

Emotional States, Adherence and Prevention Behaviors in Trans Women during the COVID-19 Lockdown

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Abstract: The pandemic generated multiple biopsychosocial challenges that significantly impacted the health of trans women. The aim of this study is to characterize emotional states and resilience in trans women in Colombia and their relationship to COVID-19 adherence behaviors and prevention behaviors during lockdown. The study employed a cross-sectional descriptive correlational design, with an anonymous online questionnaire that was given to 100 trans women in five cities in Colombia. During the pandemic, more than half of trans women experienced negative emotional states such as depression, anxiety and somatization, and some positive ones such as resilience and personal growth. The latter two contribute to reinforcing adherence and prevention behaviors. This study demonstrates a clear need to give priority and recognition to trans women and their health needs, in order to protect their rights, their well-being, and their health.

Keywords: mental health, prevention, trans woman, Colombia, COVID-19

Estados Emocionais e Comportamentos de Aderência e Prevenção em Mulheres Trans Durante o Confinamento por COVID-19

Resumo: A pandemia gerou múltiplos desafios biopsicossociais que impactaram significativamente a saúde das mulheres trans. O objetivo deste estudo é caracterizar estados emocionais e resiliência em mulheres trans da Colômbia e sua relação com os comportamentos de aderência à COVID-19 e os comportamentos de prevenção durante o confinamento. Foi realizado um desenho descritivo, transversal e correlacional, foi administrado um questionário online anônimo a 100 mulheres trans em cinco cidades da Colômbia. Durante a pandemia, mais da metade das mulheres trans experimentaram estados emocionais negativos como depressão, ansiedade e somatização, e alguns positivos como a resiliência e o crescimento pessoal. Estes dois últimos contribuem para reforçar os comportamentos de adesão e de prevenção. Em situações como a pandemia, é prioritário dar reconhecimento às mulheres trans e às suas necessidades de saúde, a fim de proteger os seus direitos e a sua saúde integral.

Palavras-chave: saúde mental, prevenção, mulher trans, Colômbia, COVID-19

Estados Emocionales y Conductas de Adherencia y Prevención en Mujeres Trans Durante el Confinamiento por COVID-19

Resumen: La pandemia generó múltiples desafíos biopsicossociales que impactaron significativamente en la salud de las mujeres trans. El objetivo del presente estudio fue caracterizar los estados emocionales y resiliencia en mujeres trans de Colombia y su relación con las conductas de adherencia y prevención a la COVID-19 durante el confinamiento. Se realizó un diseño trasversal correlacional descriptivo, administrando un cuestionario online anónimo a 100 mujeres trans en cinco ciudades de Colombia. Se encontró que más de la mitad de las mujeres trans han experimentado estados emocionales negativos como depresión, ansiedad y somatización y algunos positivos como resiliencia y crecimiento personal. Los dos últimos contribuyen a fortalecer las conductas de adherencia y prevención de la COVID-19. Es prioritario dar reconocimiento a las mujeres trans y a sus necesidades de salud, desde diversos frentes de acción con el fin de proteger sus derechos y su salud integral.

Palabras clave: salud mental, prevención, mujer trans, Colombia, COVID-19

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The crisis caused by the COVID-19 pandemic has had an impact on the mental health of the world's population. Factors such as physical isolation, the rupture of social and labor ties, and fear of disease and death have increased feelings of loneliness, stress, the consumption of psychoactive substances, anxiety, levels of depression and other mental disorders (Panchal et al., 2020; Sanabria-Mazo et al., 2021). The psychological impact on the transgender population has also included stress, anxiety, depression, suicidal tendencies, self-harm, and somatization (Delozier et al., 2020). The community has had to face these issues in addition

to the changes inherent on their transition process and the discrimination that they already experience because of their gender identity, and as a result of the reductionist and the stigmatized views held against them (Hoyos-Hernández, Valderrama Orbezo, et al., 2021; Poteat et al., 2020).

This has led to higher levels of hypervigilance of the trans population, anticipatory thoughts, internalized transphobia, self-isolation, and self-exclusion. In many cases, the trans population is rejected by members of their own family group, which generates feelings of guilt, social isolation, and may cause them to abandon their life-plans. Furthermore, trans women are exposed to financial problems, lack of job opportunities, and in many cases expulsion from their homes (Red Latinoamericana y del Caribe de Personas Trans [REDLACTRANS] & Centro de Documentación y situación trans de América Latina y el Caribe [CeDoSTalc], 2020; Hoyos-Hernández, Valderrama Orbezo, et al., 2021).

