial and housing resources, higher unemployment rates, and a higher risk of contracting the coronavirus are at higher risk of conflict due to these enhanced stressors.

In the Guatemalan context, highly vulnerable communities were already dealing with grossly underreported rates of intimate partner violence before the pandemic, with scarce resources to address these families' needs. During the extended quarantine periods, families were cut off from the very limited existing resources, most often informal networks of support. Heightened levels of stress, as well as underrecognized levels of depression, placed major challenges for couples in survival mode, further impacting parenting and relationships with children, and creating increased risks for child abuse or neglect. Individual and family-level interventions and community-level psychoeducation targeting early identification of those struggling with increased stress levels and promoting awareness and help-seeking are important for providing support before relationships deteriorate into situations of violence, abuse, and/or neglect.

While family functioning, in general, was negatively affected by the pandemic in the target communities, the complex emergency characteristics of the pandemic in such communities, coupled with extended periods of lockdown imposed by the government, led to significantly high levels of stress and anxiety that lowered family functioning. For men, increased anxiety and depression led to a more severe impact on the relationship with children as compared to partner/spouse or extended family relationships, particularly in the context of smaller

family households. Post-lockdown impact on respondents' mental health also clearly indicated changes in their anger and stress levels in relationships with both spouse and children, with increased verbal arguments and feeling worried for children or unsafe at home, which leads to further questions about increased risks for child abuse in the absence of adults who could protect children under such circumstances (Citroner, 2021; Human Rights Watc, 2020; Brown et al., 2020).

Our results are consistent with several studies in high-income countries that have demonstrated that higher levels of parental stress are associated with poorer parenting practices and deteriorating parent-child relationships. In the United States, for example, studies have found that higher parental stress was associated with fathers and mothers' higher use of corporal punishment (Jackson & Choi, 2018) and more negative mother-child interactions (Crnic et al., 2005). Further, Westrupp and colleagues (2021) conducted a telephone survey of parents in Australia examining patterns of parent and child mental health, couple relationships, parenting practices, and overall family functioning during the pandemic compared to pre-pandemic and associations between parent, child, and family outcomes during the pandemic and both pre-existing risk factors and COVID-19 related stressors. Results indicated that pre-existing financial and COVID-19 stressors were both associated with greater severity in parent and child mental health symptoms, parent emotion dysregulation, parenting irritability, couple conflict, and family positive/negative expressiveness. Additionally, parents and children with pre-existing mental health conditions had greater difficulties during the pandemic in all areas examined. Lastly, Chung et al. (2020) examined changes in parents' perceptions of their relationships with their children across time resulting from stressors or interactions with their environment. Parents who reported a greater impact of COVID-19 also reported higher levels of parental stress. Higher parental stress was then shown to be associated with increased use of harsh parenting (i.e., caning, spanking, use of harsh words, and yelling) and less parent-child relationship closeness. Thus, levels of parental stress mediated the impact of COVID-19 on harsh parenting and parent-child relationship closeness. The effect size of the association between parenting stress and harsh parenting was almost twice the magnitude of the association between parenting stress and parent-child relationship closeness (Driscoll & Pianta, 2011).

Importantly, our results extend these findings to highly vulnerable communities in low-income settings. They also demonstrate the impact of fathers' mental health, more so than mothers' in this setting. Previous research has noted that in high-risk communities, paternal stress may be increased due to changes of their role within the family resulting from the pandemic (i.e., taking on activities and/or home management responsibilities that would typically be relegated to the mother), and by the uncertainties, they face in being able to financially provide for their families in the face of job loss, insecure employment, and/or fear of exposure to COVID-19 while out trying to seek or maintain work (Alonzo, Popescu, & Zubaroglu, 2021). This highlights the need to address stigma related to mental illness as well as cultural values related to gender norms and expectations, particularly among males, to increase help-seeking and decrease the risk of impaired familial relationships and mental health among fathers.

