CHAPTER ONE

Mental Health in Time of COVID-19

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This chapter presents an analysis of data obtained from an emotional self-assessment system created to help people manage mental disorders during the crisis caused by the COVID-19 pandemic in Colombia.

The pandemic has created an unprecedented worldwide health emergency after emerging in the Asian continent towards the end of 2019. According to the World Health Organization (WHO), six months later Latin America had become the hardest-hit region and the world's epicenter of the virus (Ariza et al., 2020). Brazil, the most populous country in South America, is one of the most affected nations in the world, in Latin America followed by Colombia, Peru, Mexico, Argentina, and Chile. Several analysts have postulated four key factors the area became the epicenter of the virus: (1) poorly synchronized sanitary measures, (2) previous failures in the health systems, (3) misinformation and ignorance, and (4) pre-existing economic fragility (Alvarez & Harris, 2020; Ariza et al., 2020). Several studies show that after attending to the most pressing matters of a catastrophic emergency, a necessary next step is to attend to mental health sequelae in the population (Shah et al., 2020). Colombia's *Law 1616* on mental health defines it as "a dynamic state that is expressed in daily life through behavior and interaction in such a way that it allows individual and collective subjects to deploy their emotional, cognitive and mental resources to move through life work, establish meaningful relationships and contribute to the community"

(Congress of Colombia, 2013). It is dependent on a set of contextual factors in people's lives, relating to the economy, family and social relationships, and expectations for the future—all of which were severely affected by the pandemic, thereby causing a negative effect on mental health.

Colombia and Latin America, the Story Before COVID-19

Latin America is a region marked by significant inequality in access to mental health care. In a study by the Economic Commission for Latin America and the Caribbean (CEPAL, 2019), it was identified that spending on health represented an average of 2.2% of GDP in Latin American countries in 2016—and although there has been progress in terms of investment (it was just 1.4% of GDP in 2000), difficulties of access, coverage and quality remain. This demonstrates shortcomings in the work carried out to date on effective reforms, their proper implementation, and guarantees of timely and preventive access to services (Agrest et al., 2018). According to the Report on the Evaluation of Mental Health Systems, reforms were recommended to the governments of Latin America and the Caribbean based on the issues found include mental health care within primary health care, earlier identification of problems, and the reduction of attention and treatment gaps (Pan American Health Organization, 2013). On the other hand, the WHO's Action Plan on Mental Health 2013-2020 raised the need to address the environmental determinants of mental health, as well as those that are characteristic of individuals. Compared to other countries in the area, Colombia makes a positive investment of resources allocated to social work and health (ECLAC, 2019). However, the country also suffers from historical deficiencies in healthcare policy due to a lack of human resources and infrastructure, which delays care and causes chronicity in diseases, forcing people to resort to private care not everyone can afford (Holguín & Rueda, 2018; Rojas-Bernal et al., 2018). Furthermore, official data shows decreased

investment in mental health in recent years, in contrast with the needs of the population (The Colombian patient, 2018). According to a report by the Pan American Health Organization (2018), mental problems caused 19% of disability-adjusted life years and 34% of years lost due to disability, led by depression and anxiety disorders, followed by self-harm and substance abuse. Colombia has the fifth highest rate of mental problems in the region, with a treatment gap of 73.5% for adults and 82.2% for children and adolescents (Pan American Health Organization, 2013, 2017).

The 2015 National Study of Mental Health in Colombia (Colombian Government, 2015) showed that 9.1% of the adult population had presented mental health difficulties at some time in their life, 4% in the past 12 months and 1.6% in the past month; with affective disorders, depression and anxiety being the most reported. Regarding comorbidity, 19.9% of people who already had a mental disorder had had two or more disorders in their lifetime, and 17% did in the past 12 months (more frequently in women than in men in both timeframes). Additionally, 7.4% of the general population had thought of committing suicide—5.5% of men and 7.6% of women, 2.0% of men and 2.7% of women had made a suicide plan, while 1.9% of men and 3.3% of women had attempted suicide.