During the COVID-19 pandemic, it was found that trans women showed high adherence to biosecurity measures, in order to avoid legal problems or fines. They were seen to care for their health, avoid conflicts with other people, and reported their confidence in the public health measures to contain the virus (Hoyos-Hernández, Concha Valderrama, et al., 2021).

Thus, the aim of this study was to characterize emotional states and resilience in trans women in Colombia, and their adherence to COVID-19 prevention behaviors during lockdown. As a starting point, we refer to the definition from the World Health Organization [WHO] (2018), which states that mental health is a “state of well-being in which each individual realizes his or her own potential, can cope with the normal stresses of life, can work productively and fruitfully, and are able to make a contribution to their community” (para. 2). According to Johnson & Rogers (2020), resilience allows a population to develop strategies to protect themselves and reduce the impact of unfavorable conditions on their mental health (as a result of situations of stigma and discrimination), strengthening reflective functioning and the search for social, family or community support.

The relationship between mental health and resilience encouraged adherence and prevention behaviors during COVID 19 lockdown. According to the WHO (2020), this helped to reduce virus transmission and mortality rates. Prevention behaviors recommended by the WHO to prevent the spread of the virus include hand washing, wearing masks, physical distancing, avoiding touching the face, practicing good respiratory hygiene, and reporting suspected cases of COVID-19 to the relevant authorities (WHO, 2020).

Method

Quantitative research with a single-stage descriptive correlational cross-sectional design.

Participants

100 Colombian trans women took part in the study, who were between 18 and 55 years of age, and living in five Colombian cities (Cali, Armenia, Bogota, Bucaramanga, and Cartagena). They were invited to participate as part of the TransSER project.

Instruments

Field data were screened using part of a *survey form developed researchers from the Universidad Autónoma de Barcelona*. Information was recorded about states of depression (2 items), anxiety (2 items), somatization (5 items), resilience (2 items), post-traumatic growth (5 items), adherence behaviors (1 item). and prevention (8 items). All states were recorded in Likert form. Responses to depression, anxiety and somatization were given using: Never, some days, more than half of the time, and almost every day. Responses for resilience, post-traumatic growth, adherence behaviors and prevention were given using: Not at all, a little, quite a lot, a lot. Surveys were completed online, anonymously, using cell phones.

Procedure

Data collection. The survey was administered anonymously through a liaison, in from May 21 to June 30, 2022. The women were invited to take part by phone or by direct contact (authorized by participants).

