**Artículo / Investigación**
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# Health-Related Quality of Life of an adult population sample in Barranquilla, Colombia

## Calidad de vida relacionada con salud en una muestra de población adulta en Barranquilla, Colombia

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## ABSTRACT

**Objective** The aim of this study was to estimate values of health-related quality of life (HRQOL) by focusing on the physical and mental health of an adult population sample in the city of Barranquilla, Colombia.
**Materials and Methods** Cross-sectional study with 368 adults representing an adult population. The questionnaires included the health-related quality of life "CDC-Healthy Days", the Zung Self-Rating Depression Scale, and the Overall Disability Sum Score. The prevalence of fair or poor health status (FPH), frequent physical distress (FPD), frequent mental distress (FMD), and frequent activity limitation (FAL) was estimated according to socio-demographic characteristics, presence of depression, and physical disability.
**Results** The mean age of 368 adults was 45.6 ± 18.3 years; 55.7% were males. Only 21% of this population considered their general health to be fair or poor. The prevalence of FPH, FPD, FMD and FAL was higher in women than in men, and increased with greater severity of depression and higher physical disability. Moreover, 12% of the population presented with mild depression, 3.8% with moderate depression, and less than 1% with severe depression. 94% of this population did not have an arms or legs disability.
**Discussion** This study provides HRQOL values for an adult sample of the population of Barranquilla, Colombia. Overall, the HRQOL of this population, with subtle differences, is similar to other reports from Colombia. In general, women and people with depression and physical disabilities had a worse quality of life.

**Key Words**: Quality of life; depression; disability evaluation; population health *(fuente: DeCS, BIREME).*

## RESUMEN

**Objetivo** Estimar los valores de la calidad de vida relacionada con la salud (CVRS) enfocados en la salud física y mental de una muestra de población adulta en la ciudad de Barranquilla, Colombia.
**Métodos** Estudio transversal, con 368 adultos. Los cuestionarios consistían en escala de calidad de vida relacionada con la salud "CDC-Healthy Days", la Escala de Depresión de Zung y el Puntaje General de la Discapacidad. La prevalencia del estado de salud regular o deficiente (FPH), el estrés físico frecuente (FPD), el estrés mental frecuente (FMD) y la limitación de la actividad frecuente (FAL) se estimaron según las características sociodemográficas, la presencia de depresión y la discapacidad física.
**Resultados** La edad promedio de los 368 adultos fue de 45.6 ± 18.3 años, 55.7% fueron hombres. El 21% de esta población consideraba que su salud general era justa o pobre. La prevalencia de FPH, FPD, FMD y FAL fue mayor en mujeres que en hombres; incrementó con mayor severidad de depresión y con mayor discapacidad física en esta población. El 12% tenía depresión leve, 3.8% tenía depresión moderada y

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menos del 1% depresión grave. El 94% de esta población no tenía una discapacidad de brazos o piernas.
**Discusión** Este estudio proporciona valores de CVRS en una muestra adulta de la población de Barranquilla, Colombia. En general, la CVRS de esta población, con pequeñas diferencias, es similar a otros estudios de Colombia. En general, las mujeres, las personas con depresión y discapacidades físicas tenían una peor calidad de vida.

**Palabras Clave:** Calidad de vida; depresión; evaluación de la discapacidad; salud poblacional *(source: MeSH, NLM).*

Health-related quality of life (HRQOL) is a multidimensional concept (1). It refers to the perception that a person has of his or her own physical and mental health under the influences of life experience, beliefs, expectations, and the ability to react to factors in physical and social environments (2,3). It is an important aspect of general health and has become a predictor indicator in public health research of morbidity and mortality (4), mainly by capturing aspects related to health status and well-being from the individual's perspective.

Monitoring HRQOL may be useful when discussing policies for improving health and reducing inequalities among the population (5). In addition, it is relevant in medical practice, not only to obtain more general information of the patient's clinical status, but also to provide feedback on perceived health after treatment or interventions (6,7). However, measuring HRQOL is a challenge due to a lack of consensus on the most reliable and valid tools (6). Nonetheless, despite the complexity of its measurement, several instruments with good psychometric properties have been created to estimate generic- and disease-specific aspects of HRQOL (8).