The National Mental Health Study in Colombia (2015) identifies risk factors for depression such as being female, stressful life events, family/personal history of depressive episodes, abuse/dependence on psychoactive substances, unemployment, marital separation, chronic or severe medical illness, history of suicide attempts, cognitive alterations, sedentary lifestyle, and hormonal changes. Regarding anxiety disorders, the risk factors include a history of depressive or anxiety episodes, chronic medical pathology, and consumption of psychoactive substances. Regarding access to treatment, attitudinal gaps and difficulty in timely and pertinent access were

found. Among people with mental problems, the percentages of those who requested care were 48.1% for the group from 7 to 11 years old, 35.2% among those from 12 to 17 years old, 38.5% in the group between 18 to 44 years old and 34.3% among those over 44 years of age. (Colombian Government, 2016). Colombia also regularly faces social problems that impact mental health, such as armed conflict and violence, poverty, unemployment, displacement, and drug trafficking (Henao et al., 2009), making this need even more urgent. Such work has often been left in the hands of non-governmental and independent institutions.

Colombia and Latin America: The Situation During COVID-19

As has been discussed, Latin American countries including Colombia have the COVID-19 pandemic with a disadvantage in comprehensive mental health care infrastructure. Some authors have reported that the pandemic has caused changes in lifestyle, sleep quality, social relationships, and negative psychological effects such as anxiety, psychological distress, depression, post-traumatic stress, irritability, and emotional exhaustion—especially in the very young (Brooks et al., 2020; Casagrande et al., 2020; Luo et al., 2020; Sakuma et al., 2020).

The pandemic also had several follow-on consequences caused by mental health wear and tear. This was especially the case for those who had a previous mental health diagnosis, had been infected by the virus, had relatives who had been infected or killed by the virus, or were the health personnel with extreme workloads few biosecurity measures, and high levels of uncertainty (Brooks, et al., 2020; Haider et al., 2020; Maunder, 2009). This was aggravated due to the measures nations had taken to stop the spread, such as closing borders, prohibition of in-person social gatherings, indefinite closure of commerce, schools and universities, and mandating biosecurity protocols including face masks, social distancing, quarantines, curfews, and others (World Health

Organization, 2019). Faced with this scenario, several countries tried to mitigate certain problems by equipping households with essential supplies, providing home internet networks, making quarantines voluntary, and allowing home office work (Brooks, et al., 2020; García & Mardones, 2010; Said & King, 2020).

Due to severe numbers of infections, some governments had had to take stricter measures (Sánchez-Duque et al., 2020). For example, in Bolivia, Colombia, Paraguay, Ecuador and Argentina implemented the longest quarantines in the world (around six months), even compared to countries that were more affected early on such as China, Italy and France (70 to 90 days). In the United States, the country with the most infections and deaths at the time of writing, the strictest quarantines in certain states lasted between 30 and 120 days.

Colombia has had the fifth most infections in Latin America. When initially trying to reopen the economy, the health system became overburdened with 90–95% occupancy and a danger of a collapse of services, so a sectorized quarantine was reinstated. But while such a highly restrictive measure may slow the spread of a disease, it also entails negative consequences for the populace since it can cause or worsen psychological distress, instigate family conflicts or domestic abuse, deprive economic resources, cause unemployment, shutter businesses, and hamper education, among others (Brooks et al., 2020). Some Colombian studies that included mental health monitoring have shown increases in problems such as depression, anxiety, concern for the future, fatigue, and cigarette smoking, among others (FundaCreSer, 2020; Guzmán-Mena & Tamayo, 2020; Pontificia Universidad Javeriana, 2020, Cifuentes-Avellaneda et al., 2020; Sanabria-Mazo et al., 2020).

The objective of this chapter is to present the data obtained from an emotional self-assessment system created to support in mental health using information and communication

technologies.

The Self-Assessment System

The emotional well-being assessment system used in this study was designed and implemented in response to the COVID-19 emergency. Since April 2020 (shortly after the first mandatory quarantine in Colombia), the Nuevos Rumbos Corporation has made the system available to the general population through its website social networks. It offers feedback on the individual's emotional state (see the instruments section) and enables a brief consultation with a professional from the corporation. With the expert advice, the goal is for the person to validate the results obtained about their emotional state, and be able to openly express their emotions, questions, and preoccupations. This process of looking for emotional improvement increases resiliency, self-confidence, and problem-solving skills, among other factors that contribute to well-being. As an expert system, it offers differential orientations according to the answers entered into the questionnaire according to the criteria of its designers. The advantage of the system is that it can instantly analyze a group of variables and from this, offer recommendations for the management of mental health problems. Thus, the judgment of a human expert is combined with the computational capacity to associate several dozen variables in fractions of a second. The system also includes scales to place users according to a severity criterion established as one standard deviation above their cut-off scores. Users found to be in the worst conditions receive feedback associated with this severity criterion, which implies personalized recommendations quite different from other users.