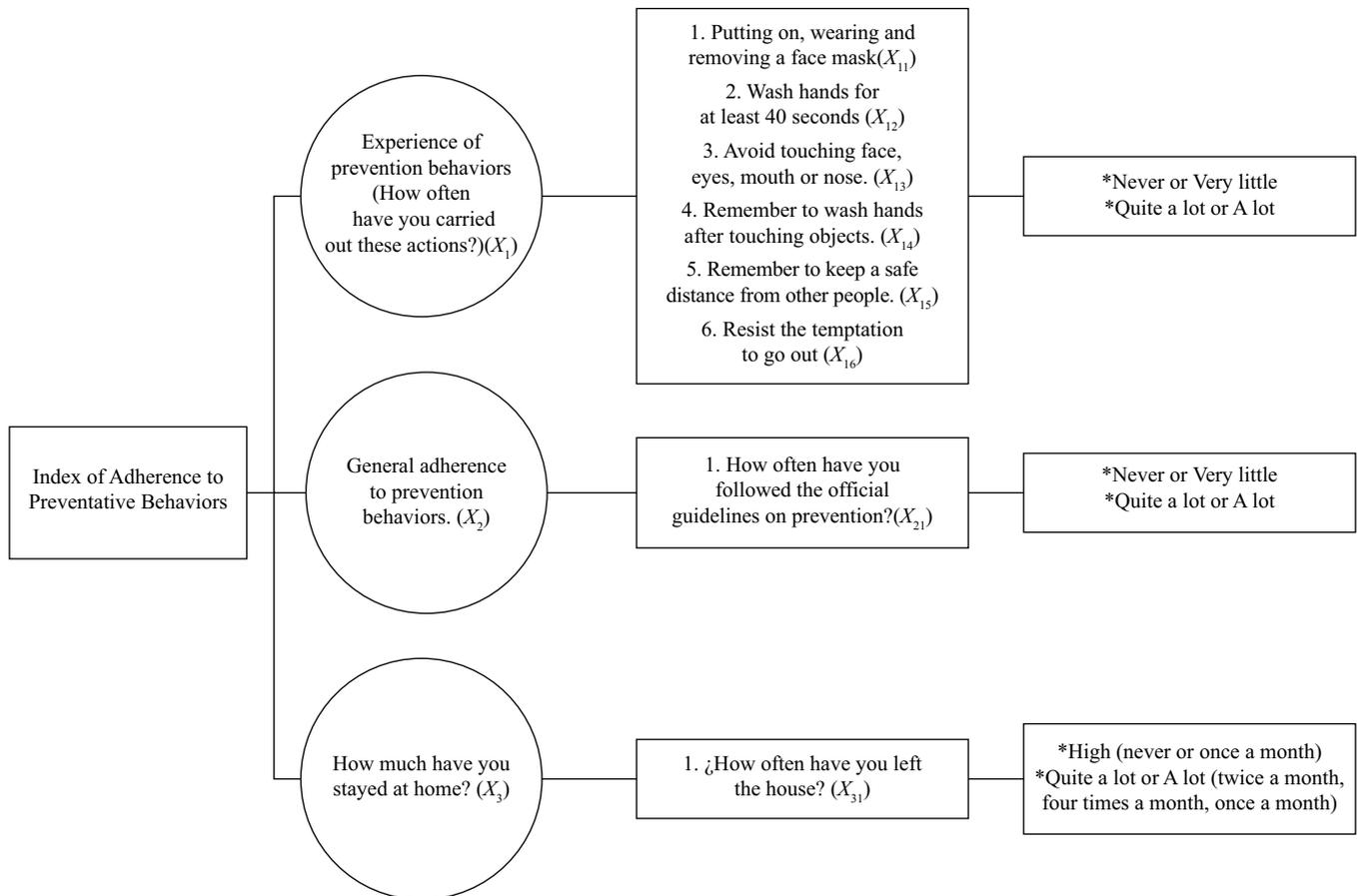
Data analysis. A descriptive analysis of the responses to the emotional States items was carried out by stratifying according to city, age group, level of educational, income and adherence to preventive behaviors. Associations between variables were evaluated using Chi-square tests and Fisher’s Exact test, when it was not possible to meet the theoretical assumption with the sample size. A value of 0.05 was used as the maximum type I error allowed.

An Index of Adherence to Preventive Behaviors (IACP – Spanish acronym) (Hoyos-Hernández, Concha Valderrama, et al., 2021) was designed, based on the respondents’ experience of preventive behaviors, their general adherence to them, and their level of isolation during lockdown. By considering the level of adherence as an unobservable variable (that’s measurement is not direct), this concept was set as a latent variable or construct (Pedrero et al., 2015) that can be approximated through a synthetic variable. The index was constructed using a Multiple Factor Analysis (MFA). The intermediate variables were factors relating to experience of prevention behaviors, general adherence to prevention behaviors, and the level of isolation experienced during lockdown, as shown in Figure 1.

With the help of experts, a cut-off point of 82.90 was established on a scale of zero to 100 points. 100 was the maximum expression of adherence to the prevention measures obtained from an individual’s responses to the instrument’s items.

Figure 1

Variables included in the Index of Adherence to Preventative Behaviors



In order to have a risk indicator for depression, anxiety, and somatization, and a protection indicator for post-traumatic growth and resilience, we calculated predictive Bayes probabilities by stratifying the sample according to the respondents' city, sociodemographic characteristics, and their level of adherence to preventive behaviors. An estimation process was carried out at the outset using non-informative a priori distributions to estimate the proportions of women demonstrating behaviors associated with psychological interest traits (success event). The Bayes' rule was then used to obtain the probability, that in a new sample of the same size a greater or equal number of successes to that observed in this study would also be observed in the future.