4.1 Policy and Practice Implications and Next Steps

There are several policy and practice implications based on these findings, which, despite the limitations of a small sample, provide us with important data on communities for which such data is limited at best, and consciously absent both during and post-pandemic. First, in relation to family well-being and the mental health of the population in highly vulnerable communities in LAC countries, what prevention mechanisms could mitigate stress and anxiety levels in the context of complex emergencies? It is important to consider the correlations between the identified mental health challenges (anxiety, stress and depression) and impaired family functioning within the context of minimal access to mental health care services and trained providers that characterize the majority of these countries. In thinking of the best strategies for immediate interventions and prevention measures, increasing access to care by providing training and improving human capital for mental health provision is essential.

Second, focusing on lessons learned, to what extent do government policies contribute to increased risk factors and diminish the ability of these communities to cope with major public health crises such as the Covid-19 pandemic? In the absence of a strong safety net and proper health and mental health care services, highly vulnerable communities often depend on informal services and sources of support that they were not able to access during the lockdown periods. Interestingly enough, the follow-up calls for the 30 families engaged in this study also provided them with access to alternative support systems of care, built into the protocols followed by our callers. Community-based mental health care workers might serve similar purposes and could be harnessed to provide uninterrupted access to alternative support systems.

This leads to a third, most important question: How do we build capacity in vulnerable communities to identify elevated levels of stress and use positive coping mechanisms that will prevent significant deteriorations in family functioning? Besides strengthening national health and mental health care systems (which should be a priority for

the international community in response to and based on lessons learned from this pandemic), providing communities with psychoeducation, addressing stigma, and providing access to basic information on mental health and well-being, family functioning and violence prevention is essential for equipping the community members with skills that will prepare them to face similar crises in the future.

4.2 Limitations

Methodological limitations of the study require recognition. This study reports on the findings from a relatively small sample in one LMIC, thus limiting generalizability. How, then, is it relevant for broader contexts when addressing the medium and long-term consequences of the pandemic and related measures of protection by state actors (such as extended quarantine periods and lockouts)? As previously mentioned, there is little to no research exploring the impact of the pandemic and lockout periods on low-income families in highly vulnerable communities in LAC, with no studies focusing on Guatemalan highly vulnerable communities. This study, therefore, starts addressing a wide gap in the literature and provides us with some starting points in addressing ongoing challenges, mental health issues, and family violence in such communities. Additionally, mental health functioning was assessed using standard language and criteria for each mental health category (depression, anxiety, stress, and burnout). It may be that mental health challenges were under-reported as a result of not using more culturally relevant terms. However, interviewers were trained to ask follow-up questions regarding common symptoms associated with each condition and to explain the terms to participants using culturally-grounded descriptions when clarification was needed. Follow-up studies would benefit from incorporating alternate terms or culturally-bound expressions of illness to increase accuracy in identifying mental health symptoms.

5. Conclusion

The COVID-19 pandemic has raised similar questions worldwide in relation to the role of governments in responding not only to the immediate pandemic but to the complex emergencies created by this public health crisis in already vulnerable communities and the importance of strengthening health and mental health resources and capacity in these communities. Uncertainty, unavailability of services, and lack of psychoeducation and proper access to available resources lead to higher levels of psychological distress, directly impacting parental relationships with children and the overall ability of families in vulnerable situations to parent and protect their children. While the long-term effects of the pandemic on child development are not yet known, studies demonstrate that children's home environments affect their ability to cope with major crises in their families and communities, and lack of access to resources further increases the vulnerability of children in lower-income communities (OECD, 2020d), our findings point to several key areas for supporting families through this difficult time. First, our findings emphasize that access to services and support systems for families in times of complex emergencies through the use of technology (OECD, 2020d) and ongoing training of community healthcare providers can address some of the challenges this pandemic has revealed, particularly for families in highly vulnerable communities. Second, our results highlight that investment in strengthening health and mental health care sectors while increasing access to technology and information should be a priority for international development agencies and health organizations at a global and local level.

Competing Interests Statement

The authors declare that there are no competing or potential conflicts of interest.

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