Several authors have reported population estimates of HRQOL in Colombia, but for patient populations affected by or being treated for chronic diseases (9-12). Few of these studies have reported HRQOL normative data for the general population (13-15).

This study sought to estimate the HRQOL values in an adult population sample of the city of Barranquilla, Colombia.

## MATERIAL AND METHODS

### Study design and population

This was a cross-sectional, descriptive study conducted in the city of Barranquilla, Colombia, which is located on the northern Caribbean coast of the country, with a population of 1 228 271 as of 2017. The city is organized in five local administrative units: Riomar, Metropolitana, Norte Centro Historico, Sur Oriente and Sur Occidente (16).

A sample size of 360 individuals was required assuming that depression in the general population was 19.8% (17), with accuracy of 5%, and an estimated population of 1 228 271 inhabitants. The participants were selected according to the administrative units of the reported cases of Guillain-Barré syndrome during the Zika virus outbreak in Barranquilla in 2015-2016. In each administrative unit, the sample was calculated proportionally to the population size. This was done because the variance between administrative units and socioeconomic status is expected to be higher than the variance among socio-economic levels or strata. Blocks of 10 residential houses were randomly selected and consecutively visited until the subjects were identified according to age range (only people over 18 years of age were included). This method was repeated until the estimated number of participants was completed. The socio-economic distribution, age ranges (18 to 24, 25 to 54, 55 to 69, and >70 years), and sex of the final sample selected was similar to the population over 18 years old from Barranquilla, Colombia (18).

### Variables

The sociodemographic characteristics were assessed with a questionnaire designed by the authors. On the one hand, socioeconomic level was classified according to the national guidelines (levels 1, 2 and 3 are people with fewer resources, level 4 people with an intermediate level, 5 and 6 people with greater economic resources) (19). On the other hand medical health insurance system in Colombia is divided into a) subsidized healthcare: only for poor or homeless Colombians; b) contributory healthcare: mandatory for all residents (the monthly premium is 12.5% of the monthly gross income); and c) private healthcare: available through different private companies (20).

The HRQOL was assessed through the HRQOL-4 Questionnaire developed by the U.S. Centers for Disease Control and Prevention (CDC) (21,22). This instrument assesses the health status of an individual based on their answer to the following question: 1) Would you say that in general your health is excellent, very good, good, fair, or poor? It also estimates the HRQOL based on physical and mental health days by asking the following questions: 2) "Now thinking about your physical health, which includes physical illness and injury, for how many days during the past 30 days was your physical health not good?"; 3) "Now thinking about your mental health, which includes stress, depression, and problems with emotions, for how many days during the past 30 days was your mental

health not good?"; and 4) "During the past 30 days, on about how many days did poor physical or mental health keep you from doing your usual activities, such as self-care, work, or recreation?"

The questions were a Spanish-language version of the original in English used in the Behavioral Risk Factor Surveillance System (22,23). The self-rated health question responses were dichotomized into fair or poor health (FPH) vs. good, very good, or excellent health, and measures of unhealthy days or activity limitation days into ≥14 days (frequent physical distress - FPD, frequent mental distress - FMD, and frequent activity limitation - FAL) and <14 days (infrequent physical distress, infrequent mental distress, and infrequent activity limitation, according to clinical impact) (24).

Depression was assessed using the Zung Self-Rating Depression Scale (SDS) (25). This instrument is a short, 20-item, self-rating questionnaire designed to measure the presence and/or strength of major depressive symptoms and yield a quantitative description of the severity of a depressive disorder. The score ranges between 20 and 80 points. The percentage index (SDS index = score x 100/80) was calculated, and the depression status was classified as "no depression (<50)", "mild depression (50-59)", "moderate depression (60-69)", and "severe depression (>70)".