Ethical Considerations

The study complied with the regulations and ethical principles for conducting research with human subjects in Colombia, the Deontological and Bioethical Manual of Psychology, and Law 1090 of 2006, which regulates the practice of psychology in Colombia. It was based on the principles of beneficence, non-maleficence, and autonomy, and is classified as research with minimal risk (Resolution 8430 of 1993). The participants that took part in the study gave their informed consent both verbally and in writing.

Results

The study found that 56% of the study's 100 trans women participants experienced depression, 69% experienced anxiety, 74% somatized in some situations, 71% experienced post-traumatic growth, and 75% demonstrated resilience. Among those who experienced depression (Table 1), the greatest proportion resided in Cali (28.57%) and Bogotá (21.43%), 64.29% of this group reported being on low incomes and the remainder on middle incomes. In the same group, 69.64% showed a high level of adherence to preventive behaviors. Likewise, 69 women experienced anxiety, 26.10% of whom lived in Cali, with a similar distribution for all the cities. For this group, income was statistically and significantly associated with experiencing anxiety during lockdown ($p = .013$).

The research also found that 74 women experienced somatization, and 25.68% of that group lived in Cali. Distribution was also similar among age groups with respect to the following variables: 48.65% had had a high school education, 68.92% were on low incomes, and 62.16% demonstrated a high level of adherence to preventive behaviors. In the group that did not experience somatization, 76.92% showed high levels of adherence. Among the 71 women with post-traumatic growth characteristics,

25.35% lived in Bogotá (25.35%) and 21.13% in Cartagena. 56.34% showed a high-level adherence to preventive behaviors. Statistical significance was identified between city, age, and adherence ($p = .018$, $p = .018$, $p = .003$). Seventy-five trans women reported resilience behaviors, with the highest numbers living in Cali (22.67%), and Armenia (21.33%). 64.00% showed a high level of adherence to preventive behaviors. The association between resilience and level of education was statistically significant ($p = .016$).

The probability of trans women experiencing depression was the same for people with a basic level of education (primary and high school, approximately 38%). In cities such as Cali and Cartagena, depression was more likely to occur in trans women on low incomes, while in Bogotá and Bucaramanga the probability was higher for trans women on middle incomes. The probability of adherence to preventive behaviors was very similar in all the cities in the study.

Table 1

Emotional states, resilience, sociodemographic characteristics, and level of adherence to preventive behaviors. (n: 100)

Characteristics	Depression		Anxiety		Somatization		Post- traumatic growth		Resilience	
	%	Value <i>p</i>	%	Value <i>p</i>	%	Value <i>p</i>	%	Value <i>p</i>	%	Value <i>p</i>
City		0.440		0.847		0.383*		0.018		0.729*
Cali	28.57		26.10		25.70		15.49		22.67	
Bogota	21.43		18.80		16.20		25.35		20.00	
Armenia	17.86		17.40		21.60		18.31		21.33	
Bucaramanga	16.07		18.80		20.30		19.72		17.33	
Cartagena	16.07		18,80		16.20		21.13		18.67	
Age group		0.897		0.997		0.806		0.018		0.139
18 - 29 yrs	33.93		39.30		33.80		33.80		37.33	
30 - 39 yrs	32.14		37.70		32.40		40.85		36.00	
40 yrs or over	33.93		23.00		33.80		25.35		26.67	
Level of education		0.809*		0.205*		0.266*		0.069*		0.016*
No education	1.79		1.45		1.35		2.82		4.00	
Primary/Basic	37.50		43.50		37.80		46.48		46.67	
High school	48.21		40.60		48.70		40.85		37.33	
College	12.50		14.50		12.20		9.86		12.00	
Level of income		0.086		0.013		0.366		0.498		0.072
Low	64.29		63.80		68.90		74.65		77.33	
Middle	35.71		36.20		31.10		25.35		22.67	
Adherence to prevetative behaviors		0.513		1.000		0.260		0.003		0.626
Low	30.36		33.30		37.80		43.66		36.00	
High	69.64		66.70		62.20		56.34		64.00	

Note. **p* values obtained using Fisher’s Exact test.

The probability that an equal or greater number of women with common sociodemographic characteristics (in the groups created by combining variables for city, age, level of education and income) would experience depression in a similar future situatio are different across the groups Tables 2 and 3. In cities such as Cali, the probability of experiencing depression among young people under 29 years of age was 49.6%, while in other cities (except Bogotá) the probability was higher for individuals over 40 (49.7%, 27.8% and 50.4%) (Table 2). In Bogotá, individuals between 30 and 39 years of age were at higher risk of depression (23.30%). Trans women in Cali were more likely to experience

anxiety between 18 and 29 years of age (49.27%) and 30 to 39 years of age (49.41%). In terms of level of education, the probability of experiencing anxiety is higher for people with college level education in Cali (50.12%) (Table 2) and Armenia (49.01%), primary level education in Bogotá (26.63%) and Bucaramanga (49.24%), and high school level education in Cartagena (25.37%) (Table 3). With reference to level of income, trans women on middle incomes were more likely to experience anxiety in Cali and Bogotá. With regards to adherence to preventive behaviors, the probability was higher for women in Cali (28.98%), Bogotá (28.31%), Bucaramanga (28.03%) and Cartagena (27.84%).

Table 2
Predictive probabilities for experiencing emotional states and resilience in Cali and Bogota, and in all cities

	Depression			Anxiety			Somatization			Post-traumatic growth			Resilience		
	Cali	Bogota	General	Cali	Bogota	General	Cali	Bogota	General	Cali	Bogota	General	Cali	Bogota	General
Age group															
18 - 29 yrs	49.55%	16.37%	36.60%	49.27%	16.70%	35.46%	0.00%	16.13%	34.94%	50.68%	16.22%	35.23%	49.50%	50.02%	34.40%
30 - 39 yrs	16.45%	23.30%	35.94%	49.41%	23.32%	35.06%	50.77%	24.38%	35.10%	20.72%	50.45%	29.89%	16.04%	23.52%	32.58%
40 - 49 yrs	30.50%	14.16%	36.10%	28.77%	16.24%	34.91%	26.75%	16.66%	34.52%	29.50%	50.00%	35.94%	29.50%	14.22%	36.10%
Level of education															
No education	50.17%	0.00%	11.18%	49.64%	0.00%	11.46%	49.10%	0.00%	10.64%	-	50.63%	12.52%	50.34%	0.00%	50.75%
Primary/Basic	25.25%	29.79%	37.62%	23.57%	26.63%	35.20%	16.52%	30.29%	36.17%	16.92%	17.86%	33.72%	16.93%	24.04%	31.64%
High School	25.64%	12.18%	38.17%	22.84%	10.84%	37.39%	25.45%	49.20%	37.75%	21.07%	49.58%	37.42%	28.15%	10.99%	37.87%
College	49.81%	-	29.11%	50.12%	-	26.23%	49.99%	-	28.55%	8.74%	-	28.98%	50.97%	-	27.40%
Level of income															
Low	29.64%	30.94%	41.06%	29.43%	30.73%	40.21%	17.36%	31.58%	40.46%	30.32%	17.89%	39.37%	17.32%	28.90%	38.77%
Middle	16.74%	49.65%	33.80%	49.11%	50.54%	27.65%	24.31%	50.52%	32.04%	23.79%	50.95%	34.78%	25.02%	49.17%	35.23%
Adherence to preventive behaviors															
Low level of adherence	15.87%	18.67%	36.66%	15.83%	15.09%	35.61%	50.37%	15.00%	33.17%	15.97%	15.27%	27.54%	20.50%	17.47%	33.15%
High level of adherence	30.49%	29.25%	40.80%	28.98%	28.31%	39.56%	28.98%	30.20%	39.42%	30.25%	49.57%	40.31%	28.54%	17.44%	38.62%

Note. *Predicted probabilities are given as a percentage to assist interpretation.

Table 3
Predictive probabilities of experiencing emotional states and resilience in Armenia, Bucaramanga, and Cartagena, and in all cities

	Depression		Anxiety		Somatization		Post-traumatic growth		Resilience												
	Armenia	Bucaramanga	Armenia	Bucaramanga	Armenia	Bucaramanga	Armenia	Bucaramanga	Armenia	Bucaramanga											
Age																					
18 - 29 yrs	28.57%	12.11%	26.98%	36.60%	28.52%	16.34%	22.82%	35.46%	16.91%	11.69%	26.89%	34.94%	28.12%	16.00%	27.31%	35.23%	21.98%	13.99%	27.06%	34.40%	
30 - 39 yrs	20.82%	18.84%	23.02%	35.94%	15.97%	18.61%	22.45%	35.06%	19.84%	50.51%	22.71%	35.10%	19.74%	50.90%	50.51%	29.89%	49.56%	18.20%	49.55%	32.58%	
40 - 49 yrs	49.68%	27.78%	50.40%	36.10%	50.26%	25.62%	49.93%	34.91%	50.41%	23.38%	49.51%	34.52%	50.68%	27.05%	50.43%	35.94%	-	26.17%	-	36.10%	
Education																					
No education	0.00%	-	-	11.18%	0.00%	-	-	11.46%	0.00%	-	-	-	10.64%	49.83%	-	-	12.52%	49.69%	-	-	50.75%
Primary/Basic	22.26%	12.36%	12.22%	37.62%	16.65%	49.24%	16.18%	35.20%	16.46%	49.63%	11.84%	36.17%	21.55%	16.12%	49.88%	33.72%	50.86%	14.63%	50.69%	31.64%	
High School	25.98%	27.70%	26.07%	38.17%	26.96%	27.42%	25.37%	37.39%	17.55%	25.67%	22.76%	37.75%	26.73%	17.29%	22.99%	37.42%	24.96%	27.58%	25.08%	37.87%	
College	50.83%	18.12%	18.47%	29.11%	49.01%	18.88%	15.47%	26.23%	49.18%	18.76%	19.17%	28.55%	49.59%	17.98%	18.99%	28.98%	50.05%	18.47%	18.24%	27.40%	
Income																					
Low	31.52%	21.65%	28.65%	41.06%	30.55%	26.83%	29.15%	40.21%	27.13%	26.74%	28.98%	40.46%	31.69%	25.23%	26.22%	39.37%	26.60%	22.87%	27.39%	38.77%	
Middle	-	22.15%	21.86%	33.80%	8.72%	16.71%	15.82%	27.65%	49.28%	16.62%	16.20%	32.04%	49.25%	23.85%	15.82%	34.78%	50.45%	25.06%	15.98%	35.23%	
Adherence																					
Low	23.70%	19.77%	22.60%	36.66%	26.16%	20.99%	16.23%	35.61%	23.00%	20.44%	16.40%	33.17%	17.26%	49.90%	50.59%	27.54%	49.28%	15.68%	16.22%	33.15%	
High	21.98%	30.15%	28.00%	40.80%	22.61%	28.03%	27.84%	39.56%	16.60%	26.69%	28.94%	39.42%	25.45%	30.18%	28.94%	40.31%	24.00%	30.44%	27.20%	38.62%	

The predicted probabilities for experiencing somatization were higher for young adults, people with no education, and college level education in Cali (50.77%, 49.10% and 49.99%, respectively). Level of adherence was also similar across the cities in the study (Table 2 and 3). Trans women in Cali were more likely to experience post-traumatic growth between 18 and 29 years of age, in Armenia between 40 and 49 years of age (50.68%), while in the other cities, this probability is higher for those in the 30- to 39-year-old age group. The probability of experiencing post-traumatic growth is higher for people with primary or basic level education (33.72%), and high school level education (37.42%). In Cali, Bucaramanga, and Cartagena trans women on low incomes were more likely to experience post-traumatic growth. The probability of trans women showing high levels of adherence was 30.3% in Cali and 49.60% in Bogota. According to age group and city, those in Cali and Bogotá are more likely to experience resilience between 18 and 29 years old, in Armenia and in Cartagena between 30 and 39 years old, and in Bucaramanga between 40 and 49 years old. The probability of experiencing resilience was higher for people with college level education in Cali (50.97%) and for people with a basic primary level of education in Bogotá, Armenia, and Cartagena. Trans women in Cartagena on low incomes were more likely to experience resilience. The probability of trans women demonstrating a level high adherence is higher in Cali, Bucaramanga, and Cartagena.

Discussion

With respect to emotional states, most participants experienced symptoms of depression and anxiety. Although these states were experienced by the general population during the pandemic (Panchal et al., 2020; Sanabria-Mazo et al., 2021), the literature reports a high prevalence of mental health difficulties among trans people (Delozier et al., 2020; Hoyos-Hernández, Valderrama Orbegozo, et al., 2021). In this study, more than half of the participants experienced depression, which was not significantly associated with any of the sociodemographic characteristics, or with the level of adherence to preventive behaviors. However, it is important to highlight that depression was most prevalent in Cali and Bogota, and among trans women on low incomes. In general, in Colombia, it is estimated that three out of four people reported feeling more anxious and depressed than normal during the pandemic. People in Cali, Bogota and Medellín reported the highest percentages for feeling nervous and tired for no reason (Cifuentes-Avellaneda et al., 2020). In Bogota, people worried that they or a family member would contract the virus, they also worried about the uncertainty created by the pandemic and the resulting economic crisis. In Cali, there was also evidence that people were worried about financial issues, and that they were more concerned about the health of their family members than their own (Universidad Icesi, 2020).

These factors combined with other issues experienced by transgender women (stigma and discrimination, the reduction of their incomes as a result the pandemic along with other problems that existed prior to the pandemic such as poor access to health care), made this population's conditions extremely complex and difficult during lockdown. However, despite the very challenging environment, the group's adherence to preventive behaviors was similar in all cities, which coincides with similar results for the general population (Flentje et al., 2020; Hoyos-Hernandez, Valderrama Orbegozo, et al., 2021; Panchal et al., 2020; Pandya & Redcay, 2022; Sanabria-Mazo et al., 2021).

With reference to anxiety, 69% of trans women reported experiencing nervousness or tension and not being able to stop worrying, and most of this group were from Cali. This finding was significantly associated with level of income, which reflects the fact that the pandemic brought about significant economic changes worldwide. Trans women who depended on sex work were either unable to work or suffered a significant decrease in their income. As a result, many had fewer job opportunities, some lost their jobs and their homes, in an environment in which options were already limited (Flentje et al., 2020; REDLACTRANS & CeDoStalc, 2020).

Generally speaking, in Colombia and according to the results reported by Sanabria-Mazo et al. (2021) (whose study used a sample of 18,000 people in Colombia), 35% of people experienced episodes of depression and 25% anxiety. These are lower percentages than those found in this study, possibly due to the high levels of resilience among the general population. These results underline the need to focus efforts on the transgender community, so that its members receive the care they need, with comprehensive health services that help to mitigate the effects of stigma and discrimination, and factors that prevent them from receiving comprehensive health services. It is worth highlighting the valuable support received by community members from their leaders and trans community support organizations. In many cases these organizations have become the fundamental axis for promoting the support of psychological, social, and economic resources, and have become the main support network for the community (Flaherty et al., 2020; Green et al., 2020; Pandya & Redcay, 2022).

In line with the above, somatization (frequency of experiencing headache, nausea, or stomach pain, feeling short of breath, dizziness, and back pain) was identified in 74% of trans women, with the highest figures reported for Cali. Despite the barriers to access to comprehensive health care during the pandemic, this factor was identified at the same time as a high adherence to preventive behaviors. It is important to note, that barriers to health care for trans women existed long before the pandemic (Flaherty et al., 2020), in addition to the vulnerabilities to which trans communities have been exposed in a structural and systematic way (Green et al., 2020; Hoyos-Hernández, Valderrama Orbegozo, et al., 2021; Kline, 2020; Van der Miesen et al., 2020).

Although more than half of the trans women experienced levels of depression, anxiety and somatization, important protective factors were also identified. In terms of resilience and post-traumatic growth, there was evidence of a greater closeness to people, the ability to improve their own lives, a greater awareness of strength, appreciation for life, and spiritual change. This was demonstrated by 71% of the sample and was associated more with the 30- to 39-year-old age group, the city in which they live (Bogota and Cartagena), and they were factors that contributed to adherence to preventive behaviors (56.34%). These findings also reflect a greater awareness of self-efficacy that helped to develop coping strategies during the pandemic (Hossain et al., 2020; McGowan et al., 2021). It is worth drawing attention to the fact that, there was a higher probability of post-traumatic growth during the pandemic for trans women on low incomes, specifically in Cali, Bucaramanga, and Cartagena. This reveals that coping is not necessarily about having financial resources, but also involves successfully facing the challenges brought about by the pandemic by drawing on personal and social resources. As shown in other studies, closeness to other people, and building networks in the midst of the pandemic were also highly beneficial (Diamond & Willan, 2020).

Moreover, the study showed resilience (the ability to adapt to change) to clearly be a positive factor, with 75% of the trans women demonstrating resilience associated behaviors, principally in Cali and Armenia. Trans women in Cali benefitted from trans women support networks and those in Armenia from a strong Catholic tradition. As reported by several studies, resilience is considered as a protective factor because trans women's needs were not always dealt with during the pandemic, and they were more exposed to stigma, discrimination, violence, and inequality in the health care system, which increased their risk of mortality due to COVID-19. (Office of the United Nations High Commissioner for Human Rights [OHCHR], 2020; REDLACTRANS & CeDoStalc, 2020). This is why many charities, NGOs, activists, and community leaders, encouraged continued support among the community during the pandemic. For many trans women it was an opportunity to develop new ways of coping, which enabled them to develop resilience (Diamond & Willan, 2020).

The research also showed that resilience was also related to participants' level of education and income. In Cali, the highest proportion of resilience was seen among trans women with a college level education, while in Cartagena it was among those on low incomes. This demonstrates that participants made greater use of resources, took an active role during the pandemic, and looked after not only their own well-being but that of others as well (Diamond & Willan, 2020; Sornoza-Macías and Díaz-Macías, 2021). This is an important finding in a country such as Colombia, in which many people lost their jobs during the pandemic, had difficulties in living together, and had more concerns about their general health, which frequently included being in hospital and not receiving medical care

(Cifuentes-Avellaneda et al., 2020). It appears that resilience is acquired by individuals as a result of constant exposure to a hostile environment, making it a survival mechanism. More multisectoral and intersectional work is therefore required for the trans community, to promote employment policies that are non-discriminatory and others that ensure greater access to education and health (Kline, 2020).

Furthermore, controlling emotions, self-acceptance, and support networks (along with resilience) are factors that can also be considered protective, since they help to minimize the risk of problems associated with mental health, social and family interaction, and education and work. That is why, key moments in history, such as the pandemic, are regarded as an opportunity for greater introspection and a time to extend help to others. These strategies of self-preservation, together with the development of behaviors that lead to a better quality of life, make it possible to develop our sense of identity and promote better mental health (Diamond & Willan, 2020).

The results of this study allow us to conclude that emotional states such as depression, anxiety, and somatization in the trans women community, are closely related to the socioeconomic environment in which they live, which in this study was represented by their city. The study included the participation of trans women from the country's four main cities and there were differences in results between each of them. These changes can be explained using the same dynamics for the trans community for each of the cities. Bogota and Cali have charities that provide services for different aspects of trans women's lives and provide them with a permanent support network. These cities also have public health policies for this type of population. The other three cities have very limited support. In some cases, such as Armenia, (where religion has a strong influence on people's attitudes and behavior), conditions for trans women are much more difficult, in terms of access to services and improvements to their quality of life, which can lead to a higher risk of mental health problems.

Based on the results of this study, it is important to continue developing this line of research on the mental health conditions of transgender women, not only within the context of the pandemic, but also in general. Further research could provide valuable information about the psychological difficulties and risks which people in this community are exposed, so that public health interventions are tailored to their needs and local characteristics. Educational and informative campaigns for the general population should be considered as part of these interventions to strengthen recognition, visibility, and respect for the transgender community, as well as developing initiatives that guarantee the rights of this community.

Finally, it is important to mention the limitations of the study with regard to the instrument's implementation. Firstly, the participants took part in the research under stressful conditions during the COVID 19 pandemic; and secondly, some did not have the devices they needed to complete the instrument. Therefore, contact by telephone was considered

as a way of assisting participants. However, the authors understood that such an intervention could possibly introduce bias into the participants responses. At a theoretical level (frequentist approach to statistics), it could also compromise the validity of the data produced by the study. Therefore, it was decided to use the complete data file for descriptive analyses and association tests. Inferential analyses (predictive probabilities) were carried out using Bayesian inference methods (using information external to the sample, in addition to the information contained in the sample and working with probability distributions). This strategy made it possible to work with small samples in which randomness was not significant. This was rectified by assuming that the parameter in the statistical model was a random variable whose natural behavior could be modeled using a probability distribution. This adjustment made it possible to randomize the entire model to obtain results that could be generalized and applied to the study's population as a whole.

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