Method

Participants

This analysis included 1,814 participant records after filtering according to the rules

explained in the data analysis section to follow. About three quarters were female (74.5%), with a mean age of 31.4 ($SD = 11.36$; $M_{men} = 34.2$, $SD_{male} = 12.01$; $M_{female} = 30.5$, $SD_{female} = 10.97$). About three quarters also had a university level of education (73.5%), with 26% having secondary school education and just 0.6% only graduating elementary school. In terms of employment, 44.1% stated they currently work, 19.8% were students who did not currently work, 18% were unemployed, and 12.4% studied and worked at the same time.

Instruments

The basic instrument for this analysis was the emotional self-assessment system questionnaire designed by Nuevos Rumbos. The intention of this instrument was to obtain information from the person that would allow establishing the level of emotional affectation associated with the pandemic and offer recommendations for its management. Emotional Well-Being Self-Assessment Instrument

As described above, this self-applied instrument was designed to measure the psychological effects of the pandemic and associated confinement on people's lives. It was developed with psychometric, systems engineering, data science and machine learning tools, which allows immediate screening and feedback to be offered to participants, which becomes more precise and detailed as the number of assessments increases.

The instrument has 42 questions collecting information on the following categories: (1) Sociodemographic data and general conditions of the participant's life, (2) changes in mood and in personal relationships, (3) substance use, (4) the effects of the pandemic in different areas and (5) expectations about the future. It takes under ten minutes to complete, after which the user is provided individualized feedback that helps them to recognize changes in their emotional well-being and receive recommendations to help them cope. The WHO-5, as a scale of subjective well-

being, and an anxiety scale adapted for Colombia were also incorporated into the base questionnaire of the system.

The WHO-Five Well-being Index (WHO-5)

Created by the World Health Organization with a focus on positive well-being, the WHO-5 is a brief index that measures subjective well-being in recent weeks through five positively worded items. The items are (1) "I have felt happy and in a good mood," (2) "I have felt calm and relaxed," (3) "I have felt active and vigorous," (4) "I woke up feeling refreshed and rested," and "(5) My daily life has been full of things that interest me." Each is rated on a 5-point Likert scale from 0 (none of the time) to 5 (all the time). These are then totalled into a raw score from 0 to 25, where 0 is the absence of well-being and 25 is the highest level of perceived well-being. A person is considered to have low subjective well-being or psychological distress if their score is less than 13 or if the patient's responses range between 0 and 1 on any of the test statements. The WHO-5has currently been translated, validated, and adapted in more than 30 languages, and is used in various clinical settings as a brief screen for mental health problems (Topp et al., 2015; World Health Organization, 1998).

Anxiety Scale

An anxiety scale of six items adapted and validated for Colombia (Rico et al., 2005) was used. Each item is scored on a 3-point Likert scale and summed, with the results interpreted as follows: 0 to 7 is "normal," 8 to 10 is "borderline," and above 11 indicates symptoms of anxiety or depression. In analyzing our data, the scale had a McDonald Omega coefficient of .87.

Data Analysis

The data analysis began with the filtering of the available records. This is an important step because it is an online self-assessment system, vulnerable to unreliable answers, or users who use the assessment multiple times. The debugging of the system was done with an algorithm that pointed out records with high error relative to the answers given by the group of participants. This was complemented with identification of records with contradictory answers (for example, saying he/she has children, while also reporting their number of children as 0).

The results on the emotional well-being (WHO-5) and anxiety scales were established as criterion variables. To achieve the best fits, these scores were dichotomized according to their established cut-off points, the summations in the test scores, and the variables transformed into z-scores.

Likewise, secondary criteria variables were created to identify participants in the worst psychological condition, that is, those beyond one standard deviation of the scales' cut-off points. In order to recognize extreme cases, a scale was constructed to identify those who had more than one standard deviation on the well-being scale and more than one standard deviation on the anxiety scale.

Participants were thereby subdivided into several groups: (1) those who did not meet the criteria for emotional discomfort or anxiety; (2) those with emotional distress, (3) those with anxiety, (4) those with both, (5) those with emotional distress greater than one standard deviation above the cut-off, and (6) those with rates greater than one standard deviation above the cut-off on both scales.

To adjust the values to use in the regression models, the data was normalized with a min-

max transformation, wherein the variable range is scaled proportionally, resulting in a value of 0 for the minimum and 1 for the maximum. Likert-type items were transformed with 0 as the minimum value of the response scale and 1 the highest. The same was done with numerical variables such as age and or number of children. Dichotomous nominal variables were recoded to values of 0 and 1, depending on the absence or presence of the response. The polytomous nominal variables were transformed into dichotomous ones for each of the response options, such as multiple-choice questions with multiple answers or marital status. In this way, all the variables assume values between 0 and 1, as is generally recommended to facilitate the convergence of machine learning algorithms (Alpaydin, 2014).

Three criterion variables were defined, and regression models were built for each of them. The first was a variable that indicated those who met the criteria for low subjective well-being, according to the WHO-5. This variable marked a warning flag about emotional well-being. The second criterion variable marked the warning flag for anxiety. And the third variable indicated whether the participant met the criteria for either of the two alerts (emotional discomfort or anxiety). The selection of the variables for the regression accounted for the importance of the variable by permutation (Breiman, 2001) for the assembled gradient boosting method and the value of the Pearson correlation coefficient between the predictor variables and the criterion variables. The values of the importance of the variable were transformed and scaled to the maximum and the correlation coefficients were converted to the absolute value and scaled to the maximum correlation value for each predictor variable with respect to the criterion variable. With these two scaled values, the Euclidean distance from the origin was calculated to determine importance, in which the greater the correlation and importance by permutation, the greater the Euclidean distance. The ten variables with the largest distance were therefore considered the most

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informative for implementing as predictors in the logistic regression models.

Results

The general characteristics of the sample were described in the participants section of the method section. The presentation of the results begins with the variables that, within the framework of the social determinants of mental health, were deemed likely to influence the mental health of the users.

To begin with, 71.6% of users showed signs of emotional distress on to the WHO-5 scale: 64.5% of males, and 73.8% of females. Similarly, 63.4% had signs of anxiety, with 56.8% among males and 65.6% among females. These had significant overlap, with 54.8% of users showing signs of both conditions— 47.3% of males and 57.3% of females.

Situations Affecting Mental Health

While the main variables analyzed here correspond to emotional well-being and anxiety, the base questionnaire of the self-assessment system included an important set of items also worth analyzing.

Three areas of life were highly affected because of the pandemic and the prolonged quarantines: changes in mood, relationships with others, and financial difficulties.

One area of the questionnaire addressed the use of psychoactive substances. Users were asked if they used alcohol, tobacco, or other substances before the pandemic, and if this had changed during the crisis. Responses are summarized in Table 2.

The results indicated a trend towards a decrease in the consumption of alcohol, tobacco and other substances. In the case of alcohol, 47% of the participants already drank before the

pandemic and 29% of these indicated they continued to drink. Regarding tobacco, people expressed smoking less—though 33.5% also said they had increased their consumption. Before the pandemic, 8.7% were already using other substances, 22.2% of whom reported increased use and 23.4% maintained the same level of use.

Table 1

Situations Affecting Mental Health

Variable	%
Lost job	16.1
Lives alone	10.3
Noticed negative changes in mood	62.7
Feels more aggressive	33.5
Negative changes in relationships with…	
people you live with	32.6
people you don't live with	31.9
Created routines of…	
work	45.3
physical activity	54.7
reading	49.8
recreation	38.2
learning some skill	35.3
View of the future	
Threatening	29.0
Positive	15.6
Everything will be the same	6.9
Hopeless	26.9
Pandemic has affected…	
finances	51.3
education	37.3
health	34.5
family	29.0
friends	40.5
city	65.4
country	70.5
Has had financial difficulties paying for…	
food	21.7
rent or housing expenses	26.5
home services	30.8
debts	49.5

Table 2

Prevalence and Changes in Substance Use

Substance	%
Alcohol	
Drank before pandemic	47.5
Use during pandemic…	
Increased use	11.0
Remained the same	29.2
Decreased use	59.8
Tobacco	
Smoked before pandemic	15.2
Use during pandemic…	
Increased	33.5
Remained	15.3
Decreased	51.3
Other substances	
Used other substances before pandemic	8.7
Use during pandemic…	
Increase	22.2
Remained	23.4
Decreased	54.4

Associations with Emotional Discomfort and Anxiety

The ten highest correlation coefficients in reference to the criterion variable were identified, as well as the ten with the highest mean importance according to the gradient boosting, to be included in the regression analysis. Table 3 summarises the correlation coefficients of the 14 variables that were among the top 10 for at least one of each criterion.

Table 3

Top Ten Highest Correlations with Each Criterion Variable

Variables	WHO-5	Anxiety	Both
Noticed negative changes in mood	.43	.41	.48
Feel that health has been affected	.32	.24	.32
Negative changes in relationships with people you live with	.27	.18	.24
Sees the future hopeless	.25	.27	.33
Sees the future as something positive	.22	.19	.21
Finances have been affected	.20	.21	.23
Feels more aggressive	.20	.21	.22
Sees the future as threatening		.18	.19
Education has been affected		.16	.19
Family has been affected	.24		
Family has been affected	.21		
Created recreation routines	.20		
Has had difficulty paying debts		.17	
Negative changes in relationships with people you do not live with			.19

Table 4

Top Ten Highest Mean Importance (Gradient Boosting) with Each Criterion Variable

Variables	WHO-5	Anxiety	Both
Noticed negative changes in mood	.15	.14	.15
Feels that health has been affected	.03		.03
Sees the future as hopeless	.03		.03
Negative changes in relationships with people you live with	.02		.02
Everything will not be the same again	−.02	−.01	
Age	−.01	.03	
Don't have a job	.05		
Occupation: student	.05		
Gender: male	.03		
Has created recreation routines	.02		
Has created physical activity routines		.01	.01
Feels more aggressive		.03	
Has had difficulty paying for services		.02	
Has had difficulty paying debts		.02	
Learned some skill		−.01	
Education has been affected		−.01	
Had financial difficulties buying food		.01	
Sees the future as something very negative			.01
Has seen friends affected			.01
Family has been affected			.01
Lives alone			.01
Has University degree			.01

Table 5a

Odds Ratios for Well-Being and Anxiety Separately, with 95% Confidence Intervals

Well-Being	OR	95% CI
Noticed negative changes in mood	14.58	[8.63, 24.94]
Feels that health has been affected	5.21	[3.11, 8.80]
Neg. changes in relationships with people you live with	2.92	[1.74, 4.93]
Sees the future as hopeless	2.18	[1.52, 3.18]
Feels more aggressive	2.10	[1.31, 3.38]
Finances have been affected	1.71	[1.11, 2.63]
Education negatively affected	1.85	[1.18, 2.94]
Don't have a job	1.34	[1.02, 1.75]
Created recreation routines	0.60	[0.46, 0.77]
Sees the future as something positive	0.59	[0.43, 0.81]
Created reading routines	0.57	[0.44, 0.74]

Anxiety	OR	95% CI
Noticed negative changes in mood	10.26	[6.44, 16.47]
Feels more aggressive	2.83	[1.86, 4.30]
Sees the future as hopeless	2.22	[1.62, 3.07]
Feels that health has been affected	1.94	[1.26, 3.01]
Has had difficulty paying debts	1.39	[1.05, 1.84]
Sees the future as threatening	1.37	[1.04, 1.80]
Created a physical activity routine	0.72	[0.57, 0.91]
Age	0.64	[0.43, 0.96]
Sees the future as something positive	0.61	[0.45, 0.83]

Table 5b

Odds Ratios for Well-Being and Anxiety Combined, with 95% Confidence Intervals

Both Well-Being and Anxiety	OR	95% CI
Noticed negative changes in mood	17.00	[10.60, 27.54]
Feels that health has been affected	3.48	[2.23, 5.46]
Sees the future as hopeless	2.79	[2.07, 3.79]
Feels more aggressive	2.55	[1.67, 3.91]
Neg. changes in relationships with people you live with	2.00	[1.29, 3.10]
Has had difficulty paying debts	1.58	[1.22, 2.04]
Sees the future threatening	1.34	[1.02, 1.76]
Sees the future as something positive	0.53	[0.38, 0.74]

The ten variables with the highest correlation and the ten with the greatest importance with respect to the three criterion variables were subjected to logistic regression to establish the degree of association between these variables.

As described in the methods section, the criterion variables were the classification of emotional distress obtained on the WHO-5 well-being scale, and the classification of anxiety according to the anxiety subscale. Table 5 shows the odds ratio (OR) obtained and 95% confidence intervals for each.

Discussion and Conclusions

The implementation of the emotional well-being self-assessment system made it possible to identify how the pandemic affected the well-being and mental health of users who used it. The analysis found a high proportion of users showed signs of emotional discomfort and anxiety, particularly in females. These results are consistent with other studies in China (Qi et al., 2020;

Ning et al, 2020), Italy (Rossi et al., 2020), Spain (Luceño-Moreno et al., 2020) and Iran (Vahedian-Azimi, 2020), where female health workers were found to have increased stress, anxiety and depression.

Changes in emotional well-being during the pandemic were greatly influenced by the economic impact of the emergency measures taken in response (Alvarez & Harris, 2020). Our study found prevalent financial problems in which 49.5% of people expressed having difficulties paying debts, utilities (30.8%), housing (25.5%) and food (21.7%). Concerns regarding the economy also coexisted with negative perceptions about the future, in which more than half reported perceiving it as threatening and hopeless, while only 7% thought everything would be the same again. This is relevant because chronic exposure to fear-producing event and objective destruction of its resources can cause long-term damage to mental health (Pfefferbaum & North, 2020).

Another important factor of emotional well-being identified in users of the system was the changes in relationships with other people—both those they lived with and those they did not—due to the effects on perceived state of mind (65%) and feeling more aggressive (33.5%). These changes generate an imbalance in primary support groups, which are necessary when facing stressful events, increasing vulnerability in their emotional well-being.

In relation to substance use, a reduction was expected, especially during periods of quarantine or confinement, due to how it limited access and availability. However, while there were decreases in alcohol, tobacco, and other substance consumption in majorities of people who used them prior to the pandemic, there was also an increase in smoking in for a sizeable minority Some authors see this as an overall positive effect (Pérez-Gómez et al., 2021).

One of the objectives of the present study was to search for the variables associated with

emotional distress and anxiety during the emergency period. As expected, given the coincidence of the correlation and importance analyses, perceiving negative changes in mood was the variable most strongly associated with adverse mood states. Feeling affected in health, feeling more aggressive and seeing the future as hopeless were also associated variables. This conforms with findings that quality of life has been negatively affected by the pandemic, and it worsened over time as restrictions interfering with daily life continued and at times became even more strict (e.g., Ariza et al., 2020).

The perception mood changes were the variable with the greatest association with both emotional distress and anxiety. This variable has several implications. The first is that subjective perception of negative mood changes is a warning sign of changes in mental health. Another is that it can used to develop psychometric instruments to measure emotional discomfort, depression, anxiety or other constructs.

There is some commonality between the results obtained for the WHO-5 well-being scale and the anxiety scale suggesting that emotional discomfort, anxiety and perceiving negative changes in mood are associated with seeing the future as hopeless or threatening, feeling more aggressive, and having finances and education affected. On the other hand, creating a routine of physical activity, recreation or reading, and seeing the future positively relate to less risk to emotional well-being.

Interestingly, older people tended to experience less anxiety. This finding could be a local result in these data and could be an indicator of a certain protection given by factors associated with the life cycle. In any case, there was a tendency to lower proportions of anxiety according to age: the proportion was 70.1% in the first quartile, and this progressively decreased to 56.5% in the last quartile. Similar results were found in a study conducted by FundaCreSer (2020) in which

the anxiety or fear of dying from COVID-19 decreased as the age of the respondents increased—contradicting the medical evidence that older individuals are far more at risk from it. Nonetheless, the spectrum of anxiety and emotional problems (such as depression) are the most commonly reported consequences of the pandemic in the literature, in all populations studied (Brooks et al., 2020; Casagrande et al., 2020; FundaCreSer, 2020; Guzmán-Mena & Tamayo, 2020; Haider et al., 2020; Qi et al., 2020; Luceño-Moreno et al., 2020; Luo et al., 2020; Pontifical Javeriana University, 2020; Cifuentes-Avellaneda et al., 2020; Rossi et al., 2020; Sakuma et al., 2020; Sanabria-Mazo et al., 2020; Vahedian-Azimi, 2020; Ning et al, 2020).

This analysis points to the priorities in the study of mental health in the era of COVID-19 defined by an international interdisciplinary group (Holmes et al., 2020). These include individual factors, social factors, and consequences among vulnerable groups

There is an important selection bias in these data to point out. The study sample was taken from a pool of people who had already perceived the need to address their mental health by using the system. Therefore, while the results shown here are similar to other studies in the area (e.g., FundaCreSer, 2020; Guzmán-Mena & Tamayo, 2020; Pontifical Javeriana University, 2020; Cifuentes-Avellaneda et al., 2020; Sanabria-Mazo et al., 2020), we cannot assume the data represent the mental health situation of the Colombian general population—only those with knowledge of and access to the system. Understanding this limitation, this analysis was aimed at identifying the factors associated with the effects of the pandemic on mental health rather than calculating population prevalence, assuming also that at the time of writing the crisis is still ongoing and what is described here may change.

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