Physical disability was measured through the Inflammatory Neuropathy Cause and Treatment (INCAT) Overall Disability Sum Score (ODSS) (26), which is a checklist that assesses functional impairments of the arms and the legs. The ODSS ranges between 0 = no signs of disability, and 12 = maximum disability (arm disability scale: range 0-5; leg disability scale: range 0-7) (26).

The questionnaires were back-translated to warrant the effectiveness of the translation, and the application process was tested to establish the amount of time needed for each instrument.

**Statistical analysis**

Descriptive statistics for demographics and characteristics of the population were generated as frequencies and percentages. Categorical variables were expressed as numbers and percentages. Quantitative variables were measured as means and 95% confidence intervals (95%CI). The prevalence estimates and 95%CI for each HRQOL measure were calculated through exact method. Categorical variables were assessed with z-test, Chi-square test or Fisher's exact test as indicated. A p-value <0.05 was considered statistically significant. Data were analyzed using IBM SPSS Statistics software, version 24 for Windows (Armonk, New York, USA), and Epidat version 3.1 (Galicia, Spain).

**Ethics Statement**

This study protocol was approved by the Ethical Review Committee of the Universidad del Norte, Barranquilla, Colombia.

## RESULTS

The sampled population included 368 adults, with a mean age of 44.6 ± 18.3, and age range 18-88 years. In this population, 78.2% (95%CI = 73.9%-82.6%) reported their health status as excellent, very good or good, while 21.5% (95%CI = 17.3%-25.8%) considered their general health to be fair or poor. The result for each health status is presented in Table 1.

**Table 1**. HRQOL according to the CDC HRQOL-4 questionnaire in the population sample of Barranquilla, Colombia, 2017

| Perceived Health Status | Number | % (95%CI) |
|---|---|---|
| Excellent | 39 | 10.6 (7.3-13.9) |
| Very good | 73 | 19.8 (15.6-24.0) |
| Good | 176 | 47.8 (42.6-53.1) |
| Fair | 77 | 20.9 (16.6-25.2) |
| Poor | 2 | 0.5 (0.1-1.9) |
| Do not know/Not sure | 1 | 0.3 (0.0-1.5) |

56% of this sample was male, and 32.6% had college education. 85% of these participants were of low socio-economic level (levels 1, 2 or 3), and 35.9% had health insurance subsidized by the state. Their personal health history is shown in Table 2.

Women reported fair or poor health status more often (28.4%) than men (16.1%), p=0.007, and the same happened with youngest persons (18-24 years old; 5.7%) compared to oldest persons (>70 years; 45.8%), p=0.000. The fair or poor health worsened as the age ranges increased (Table 2).

Regarding medical insurance, people with subsidized insurance reported fair or poor health more (27.27%) than those with the contributory insurance (16.8%, p=0.038). The prevalence of fair or poor health decreased as the socio-economic level increased. The prevalence of fair or poor health reported by people suffering from chronic headaches, depression, high blood pressure or insomnia was 35.1%, 36.0, 47.2%, and 38.3%, respectively (Table 2).

FPH=fair or poor health; FPD= frequent physical distress; FMD=frequent mental distress; FAL=frequent activity limitation by age group, medical insurance, socio-economic level and health risk factors; *Classified according to the national guidelines (levels 1, 2 and 3 are people with fewer resources, level 4 people with an intermediate level, 5 and 6 people with greater economic resources (19)

The mean value for unhealthy days in the last 30 days due to poor physical health, for all participants, was 4.6

**Table 2**. Prevalence of FPH, FPD, FMD and FAL in the population sample of Barranquilla, Colombia, 2017

| Variable | Number | Percent | FPH % (95%CI) | FPD % (95%CI) | FMD % (95%CI) | FAL % (95%CI) |
|---|---|---|---|---|---|---|
| Sex | | | | | | |
| Male | 205 | 55.7 | 16.1 (10.8-21.4) | 12.8 (7.7-17.8) | 8.9 (4.6-13.3) | 19.0 (13.1-24.8) |
| Female | 163 | 44.3 | 28.4 (21.1-35.6) | 18.2 (11.7-24.8) | 10.4 (5.1-15.7) | 25.3 (18.0-32.6) |
| