

# “With mental health and land, we have enough to live”. Social determinants of mental health in fifteen conflict-affected municipalities of Montes de María, Colombia: an exploratory mixed method study.

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## Research Article

**Keywords:** Social Determinants of Health, Mental Health, Armed Conflict, Victims, Colombia, Community, Health services barriers, State abandonment

**Posted Date:** September 2nd, 2024

**DOI:** <https://doi.org/10.21203/rs.3.rs-4831513/v1>

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**Additional Declarations:** No competing interests reported.

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## Abstract

## Background

Armed conflicts affect mental health. In Colombia, many communities have been victims of armed conflict and multiple social inequalities and injustices for more than six decades. Our research explored the social determinants of mental health in fifteen municipalities affected by the armed conflict in Montes de María, Colombia.

## Methods

We used a convergent parallel mixed-method design involving leaders and community members of Montes de María in Colombia, a region deeply affected by the armed conflict. We assessed mental health (PHQ-4 and DASS-21), social support (Medical Outcomes Study Social Support Survey - MOS), and sense of community (Brief Sense of Community Scale - BSCS) in a sample of 134 leaders and community members. Concurrently, we held 35 focus groups and 2 regional meetings with 167 leaders to further explore the social determinants of mental health in the region. Both quantitative and qualitative analyses were conducted, triangulating the information to ensure comprehensive and robust findings.

## Results

The quantitative data analysis showed significant relations among different social determinants of health (SDH) and the mental health variables of anxiety, depression and stress. Social support and sense of community appear to be protective factors for mental health. Qualitative data revealed that armed conflict, state abandonment, economic issues, lack of opportunities, social capital, social cohesion and barriers to access mental health services are SDH that have impacted the current mental health of the community.

## Conclusions

The results suggest social determinants of health impact the mental health of conflict-affected communities. Both quantitative and qualitative findings highlight the region's challenges, their capacity for resilience, and the urgent need for more effective policies and robust support to address mental health and socioeconomic issues in Montes de María.

## Background

The Colombian armed conflict spans more than six decades and has resulted in more than 9.5 million victims, of which around 80% have been forcibly displaced and have survived other types of victimization (1), causing numerous health impacts, especially regarding Mental Health (MH) (2). Multiple efforts to transition to peace have led to the development of transitional justice, which includes psychosocial reparation; however, the conditions of other rights violations, especially in rural populations, have remained constant. Armed groups continue to exist and exert violence, which has an impact on the health, well-being, and quality of life of people exposed directly and indirectly to violence (1).

In contexts of armed conflict, health is affected in multiple and complex ways (3). The extensive literature on MH in armed conflict contexts demonstrates that increased exposure to armed conflict constitutes a predictive, risk, and precipitating factor for MH problems (4, 5). Prominent MH issues identified include mood disorders, particularly post-traumatic stress disorder, depression, and anxiety (6–10). To a lesser extent, eating disorders (9), psychoticism and dissociation (6), oppositional defiant disorder, conduct disorder, attention deficit disorder, bipolar disorder (8) avoidance of social events, and cognitive difficulties (10) have been reported.

Adverse conditions that are exacerbated or directly caused by the armed conflict can be understood through the WHO framework of Social Determinants of Health (SDH) (11, 12) referred to the conditions in which individuals are born, grow, live, work, and age, influenced by the distribution of money, power, and resources at global, national, and local levels. These factors shape health inequalities, impacting individuals, groups, and populations through income, wealth, education, access to healthcare services, and social and community networks (13, 14).

In contexts of armed conflict, the SDH framework encompasses economic, cultural, historical, environmental, and political dimensions that shape the living conditions of individuals and communities, thereby affecting their health status (14). In Colombia, the ramifications of armed conflict on health indicators have been documented (15) including externally caused injuries, child health, vector-borne diseases, infectious diseases, chronic diseases, reproductive health, vaccination, lack access to health services (16), and perception of health (17).

Recognizing the adverse effects of armed conflict on health, Colombia has adopted the SDH in its public health plan including armed conflict as one of the structural determinants of health inequalities and views being a victim or having other roles within the conflict as one of the structural axes of inequality impacting specific health determinants of the population's health status (18).

Acknowledging the severity of MH problems, the WHO proposed the Social Determinants of Mental Health (SDMH) (19), which goes beyond genetic predisposition and individual circumstances, asserting that psychological well-being, MH, and many mental disorders in individuals and communities

are significantly determined by the social, economic, and physical conditions in which they live. Thus, MH is understood within the framework of inequalities and social justice, especially for groups that are victims of various forms of violence, marginalization, and poverty. These groups require differential interventions throughout life at the community and national levels (20, 21). These interventions should take into account factors such as distribution of opportunities, employment, housing, infrastructure, access to health services, food security, community organization, cultural values, social norms, poverty, family stress, abuse, adverse childhood experiences, stress management, parenting practices, gender, ethnicity, sexuality, education, and, among others (22, 23), and should be articulated with the achievement of the Sustainable Development Goals (SDGs) (24).

In consideration of this context, it is necessary to address the MH issues experienced by communities who have been victims of armed conflict and multiple social inequalities and injustices. The region of Montes de María, located between the Colombian provinces of Bolívar and Sucre, has been battered by the conflict given its location and geographic features that make it home to strategic corridors for illicit markets such as drugs, arms, and illegal mining. With the addition of co-optation of state institutions by armed actors, the region has been subjected to multiple forms of violence and experiences heightened negative health consequences.

In such cases, identifying SDMH is essential and relevant for analyses and intervention proposals. Few studies have addressed MH from this perspective in the context of Colombia's armed conflict. Other groups have studied other contexts (25) or the Colombian context in general (26), but not specifically in the municipalities of Montes de María. Therefore, the objective of this mixed-method research is to explore with a broader perspective the MH and the SDMH in fifteen municipalities affected by the armed conflict in Montes de María, Colombia, with the aim of recognizing context-specific characteristics pertinent to designing targeted MH interventions for this population.

## Methods

### Study design and setting

This exploratory study used a convergent parallel mixed-method design (27) based on community-based participatory research (CBPR) (28), which involves collecting and analyzing quantitative and qualitative data concurrently but separately, followed by triangulation (29, 30).

The study was conducted in Montes de María in Colombia, a region consisting of fifteen municipalities from the departments of Bolívar (Maríabaja, El Guamo, San Juan Nepomuceno, San Jacinto, El Carmen de Bolívar, Zambano, and Córdoba Tetón) and Sucre (San Onofre, Toluviéjo, San Antonio de Palmito, Morroa, Los Palmitos, Ovejas, Colosó, and Chalán) characterized by armed conflict, poverty, state capture, extractive economies and adaptive structures of macro-criminality (31, 32).

During the research project design, conversations were held with community leaders to ensure the study's relevance to the communities. Data collection was conducted in the fifteen municipalities between August and December 2021 and April and December 2023 at different times, considering the challenges imposed by the armed conflict.

The study was approved by the Psychology IRB at Pontificia Universidad Javeriana in Bogotá and conducted in accordance with the Declaration of Helsinki. Written informed consent was obtained by all the participants.

### Participants

Through convenience and snowball sampling, starting from prior contact with leaders and community members of the fifteen municipalities of Montes de María involving a sample of participants from 92 social organizations afro-descendant, indigenous, farmers, LGBTQ+, and youth who have been victims of threats, sexual abuse, forced displacement, kidnapping, and the murder of loved ones, among other forms of violence.

### Qualitative data collection and analysis

Thirty-five focus groups were conducted with the participation of 167 leaders. These sessions were led by experts from the research team using a question guide about MH, SDH, effects of the armed conflict, adverse experiences, stressors, community support, community relations, and interactions with MH services. The focus groups were audio-recorded, transcribed, and analyzed using NVivo 14.

A content analysis was conducted, with concurrent data analysis and collection and three phases of coding: open, axial, and selective (29). In the open coding phase, a meticulous line-by-line coding approach was employed, leading to the development of a preliminary codebook. This codebook underwent continuous scrutiny and refinement by the researchers. Axial coding facilitated the aggregation of data into broader categories, establishing interconnections among them. Selective coding enabled the formulation of overarching categories that elucidated the SDMH within the municipalities.

The analysis adhered to the criterion of saturation (33). To ensure methodological rigor (34), the principles of credibility and transferability were carefully upheld. This was achieved through prolonged engagement in the municipalities over several years, fostering an in-depth comprehension of contextual intricacies. The validity of the analyses was further reinforced by presenting the findings to participants during two regional meetings. Throughout the research process, the researchers engaged in a continuous reflexive exercise.

### Quantitative measurements, data collection and analysis

Several questionnaires were administered to 134 leaders and community members, to characterize the participants and to evaluate MH, social support, and sense of community.

## Sociodemographic Characteristics

A comprehensive set of sociodemographic variables, corresponding to the axes of inequality within the SDH (12), were included in the study. These variables were age, sex, gender, department, group affiliation, income, educational level, religion, and history of receiving psychosocial care.

## Mental Health Assessment

Two validated questionnaires were employed to assess MH: a) a Colombian validation (35) of the Patient Health Questionnaire (PHQ-4) (36), consisting of four items with response options ranging from "not at all" (0 points) to "almost every day" (3 points), reflecting the frequency of symptoms over the past two weeks; b) the Colombian validation (37) of the Depression-Anxiety-Stress Scale (DASS-21) (38), which consists of 21 items ranging from 0 ("Did not apply to me at all") to 3 ("Applied to me very much, or most of the time"), reflecting symptoms over the past week.

## Social Support Assessment

Acknowledging social cohesion as a critical SDMH, we used the Medical Outcomes Study Social Support Survey (MOS) which consists of 20 5-option Likert items that evaluate social network, emotional/informational support, instrumental support, positive social interaction, and affectionate support. Higher scores indicate greater perceived social support (39) We used a version validated for Colombia (40).

## Sense of Community Assessment

As part of social cohesion, we used the Brief Sense of Community Scale (BSCS) that evaluates four dimensions: needs fulfilment, group membership, influence, and emotional connection, each represented by two items, totaling eight items in a 5-point Likert scale ranging from "Strongly agree" to "Strongly disagree" (41). The Colombian validated version was used (42).

We used descriptive statistics and subgroup analyses on sociodemographic variables. The continuous variables were non-normal per the Kolmogorov-Smirnov test, so results are presented as medians and interquartile range [IQR]. Categorical data are reported as absolute frequencies and percentages. Non-parametric statistical significance tests were conducted in two forms: a) bivariate analyses between sociodemographic variable and MH variables, social support, and sense of community (Mann-Whitney and Kruskal-Wallis tests as appropriate), and b) stratified analysis of MH, social support and sense of community variables by sociodemographic variables with the Spearman's correlation test. All analyses were performed with a 95% confidence level using SPSS version 26.

## Results

### Quantitative results

### Social determinants of health

The primary characteristics of SDH among 134 leaders from the fifteen municipalities of Montes de María are presented in Table 1. Participants were predominantly Afro-Colombian, rural farmers, and indigenous individuals. Additionally, members of the LGBTIQ + community and 35 participants from other demographic groups, particularly young individuals, were also included. Most participants were women (59%). The age range of the participants was between 18 and 68 years, with a median age of 31 [25–48] for women and 37 [26–47] for men. In terms of socioeconomic status 71% of the participants earned less than the minimum monthly wage (USD 268), and 41.1% earned less than USD 115.61, a significant percentage given that the poverty line in Colombia for 2023 was set at USD 108. Six participants had no formal education, and eleven had only completed elementary education. The predominant religion among participants was Catholicism. Furthermore, 64.2% had received psychosocial care.

Table 1  
Bivariate analysis between social determinants and mental health, social support, and sense of community variables

Sociodemographic variables	Total, n = 134	PHQ-4 <sup>1</sup>	DASS-21 <sup>2</sup>			MOS		BSCS	
						Median = 74		Median = 4	
						(IQR: 57–86)		(IQR: 3,10 – 4,63)	
Age Median (IQR)a	34,5 (25–47)	Anxiety	0,01; r=–0,214**	Anxiety	0,484	ES	0,073	NF	0,03; r = 0,167*
		Depression	0,34	Depression	0,086	TS	0,04; r = 0,155*	GM	0,16
				Stress	0,02; r=–0,177*	SI	0,36	I	0,01; r = 0,206**
						AS	0,1	EC	0,02; r = 0,174*
						OSS	0,07	SOC	0,01; r = 0,194*
Sex n (%)b		Anxiety	0,94	Anxiety	0,82	ES	0,17	NF	0,80
Man	55 (41%)	Depression	0,48	Depression	0,84	TS	0,39	GM	0,13
Woman	79 (59%)			Stress	0,99	SI	0,37	I	0,10
						AS	0,15	EC	0,21
						OSS	0,23	SOC	0,22
Gender n (%)c		Anxiety	0,40	Anxiety	0,75	ES	0,63	NF	0,81
Male	49 (36,6%)	Depression	0,41	Depression	0,72	TS	0,92	GM	0,28
Female	75 (56%)			Stress	0,60	SI	0,78	I	0,48
Trans man	2 (1,5%)					AS	0,8	EC	0,88
Trans woman	4 (3,0%)					OSS	0,79	SOC	0,73
Other	4 (3,0%)								
Department n (%)b		Anxiety	0,23	Anxiety	0,59	AE	0,47	NF	0,31
Bolívar	60 (51,5%)	Depression	0,42	Depression	0,92	AM	0,65	GM	0,47
Sucre	65 (48,5%)			Stress	0,34	RS	0,19	I	0,81
						AA	0,70	EC	0,88
						IGAS	0,46	SOC	0,61
Group n (%)c		Anxiety	0,41	Anxiety	0,27	AE	0,40	NF	0,83
Afrocolombian	37 (27,6%)	Depression	0,04*	Depression	0,09	AM	0,88	GM	0,04*
Farmer	37 (27,6%)			Stress	0,22	RS	0,59	I	0,08
Indigenous	16 (11,9%)					AA	0,94	EC	0,05*
LGBTIQ+	9 (6,7%)					IGAS	0,66	SOC	0,15
Other	35 (36,1%)								
Income n (%)c		Anxiety	0,13	Anxiety	0,07	AE	0,35	NF	0,35
Less than 46,24 USD	25 (18,7%)	Depression	0,54	Depression	0,85	AM	0,95	GM	0,75
Between 46,24 and 115.61 USD	30 (22,4%)			Stress	0,14	RS	0,36	I	0,91
Between 115.61 and 231,21 USD	40 (29,9%)					AA	0,83	EC	0,49
1. PHQ-4: Depression (median = 2; IQR: 1–2), Anxiety (median = 1; IQR: 0–2)									
2. DASS-21: Depression (median = 3; IQR: 1.75-6), Anxiety (median = 3; IQR: 1–6), Stress (median = 3; IQR: 2–7)									

<b>Sociodemographic variables</b>	<b>Total, n = 134</b>	<b>PHQ-4<sup>1</sup></b>		<b>DASS-21<sup>2</sup></b>		<b>MOS Median = 74 (IQR: 57–86)</b>		<b>BSCS Median = 4 (IQR: 3,10 – 4,63)</b>	
Between 231,21 and 346,82 USD	18 (13,4%)					IGAS	0,59	SOC	0,59
Between 346,82 and 462,43 USD	12 (9,0%)								
More than 462,43 USD	9 (6,7%)								
<b>Level of education n (%)<sup>c</sup></b>		Anxiety	0,15	Anxiety	0,20	AE	0,35	NF	0,07
None	6 (4,5%)	Depression	0,43	Depression	0,23	AM	0,50	GM	0,58
Elementary school	11 (8,2%)			Stress	0,04*	RS	0,23	I	0,58
Secondary school	49 (36,6%)					AA	0,50	EC	0,78
Technical studies	31 (23,1%)					IGAS	0,33	SOC	0,64
Technological studies	16 (11,9%)								
University	18 (13,4%)								
Postgraduate	2 (2,2%)								
<b>Religion n (%)<sup>c</sup></b>		Anxiety	0,25	Anxiety	0,32	AE	0,70	NF	0,63
Catholic	61 (45,5%)	Depression	0,77	Depression	0,32	AM	0,83	GM	0,92
Christian	25 (18,7%)			Stress	0,01*	RS	0,74	I	0,85
Evangelic	10 (7,5%)					AA	0,70	EC	0,92
None	38 (28,4%)					IGAS	0,76	SOC	0,93
<b>Psychosocial care beneficiary n (%)<sup>b</sup></b>		Anxiety	0,80	Anxiety	0,65	AE	0,88	NF	0,04*
Yes	86 (64,2%)	Depression	0,34	Depression	0,09	AM	0,21	GM	0,31
No	48 (35,8%)			Stress	0,59	RS	0,51	I	0,04*
						AA	0,43	EC	0,04*
						IGAS	0,06	SOC	0,04*
1. PHQ-4: Depression (median = 2; IQR: 1–2), Anxiety (median = 1; IQR: 0–2)									
2. DASS-21: Depression (median = 3; IQR: 1.75-6), Anxiety (median = 3; IQR: 1–6), Stress (median = 3; IQR: 2–7)									

IQR, Interquartile range; ES, Emotional/informational support; TS, Tangible support; SI, Positive social interaction; AS, Affectionate support; OSS, Overall social support; NF, Needs fulfillment; GM, Group membership; EC, Emotional connection; SOC, Sense of community; a, Spearman correlation; b, Test Mann Whitney; c, Test Kruskal Wallis; \* p ≤ .05; \*\* p ≤ .01

Table 2  
Correlation analysis between mental health variables, social support, and sense of community, segmenting the groups according to social determinants.

Sociodemographic Variables n = 134		Mental health variables	determinants.										
			MOSS			BSCS							
			ES	TS	SI	AS	OSS	NF	GM	I	EC	SOC	
Sex	Men n: 55 (41%)	PHQ Anxiety		− .22*	− .25*			− .23*	− .31*			− .30*	− .32**
		PHQ Depression								− .29*			− .26*
		DASS Depression	− .41**	− .25*	− .34**	− .35**	− .36**	− .34**	− .43**	− .28*	− .34**	− .40**	
		DASS Anxiety	− .46**	− .37**	− .41**	− .40**	− .44**	− .38**	− .39**		− .29*	− .36**	
		DASS Stress	− .60**	− .46**	− .57**	− .55**	− .59**	− .58**	− .35**	− .26*	− .37**	− .47**	
	Women n: 79 (59%)	PHQ Anxiety	− .37**	− .35**	− .28**	− .28**	− .35**	− .34**	− .21*	− .23*	− .25*	− .28**	
		DASS Anxiety							− .22*	− .20*	− .27**	− .21*	
		DASS Stress	− .21*	− .20*			− .20*						
Department	Bolívar n: 69 (51,5%)	PHQ Anxiety	− .28*	− .26*	− .32**	− .21*	− .29**	− .35**		− .20*	− .26*	− .28*	
		DASS Depression			− .20*								
		DASS Anxiety	− .24*	− .26*	− .23*	− .25*	− .25*	− .25*	− .26*	-0.16	− .31**	− .25*	
		DASS Stress	− .22*	− .20*	− .22*	− .22*	− .23*	− .30**					
	Sucre n: 65 (48,5%)	PHQ Anxiety	− .29*	− .34**		− .26*	− .31**	− .29**		− .25*	− .25*	− .30**	
		PHQ Depression							− .28*				
		DASS Depression	− .32**	− .21*		− .29*	− .27*		− .24*				
		DASS Anxiety	− .33**	− .21*			− .27*	− .26*	− .27*	− .21*	− .22*	− .27*	
		DASS Stress	− .51**	− .40**	− .33**	− .44**	− .48**	− .33**	− .22*	− .22*		− .28*	
		Group	Afro Colombian n: 37 (27,6%)	DASS Depression	− .38**								
Farmer n: 37 (27,6%)	PHQ Anxiety							− .41*		− .29*	− .37*	− .40**	
	PHQ Depression			− .30*									
	DASS Depression		− .28*	− .33*		− .31*							
	DASS Anxiety		− .46**	− .53**	− .36*	− .45**	− .46**	− .37*			− .41**	− .36*	
	DASS Stress		− .45**	− .46**	− .36*	− .41**	− .43**	− .38*				− .31*	
Indigenous n: 16 (11,9%)	PHQ Anxiety							− .52*					
	DASS Stress							− .57*				− .45*	





	<b>More than 462,43 USD</b> n: 9 (6,7%)	PHQ Anxiety	- .60*									
<b>Level of education</b>	<b>Primary school</b> n: 11 (8,2%)	PHQ Anxiety	- .76**									
		DASS Anxiety	- .65*									
	<b>Secondary school</b> n: 49 (36,6%)	PHQ Anxiety	- .25*		- .25*		- .26*	- .27*				
		PHQ Depression		- .26*								
		DASS Depression	- .39**	- .32*	- .28*	- .29*	- .36**		- .29*		- .27*	- .25*
		DASS Anxiety	- .53**	- .50**	- .49**	- .41**	- .52**	- .31*	- .28*	- .25*	- .35**	- .30*
		DASS Stress	- .58**	- .52**	- .46**	- .48**	- .57**	- .38**				
	<b>Technical Studies</b> n: 31 (23,1%)	PHQ Anxiety		- .47**	- .31*	- .31*	- .38*		- .39*		- .35*	- .38*
		DASS Anxiety							- .40*		- .30*	- .34*
	<b>Technological Studies</b> n: 16 (11,9%)	PHQ Anxiety						- .45*			- .50*	
		PHQ Depression	- .50*		- .53*		- .47*		- .43*			
		DASS Depression							- .56*			
		DASS Stress						- .49*	- .47*			
	<b>University</b> n: 18 (13,4%)	PHQ Anxiety	- .59**	- .66**	- .65**	- .75**	- .67**					
		DASS Stress				- .44*						
	<b>None</b> n: 6 (4,5%)	PHQ Anxiety		.89**	.88*		.83*					
<b>Religion</b>	<b>Catholic</b> n: 61 (45,5%)	PHQ Anxiety	- .29*	- .34**	- .37**	- .30**	- .36**	- .28*	- .33**	- .21*	- .35**	- .33**
		PHQ Depression		- .29*			- .21*		- .31**		- .26*	- .24*
		DASS Depression	- .31**	- .30**	- .27*	- .33**	- .32**		- .31**		- .22*	- .24*
		DASS Anxiety	- .40**	- .37**	- .35**	- .40**	- .39**	- .32**	- .42**	- .26*	- .39**	- .37**
		DASS Stress	- .40**	- .37**	- .37**	- .38**	- .41**	- .30**	- .29*		- .24*	- .28*
	<b>Christian</b> n: 25 (18,7%)	PHQ Anxiety	- .36*				- .34*					
	<b>None</b> n: 38 (28,4%)	PHQ Anxiety	- .27*					- .50**		- .36*	- .30*	- .44**
		DASS Depression	- .28*					- .31*		- .27*		
		DASS Anxiety	- .31*					- .40**		- .28*	- .27*	- .39**
		DASS Stress	- .50**	- .32*	- .36*	- .28*	- .43**	- .42**			- .29*	- .33*

<b>Psychosocial care beneficiary</b>	<b>Yes</b> n: 86 (64,2%)	PHQ Anxiety	– .27**	– .20*	– .23*	– .20*	– .26**	– .30**		– .25*	– .24*
		DASS Anxiety	– .26**	– .21*		– .20*	– .23*	– .27**	– .23*	– .24*	– .23*
		DASS Stress	– .36**	– .32**	– .26**	– .31**	– .36**	– .36**	– .19*	– .21*	– .26**
	<b>No</b> n: 48 (35,8%)	PHQ Anxiety	– .30*	– .43**	– .29*	– .28*	– .35**	– .35**		– .33*	– .29*
		PHQ Depression	– .28*	– .40**	– .33*	– .28*	– .34**		– .24*	– .28*	– .33*
		DASS Depression	– .40**	– .33*	– .38**	– .37**	– .39**				
		DASS Anxiety	– .29*	– .29*	– .27*	– .29*	– .29*	– .28*	– .33*	– .33*	– .37**
		DASS Stress	– .34**	– .26*	– .28*	– .33*	– .31*	– .31*			

ES, Emotional/informational support; TS, Tangible support; SI, Positive social interaction; AS, Affectionate support; OSS, Overall social support; NF, Needs fulfillment; GM, Group membership; EC, Emotional connection; SOC, Sense of community; \*  $p \leq .05$ ; \*\*  $p \leq .01$

## Mental health assessment

Regarding MH outcomes, on the PHQ-4 depression scale 21% (14 men and 14 women) had scores indicating the presence of depressive symptoms. On the PHQ-4 anxiety scale 11% (10 women and 5 men) had scores indicating the presence of anxiety symptoms. Regarding the DASS-21, on the depression scale 62% (n = 83) did not have scores indicative of depression, while 38% had depressive symptoms (mild = 25; moderate = 17; severe = 4; extremely severe = 4). On the anxiety scale 62.7% (n = 84) did not show anxiety symptoms, while 37.3% did (mild = 4; moderate = 24; severe = 7; extremely severe = 11). The stress scale showed that 82% (n = 110) did not have stress, while 18% had stress symptoms (mild = 10; moderate = 10; severe = 3; extremely severe = 1).

## Social support and sense of community assessment

Regarding the assessment of social support, the MOS indicated that 23.1% (n = 31) of the participants scored below the established mean for this instrument, while 76.9% (n = 103) scored above the mean. Similarly, the BSCS revealed that 21.6% (n = 29) had a low sense of community, 19.4% (n = 26) had a moderate sense of community, and 59% (n = 79) exhibited a high sense of community.

## Relationships between mental health, social determinants, social support, and sense of community

In the bivariate analyses conducted (Table 1), negative correlations were observed between age and PHQ-4 anxiety and stress. Additionally, age positively correlated with the MOS tangible support scale, needs fulfillment, influence, emotional connection of the BSCS, and the overall index of the sense of community of the BSCS.

It was found that Afro-Colombians and the LGBTIQ + community had significantly higher median scores in PHQ-4 anxiety ( $p = 0.04$ ). Farmers and indigenous people exhibited significantly higher median scores in the group belonging dimension of the BSCS ( $p = 0.04$ ); furthermore, farmers demonstrated a significantly higher median in the emotional connection dimension of the BSCS ( $p = 0.05$ ) (Table 1).

Significantly higher median scores for stress were identified in the group with a technological education level and among those practicing the Christian religion (Table 1). Conversely, the group that received psychosocial support achieved a significantly higher median in the needs fulfillment dimension, influence, emotional connection, and the overall index of the sense of community of the BSCS.

Upon examining the correlations between MH and the variables of social support and sense of community for groups established according to sociodemographic variables corresponding to the SDH axes (Table 2), the most pertinent results for gender indicate that social support and sense of community are more relevant factors for men. The negative associations with MH suggest that these may serve as protective factors. The role of social support varied between the leaders of Bolívar and Sucre, and the sense of community did not relate to the depression of Bolívar's leaders.

Social support and sense of community did not show an association with the MH of Afro-Colombian or indigenous leaders (Table 2), however, exhibited significant associations with the MH of the group comprising mostly young individuals and the LGBTIQ + community. Social support negatively correlated with the MH indicators of farmers. The MH of those with lower income was significantly associated with social support, while the MH of those earning between USD 231,21 and USD 346,82 was significantly associated with the sense of community.

Most leaders had completed secondary education, and in this group, MH was significantly associated with social support and sense of community. Among the predominantly Catholic leaders, social support and sense of community showed significant associations. For those practicing any religion,

social support and sense of community were significantly related to stress. For participants who had not received psychosocial attention, social support and sense of community had significant associations with depression, which were not observed in the group that had received psychosocial support (Table 2).

## Qualitative results

### Social determinants of mental health

The understanding of MH by the leaders of Montes de María comes from a contextual and community perspective, that goes beyond the individual and pathological perception of MH: *"With mental health and land, we have enough to live"*. Consequently, they identified the following elements play an important part in their mental well-being:

*"Mental health is that; it is the balance of trust a person has in their social context. It is the security that allows them to move freely, the trust and security that lets them enter their land without worrying about mines, the balance that lets them eat food without fearing it's stolen, that allows them to leave their house at any hour of the night without thinking that a thief is waiting for you. It is that balance, that trust in their context, the guarantee that being next to that man will not result in a punch; that trust a man has in a woman because he knows she won't be waiting with a machete in hand, that emotional balance."*

### Armed conflict

Armed conflict is one of the factors most strongly related to the current MH issues in their communities:

*"The most difficult event, the hardest, I think for everyone in Zambrano, was the armed conflict, were we suddenly had to live through a war that wasn't ours, where there was family disintegration, deaths, selective killings, homicides, massacres, where there was displacement, forced disappearances, and many other situations, fear and terror that took over the municipalities."*

Each one of these victimizing events had individual psychological impacts that are still present in the ones who experienced them. However, a widespread effect that was felt by every member of the Montes de María community, even if they weren't a direct victim of the armed groups, was the fragmentation of the social fabric and the loss of trust in others. This is greatly contrasted with the environment that existed before the armed conflict, described as a free, peaceful, united and supportive community, where the resources were shared, and nothing was lacking:

*"In the land where we lived in peace, what we considered peace, even though my family was one of the poorest in the town, we lived in peace, because for us, peace was living freely in our municipalities and having just the minimum, and our territory was a paradise."*

As a result, an entire generation has been affected, which in turn impacts the new generations. This creates an intergenerational effect, which is related to the continuation and normalization of violence as a part of the culture, demonstrated by the rise in family-violence cases in the region: *"Everything happened during the armed conflict. Domestic violence goes beyond that, and sometimes we inherit these patterns from generation to generation, patterns that define us, especially in dysfunctional homes"*, as well as other social issues such as *"a lot of drug addiction, a lot of prostitution. These patterns leave their mark and are the aftermath, right? The aftermath of the impact of violence, and today it's even more pronounced."*

There was also a constant reminder by the participants that this violence has yet to cease in the region, as many armed groups have returned, bringing back fears, worries, and restrictions that were common during the worst periods of the armed conflict. It has also limited the possibility of the communities to rescue the traditions lost during the conflict. This fear and insecurity are experienced especially by the leaders, who risk their lives while working for the rights of their communities, which in turn affects their well-being.

### State abandonment

There is a noticeable lack of action from the public forces, which enables the continuation of problems such as drug use, which is a severe issue in the region:

*"There is a corridor (...) and since it's a bridle path, as they used to call it, there is no one to control it. There are no police, nothing around there, people can do whatever they want"*

They have also recognized negligence in the form of problems with infrastructure in education, healthcare, road systems, and adequate housing, which hinders access to basic needs such as electricity and water. The state's abandonment is particularly evident among victims of the armed conflict, as the reparations plans and the restoration of their rights, including land restitution, have not been fully implemented:

*"(in my family) I have two direct victims of armed conflict, and I haven't been compensated, five or six years ago, they sent me a document saying that I was in the process of being compensated."*

There is also a perceived lack of commitment from institutions and their officials due to the absence of continuous actions or failure to meet their commitments to the territory, which hinders the development of the necessary trust to report victimizing events. This is related to a belief that the government is not going to be able to protect and guarantee the communities' safety, which creates a constant state of fear. Another reason to mistrust the institutions is related to corruption in the territory. The community perceives a possible association between the outlaw groups with government

entities, which is why there is a perception that reporting any victimizing act won't work or could even have negative consequences. There is also nepotism in the hiring of government employees, in which people are being hired based on political connections rather than the necessary qualifications, which ultimately affects the provision of services in the area. This is especially problematic with MH practitioners since hiring unqualified professionals often leads to harmful interventions.

## Economic issues and lack of opportunities

Another common problem is the lack of resources, unemployment, and lack of opportunities in the region, which worsened after COVID-19 and is closely related to feelings of sadness, hopelessness, frustration and stress, and physical symptoms such as sleep issues, headaches, and tachycardia, often due to not seeing a way out of the situation.

This particularly affects young people, who have few opportunities for higher education or employment to generate income, leading to unclear life goals, many dropping out from school or having to move to other parts of the country to search for those opportunities. It is also related to young people making problematic decisions such as drug abuse, prostitution, suicide, or joining armed groups that offer a higher income than they could earn legally:

*"Young people in our territories, when they leave school, don't even have the opportunity to enter a university. Most of them end up staying there, working as motorbike taxi drivers because there are no companies, no job opportunities, and no way to generate income. A young person who finishes high school doesn't have the means to go to a university, even in the municipality or the departmental center, because there is no work available to provide the economic resources needed."*

Additionally, this problem extends to adults who find a lack of resources to support and develop projects, associations, and organizations working in the territory. There is also a lack of guarantees for farmers, who are forced to sell their lands and products at lower prices, leading to economic hardship and constant worry and stress.

## Social capital and social cohesion

Despite all the victimizing events, several community members have found the strength to move forward and have organized, creating community initiatives to recover what was lost, such as forming community action boards, sports teams, youth groups, and bringing back artistic and cultural practices. This has allowed the communities to integrate and restore relationships.

However, this progress was hindered by the social isolation measures imposed due to COVID-19, which limited community gathering spaces and traditional practices in the region, such as mourning rituals and ancestral practices of indigenous and afro-descendant communities.

*"The confinement made us go out to the fields less, where there were, perhaps, those trees and animals. We used to sometimes gather leaves from certain plants for rituals, protection, or healing. We stopped doing this because we were confined inside a house that wasn't the right place for us to carry out our spiritual cleansing practices. So, as ethnic communities, we did suffer in that regard."*

This made it harder to cope with the emotional challenges of the pandemic, as community spaces and interactions were identified within the community as crucial tools in these processes.

## Barriers to access mental health services

There are severe barriers to access MH services for the inhabitants of the region. The leaders recognize that the impacts of armed conflict on their MH should have been addressed soon after the victimizing events, and the fact that this didn't happen has worsened the MH outcomes:

*"From us leaders, who were not attended to in time and are now the result of almost everything that happens in Montes de María, you can imagine the survivors of sexual violence. Some women have not even received a single psychosocial consultation, these women have given birth, and the aftermath they speak of is a sequel (...) We have survived and have built barriers; today we are leaders, but we have issues that were not addressed and are still not being addressed."*

Nevertheless, some participants referred that, even at the moment of the focus groups, they had never been offered MH or psychosocial support. Some had received psychosocial support from government programs, however, these programs have been highly criticized by the communities, with many people having negative experiences, as on many occasions, the support they are given worsens the wounds that the conflict has left or creates new wounds. There is also a common feeling that government MH programs are mostly focused in achieving goals and metrics, rather than offering a high-quality attention to the people they are working with. Additional problems with these programs include an insufficient number of sessions, infrequent attentions, unfinished processes and only implementing group interventions, instead of giving the possibility of having individual interventions when needed.

Besides the programs, other of the main barriers to ensure MH identified by the leaders is the non-existence, inadequate functioning, and/or lack of awareness of MH care pathways. The MH care pathways are even less clear in the rural areas, where people must travel extensive distances and time to access any services. As well as public policies that are not being correctly implemented or are insufficient to deal with all the MH struggles of the community. All these barriers have made community members less likely to seek psychological support. When they are finally able to access MH

services, they frequently find poorly trained providers, who sometimes lack sensibility and are likely to make more harmful actions out of unfamiliarity with the population, the issues they are experiencing, and unawareness of their specific needs. The leaders also insisted on the importance of articulating them in the institutional processes, training them to be able to identify alarming symptoms and refer people to the correct institutions, recognizing that usually the leaders are the first point of contact for issues related to MH.

## Discussion

For over six decades, the armed conflict has profoundly marked the lives of Colombia's populations, particularly those residing in rural areas that serve as strategic corridors for armed groups and criminal structures. The various forms of violence to which nearly 9,737,008 individuals have been subjected to have perpetuated structural violence, social injustices, and economic inequalities (43).

These factors translate into limited access to healthcare, education, employment, and a fulfilling life, manifesting as harm, deprivation, and inequities that, as SDH, affect the MH of individuals, groups, and populations (18). Numerous studies in Colombia address this issue through the application of quantitative instruments that identify symptoms, problems, and disorders (44), focusing predominantly on the individual level and thus lacking sufficient contextual consideration (45).

Acknowledging the necessity of understanding MH as a socially determined phenomenon (19) requires an approach extending beyond individual-level diagnosis of problems. This project adopted a mixed-methods study grounded in CBPR, engaging in dialogue with communities to identify the social determinants of their MH. The aim was to translate this contextualized relevant understanding into MH care practices that align with the needs and potential of the communities of Montes de María.

The integration of the three central categories of analysis—MH, armed conflict, and SDH—constitutes a significant contribution to the research on the effects of armed conflict on MH. This approach is innovative in its explicit application of SDH to MH through a mixed-methods study, wherein quantitative and qualitative findings mutually reinforce each other, thus facilitating a more comprehensive understanding of the phenomenon. The evidence indicates that the impacts of armed conflict on MH are extensive (10, 26, 46) and they were further accentuated by COVID-19 (47, 48).

Colombia exhibits significant indicators of MH issues within the general population (49), which arise within the context of the social and economic inequities and injustices affecting a substantial segment of the population. Within this framework, the significant adverse impacts on MH attributable to the armed conflict have been documented in previous research (50) as well as the specific impacts on population groups that highlight the role of socioeconomic status and social class, gender, ethnicity, education, occupation, social cohesion and capital, and access to quality healthcare services (12).

The socioeconomic status in Montes de María is characterized by poverty and precariousness. The lack of access to education and employment restricts their developmental prospects and renders them highly vulnerable to social injustices. The association between low income and unemployment with adverse MH outcomes has been established (51), this situation is further aggravated by the armed conflict which impacts rural inhabitants and indigenous communities (52). These results align with the arguments that emphasize the intricate intersection of historical legacies of violence and resistance within the region (32).

Younger participants exhibited higher levels of anxiety and stress, alongside lower levels of social support and sense of community. Young leaders indicated that, despite not having directly experienced victimizing events, they have faced adverse effects on their MH, which is consistent with prior research involving children and adolescents (53, 54). This may be related to the lack of educational and employment opportunities, which leads young individuals to experience the effects of social inequities that coexist with armed conflict (55).

This study included a group of leaders from the LGBTIQ + community, which allowed for the identification of specific MH impacts and the potential protective role of social support and sense of community. This underscores the importance of conducting specific and in-depth studies with this demographic group.

It is common for MH studies to address gender and sex variables with a predominant focus on women (56–58). In this study, there was a significant presence of female leaders who, daily, attend to the MH needs of their communities in the absence of trained professionals. Additionally, the involvement of male leaders throughout the study is noteworthy. Their participation transcended the cultural role of women as primary caregivers and facilitated an initial exploration of their own MH challenges. Their specific MH needs are reflected in the quantitative analyses, where social support and sense of community could be considered protective factors.

Regarding social cohesion and social capital, it was found that most respondents reported social support levels above the average and a strong sense of community. This suggests that despite the fractures in social fabric caused by victimizing events and isolation during COVID-19, the efforts made to restore community relationships have had positive effects in the region. These effects are particularly evident in cultural and artistic practices that have strengthened the sense of community (59). The aforementioned factors emerge as protective elements within the region, given the identified negative associations with MH issues, which aligns with other studies that have identified social capital as a predictor of MH (12). Furthermore, this study found associations between religion and MH that corroborate previous findings (60).

The diverse manifestations of victimization attributable to the armed conflict have had profound effects on MH that coexist with other forms of daily violence reported by the participants, such as gender-based violence and substance abuse. Experiencing continuous violence throughout one's life is

associated with significant MH disorders and an increased likelihood of perpetrating violence toward others (61). The findings are linked to the cycle of violence identified by the participants as a direct consequence of armed conflict. Additionally, it was observed that individuals who had engaged in violent behavior encountered challenges related to employment and limited income (61). Consistent with this study, substance abuse has previously been recognized as one of the most prevalent issues among populations impacted by armed conflict (8). This issue is notably problematic among young people and is exacerbated by the region's geographical location and the resurgence of armed groups.

Studies have highlighted that in Colombia there is a significant disparity in access to MH services. This inequity is particularly pronounced among populations affected by armed conflict (62). The leaders indicated that the programs and policies implemented thus far have been insufficient to address the community's MH needs and identified multiple barriers to accessing these services. These findings underscore the challenges in building peace in Colombia concerning the SDGs (24), this aligns with the WHO's call to strengthen the healthcare response to MH needs (63).

This study has significant implications for the training and practice of MH care in these regions. It is essential to address the specific contextual needs and to understand how the intricate interplay of SDH influences MH outcomes (64, 65). In this sense, it is imperative to follow a multidimensional perspective while working with populations immerse in conflict and peace dynamics (66, 67). The primary strength of the study was the establishment of trust-based relationships with the leaders, enabling a comprehensive understanding of MH within the specific contexts of Montes de María. However, the study faced several limitations, influenced by the region's security, economic and climatic issues.

## Conclusions

The findings of this research reveal a complex situation in Montes de María, characterized by profound socioeconomic and demographic inequalities. Participants were rural, Afro-Colombian, indigenous and farmers victims of the armed conflict violent dynamics, most of them having low incomes and limited educational opportunities, conditions that perpetuate social and economic exclusion. All, in a context which still denounces the presence of armed groups, an absence or ineffective responses from state, and significant barriers to access quality MH services.

Furthermore, participants evidenced important levels of mental health problems, which behaved differently in relation to age, sex, social group, level of education, or religion. However, most participants demonstrated a strong sense of community and social support, which have become essential pillars for the recovery and psychological well-being of the communities; though, this relation varied according to different sociodemographic conditions.

This research provides compelling evidence of the inherent relations between SDH and MH in communities affected by armed conflict. This emphasizes the urgent need for a complex and multidimensional comprehension of MH and peace related processes, in which future research and policies directed to MH have to be thought considering the socioeconomic issues in the municipalities, thereby ensuring a sustainable recovery and development of the populations.

## Abbreviations

AS  
Affectionate Support  
BSCS  
Brief Sense of Community Scale  
CBPR  
Community-Based Participatory Research  
DASS-21  
Depression Anxiety Stress Scales  
EC  
Emotional Connection  
ES  
Emotional/informational Support  
GM  
Group Membership  
I  
Influence  
IQR  
Interquartile Range  
IRB  
Institutional Review Board  
MH  
Mental Health  
MOS  
Medical Outcomes Study Social Support Survey  
NF

Needs Fulfillment  
OSS  
Overall Social Support  
PHQ-4  
Patient Health Questionnaire  
SDGs  
Sustainable Development Goals  
SDH  
Social Determinants of Health  
SDMH  
Social Determinants of Mental Health  
SI  
Positive Social Interaction  
SOC  
Sense of Community  
TS  
Tangible Support  
WHO  
World Health Organization

## Declarations

### Supplementary Information

In this regard, the results were shared with participants from the Montes de María communities, healthcare providers, and policymakers, utilizing various materials developed in collaboration with the community: a) video (<https://www.youtube.com/watch?v=e-D6PNosZhk>), b) formative brochures (<https://miniurl.cl/0bdpmq>; <https://miniurl.cl/0tleda>; <https://miniurl.cl/gsd7rx>; <https://miniurl.cl/mifsru>; <https://miniurl.cl/oiwyjn>; <https://miniurl.cl/r4gnju>); c) podcasts (<https://soundcloud.com/facultad-psicologia-puj>), d) policy briefs, e) three regional meetings and f) an event of social appropriation of knowledge.

### Acknowledgements

We express our gratitude to Montes de María communities with whom we co-constructed this project for four years. We also acknowledge Luis Manuel Silva for his revision and suggestions for improving the article.

### Authors' contributions

Given the participatory nature of this project, authors contributed to many credit roles. They are outlined as follows. DCRL: Conceptualization, methodology, data collection, formal analysis, funding acquisition, writing-original draft and revisions. LCS: Project administration, Data collection, Formal analysis, writing- reviewing and editing. MJRR: Data collection, Formal analysis, writing- reviewing and editing. PA: Conceptualization, methodology, formal analysis, funding acquisition, writing-reviewing and editing. DGP: Conceptualization, methodology, formal analysis, funding acquisition, writing-reviewing and editing. SLFG: Formal analysis, writing-reviewing and translation. WLL: Conceptualization, methodology, data collection, formal analysis, funding acquisition, writing-reviewing and editing, project administration. All authors read and approved the final manuscript. We confirm that the order of authors listed in the manuscript has been approved by all of us.

### Funding

This manuscript is part of the project "Participatory design of a psychosocial mental health care model in the communities of Montes de María in the framework of the COVID-19 health emergency.", funded by the Ministry of Science, Technology and Innovation of Colombia (MinCiencias), call "Building peace, resilience and mental health: binational research call to enhance support and understanding of Colombia's current challenges in times of pandemic – No. 884-2020". The authors LC and JR participated in the project as part of the Young Researchers and Innovators Call (Number 209) as part of the 2021 economic reactivation of MinCiencias. The funder had no role in the interpretation of data or views presented in this article.

### Declarations

#### Ethics approval and consent to participate

The project was approved by the Research and Ethics Committee of the Psychology Faculty of Pontificia Universidad Javeriana. Participants were asked to read and sign an informed consent form, which was written in accordance with the Colombian normative (Resolution 843 of 2993, Health Ministry), and approved by the Research and Ethics Committee of the Psychology Faculty of Pontificia Universidad Javeriana. All participants were older than 18 years. This research did not constitute a clinical trial.

## Competing interests

The authors declare no competing interests

## References

1. Charlson F, van Ommeren M, Flaxman A, Cornett J, Whiteford H, Saxena S. New WHO prevalence estimates of mental disorders in conflict settings: a systematic review and meta-analysis. *Lancet*. 2019;394(10194):240–8.
2. Médecins Sans Frontières. Colombia. 2023. <https://www.msf.org/colombia>
3. GBD 2021 Risk Factors Collaborators. Global burden and strength of evidence for 88 risk factors in 204 countries and 811 subnational locations, 1990–2021: a systematic analysis for the Global Burden of Disease Study 2021. *Lancet*. 2024;403(10440):2162–203.
4. Rodríguez, Bernal. María Clara; Rubiano Soto N. Salud Mental Y Atención Primaria En Salud: Una Necesidad Apremiante Para El Caso Colombiano. Colegio Colombiano de Psicólogos. 2016;(1).
5. Tamayo-Agudelo W, Bell V. Armed conflict and mental health in Colombia. *BJPsych Int*. 2019;16(02).
6. Ramírez NH, Juárez F, Baños AJP, Luzardo JG, Chávez YMR, Castilla AMS, et al. Afectaciones Psicológicas, Estrategias de Afrontamiento y Niveles de Resiliencia de Adultos Expuestos al Conflicto Armado en Colombia. *Revista Colombiana de Psicología*. 2016;25(1):125–40.
7. Ramírez-Giraldo A, Hernández-Bustamante O, Romero-Acosta K, Porras-Mendoza E. Estado de salud mental de personas víctimas del conflicto armado en Chengue. *Psicología desde el Caribe*. 2017;34(1):49–70.
8. Castaño G, Sierra G, Sánchez D, Torres Y, Salas C, Buitrago C. Trastornos mentales y consumo de drogas en la población víctima del conflicto armado en tres ciudades de Colombia. *Biomedica*. 2018;70–85.
9. Moreno-Murcia LM, Gómez MA, Marín TB. Salud mental y conflicto armado en Colombia:: una revisión documental. *Inclusión y Desarrollo*. 2021;8(2).
10. Moreno-Chaparro J, Piñeros-Ortiz S, Rodríguez-Ramírez L, Urrego-Mendoza Z, Garzón-Orjuela N, Eslava-Schmalbach J. Mental health consequences of armed conflicts in adults: an overview. *Actas Esp Psiquiatr*. 2022;50(2).
11. World Health Organization. Closing the gap in a generation: health equity through action on the social determinants of health - Final report of the commission on social determinants of health. 2008.
12. Bezo B, Maggi S, Roberts WL. The rights and freedoms gradient of health: Evidence from a cross-national study. *Front Psychol*. 2012;3(NOV).
13. Braveman P, Gottlieb L. The Social Determinants of Health: It's Time to Consider the Causes of the Causes. *Public Health Rep*. 2014;129(1):19–31.
14. World Health Organization. Regional Office for the Eastern Mediterranean. Social determinants of health in countries in conflict A perspective from the Eastern Mediterranean Region. 2008.
15. Instituto Nacional de Salud. Observatorio Nacional de Salud. Consecuencias del Conflicto Armado en la Salud en Colombia. Noveno Informe Técnico. 2017.
16. Munezero E, Manoukian S. The social determinants of health and health seeking behaviour in populations affected by armed conflict: a qualitative systematic review. *Med Confl Surviv*. 2021;37(4):293–318.
17. González-Urbe C, Olmos-Pinzón A, León-Giraldo S, Bernal O, Moreno-Serra R. Health perceptions among victims in postaccord Colombia: Focus groups in a province affected by the armed conflict. *PLoS ONE*. 2022;17(3):e0264684.
18. Ministerio de Salud y Protección Social. Plan Decenal, de Salud Pública PDSP. 2012–2031 La Salud en Colombia la construyes tú. Ministerio de salud y proteccion social. 2022.
19. World Health Organization. Fundação Calouste Gulbenkian. Social determinants of mental health. Geneva; 2014.
20. Allen J, Balfour R, Bell R, Marmot M. Social determinants of mental health. *Int Rev Psychiatry*. 2014;26(4):392–407.
21. Kirkbride JB, Anglin DM, Colman I, Dykxhoorn J, Jones PB, Patalay P, et al. The social determinants of mental health and disorder: evidence, prevention and recommendations. *World Psychiatry*. 2024;23(1):58–90.
22. Compton MT, Shim RS. The Social Determinants of Mental Health. *Focus (Madison)*. 2015;13(4):419–25.
23. Gnanapragasam SN, Astill Wright L, Pemberton M, Bhugra D. Outside/inside: Social determinants of mental health. *Ir J Psychol Med*. 2023;40(1):63–73.
24. Oswald TK, Nguyen MT, Mirza L, Lund C, Jones HG, Crowley G et al. Interventions targeting social determinants of mental disorders and the Sustainable Development Goals: a systematic review of reviews. *Psychol Med*. 2024 Jun 1.
25. Roberts B, Odong VN, Browne J, Ocaka KF, Geissler W, Sondorp E. An exploration of social determinants of health amongst internally displaced persons in northern Uganda. *Confl Health*. 2009;3(1).
26. Piñeros-Ortiz SE, Urrego-Mendoza ZC, Garzón-Orjuela N, Eslava-Schmalbach J. Social Determinants, Symptoms and Mental Problems in Adults Internally Displaced by Armed Conflict. Soacha, Colombia, 2019. *Rev Colomb Psiquiatr*. 2024;53(1):8–16.
27. Creswell JW. Research design Qualitative quantitative and mixed methods approaches. 4th Edition. SAGE Publications, Inc; 2014.
28. Lucero J, Wallerstein N, Duran B, Alegria M, Greene-Moton E, Israel B, et al. Development of a Mixed Methods Investigation of Process and Outcomes of Community-Based Participatory Research. *J Mix Methods Res*. 2018;12(1):55.



29. Strauss A, Corbin J. Basics of Qualitative Research: Techniques and Procedures for Developing Grounded Theory. 2nd Edition. Sage Publications, Inc.; 1998.
30. Yeasmin S, Rahman KF. Triangulation research method as the tool of social science research. BUP J. 2012;1(1):154–63.
31. Fundación Cultura Democrática (FUCUDE). Consultoría para los Derechos Humanos y el Desplazamiento (CODHES), Corporación Opción Legal, Universidad Tecnológica de Bolívar Grupo Regional de Memoria Histórica, Mesa de Organizaciones de Población Desplazada de Los Montes de María OPDS Montes de María. Los Montes de María Bajo Fuego; 2020.
32. Abitbol P. The Complex Intersection of Legacies of Violence and Legacies of Resistance in Montes de María, Colombia. Human Rights at the Intersections. Bloomsbury Academic; 2022. pp. 127–34.
33. Hennink MM, Kaiser BN, Weber MB. What Influences Saturation? Estimating Sample Sizes in Focus Group Research. Qual Health Res. 2019;29(10):1483–96.
34. Korstjens I, Moser A, Series. Practical guidance to qualitative research. Part 4: Trustworthiness and publishing. Eur J Gen Pract. 2018;24(1):120–4.
35. Kocalevent RD, Finck C, Jimenez-Leal W, Sautier L, Hinz A. Standardization of the Colombian version of the PHQ-4 in the general population. BMC Psychiatry. 2014;14(1):205.
36. Kroenke K, Spitzer RL, Williams JBW, Lowe B. An Ultra-Brief Screening Scale for Anxiety and Depression: The PHQ-4. Psychosomatics. 2009;50(6):613–21.
37. Ruiz FJ, García Martín MB, Suárez Falcón JC, Odriozola González P. The hierarchical factor structure of the Spanish version of Depression Anxiety and Stress Scale – 21. Int J Psychol Psychol Therapy. 2017;17(1):97–105.
38. Antony MM, Bieling PJ, Cox BJ, Enns MW, Swinson RP. Psychometric properties of the 42-item and 21-item versions of the Depression Anxiety Stress Scales in clinical groups and a community sample. Psychol Assess. 1998;10(2):176–81.
39. Sherbourne CD, Stewart AL. The MOS social support survey. Soc Sci Med. 1991;32(6):705–14.
40. Londoño Arredondo NH, Rogers H, Castilla Tang JF, Posada Gómez SL, Ochoa Arizal NL, Jaramillo Pérez MÁ, et al. Validation of the Colombian MOS social support survey. Int J Psychol Res (Medellin). 2012;5(1):142–50.
41. Peterson NA, Speer PW, McMillan DW. Validation of A brief sense of community scale: Confirmation of the principal theory of sense of community. J Community Psychol. 2008;36(1):61–73.
42. Palacio-Sañudo J, Bolívar D, Aragón J, Romero D, Jiménez V, Llanos A, et al. Propiedades psicométricas de la Escala Breve de Sentido de Comunidad (BSCS) en los barrios de Barranquilla, Colombia. Apunt Psicol. 2023;41(3):181–91.
43. Unidad para las Víctimas. Cifras Unidad de Víctimas. 2024. <https://cifras.unidadvictimas.gov.co/Cifras/#!/infografia>
44. López-López W, Rubio León DC, García-Padilla D, Cakal H, Abitbol P, Pineda C, et al. Medición de indicadores de salud mental de población en contexto de conflicto armado en Colombia. Universitar Physiol. 2022;21:1–17.
45. Ortigón TM, Vinaccia S, Quiceno JM, Capira A, Cerra D, Bernal S. Apoyo social, resiliencia, estrés percibido, estrés postraumático, ansiedad, depresión y calidad de vida relacionada con la salud en líderes comunitarios víctimas del conflicto armado en los Montes de María, Sucre, Colombia. Eleuthera. 2022;24(1):158–78.
46. Østergaard MLD, Aponte-Canencio DM, Barajas Ortiz Y, Velez Botero HJ, Simon Modvig J, Brasholt M. Vulnerability factors in conflict-related mental health. Med Confl Surviv. 2023;39(1):63–80.
47. Moya A, Serneels P, Desrosiers A, Reyes V, Torres MJ, Lieberman A. The COVID-19 pandemic and maternal mental health in a fragile and conflict-affected setting in Tumaco, Colombia: a cohort study. Lancet Glob Health. 2021;9(8).
48. Gómez-Restrepo C, Sarmiento-Suárez MJ, Alba-Saavedra M, Calvo-Valderrama MG, Rincón-Rodríguez CJ, González-Ballesteros LM, et al. Mental health problems and resilience in adolescents during the COVID-19 pandemic in a post-armed conflict area in Colombia. Sci Rep. 2023;13(1):9743.
49. León-Giraldo S, Casas G, Cuervo-Sánchez J, GT S, González-Urbe C, Moreno-Serra R, et al. Trastornos de salud mental en población desplazada por el conflicto en Colombia: análisis comparado frente a la Encuesta Nacional de Salud Mental. Revista Colombiana de Psiquiatría; 2021.
50. Chaskel R, Gaviria SL, Espinel Z, Taborda E, Vanegas R, Shultz JM. Mental health in Colombia. BJPsych Int. 2015;12(4):95–7.
51. Blackwell MA, Lardier D, Choe R, Goodkind JR. Persistence of the association between mental health and resource access: A longitudinal reciprocal model in a diverse refugee sample. J Trauma Stress. 2023;36(4):796–807.
52. Ruiz Eslava LF, Urrego Mendoza ZC, Escobar Córdoba F. Desplazamiento forzado interno y salud mental en pueblos indígenas de Colombia. Tesis Psicológica. 2019;14(2):42–65.
53. Hewitt Ramírez N, Gantiva Díaz CA, Vera Maldonado A, Cuervo Rodríguez MP, Nelly Liliam HO, Juárez F et al. Afectaciones psicológicas de niños y adolescentes expuestos al conflicto armado en una zona rural de Colombia. Acta Colombiana de Psicología. 2014;17(1).
54. Marroquín Rivera A, Rincón Rodríguez CJ, Padilla-Munõz A, Gómez-Restrepo C. Mental health in adolescents displaced by the armed conflict: Findings from the Colombian national mental health survey. Child Adolesc Psychiatry Ment Health. 2020;14(1).
55. Alarcón-Vásquez Y, Bahamón MJ, Mercado Peñaloza M, Saavedra Guajardo E, González-Gutiérrez O. Salud mental de universitarios víctimas del conflicto armado: una aproximación desde el método mixto. Gac Med Caracas. 2020;128(3):405–15.
56. Zamora-Moncayo E, Burgess RA, Fonseca L, González-Gort M, Kakuma R. Gender, mental health and resilience in armed conflict: Listening to life stories of internally displaced women in Colombia. BMJ Glob Health. 2021;6(10).

57. Ramos Jaraba SM, Quiceno Toro N, Ochoa Sierra M, Ruiz Sánchez L, García Jiménez MA, Salazar-Barrientos MY, et al. Health in conflict and post-conflict settings: Reproductive, maternal and child health in Colombia. *Confl Health*. 2020;14(1):1–21.
58. Echeverry-López ME, Marín-Urbe A, Garcés-Palacio IC, Borrero-Ramírez Y, Hernández-Holguin DM, Pacheco-Sánchez CI et al. Impacts of attacks to female health care workers in three territories of Colombia. *Confl Health*. 2024;18(1).
59. González-Arango IC, Villamizar-Gelves AM, Chocontá-Piraquive A, Quiceno-Toro N. Pedagogías textiles sobre el conflicto armado en Colombia: activismos, trayectorias y transmisión de saberes desde la experiencia de cuatro colectivos de mujeres en Quibdó, Bojayá, Sonsón y María La Baja. *Revista de Estudios Sociales*. 2022;(79):126–44.
60. Adamczyk K, Trepanowski R, Mrozowicz-Wrońska M, Janowicz K. The Role of Religion in the Mental Health of Single Adults: A Mixed-Method Investigation. *Int J Psychol Relig*. 2024;34(1):1–23.
61. Scott-Storey K, O'Donnell S, Perrin N, Wuest J. Cumulative Lifetime Violence, Gender, Social Determinants of Health and Mental Health in Canadian Men: A Latent Class Analysis. *J Fam Violence*. 2024;39(4):665–80.
62. Bernal O, Garcia-Betancourt T, León-Giraldo S, Rodríguez LM, González-Urbe C. Impact of the armed conflict in Colombia: consequences in the health system, response and challenges. *Confl Health*. 2024;18(1).
63. Organización Mundial de la Salud. Salud mental: fortalecer nuestra respuesta. 2022. <https://www.who.int/es/news-room/fact-sheets/detail/mental-health-strengthening-our-response>
64. Perera C, Salamanca-Sanabria A, Caballero-Bernal J, Feldman L, Hansen M, Bird M et al. No implementation without cultural adaptation: A process for culturally adapting low-intensity psychological interventions in humanitarian settings. *Confl Health*. 2020;14(1).
65. Sheperis CJ, Cuff P, Sheperis D. Educating professional counselors about the social determinants of mental health. *J Couns Dev*. 2023;101(4):429–39.
66. López López W, Taylor LK, editors. *Transitioning to Peace*. Cham: Springer International Publishing; 2021.
67. López-López W. A multidimensional & dynamic perspective of research & intervention in peace psychology. *Peace Psychol*. 2020;29(1):39–41.

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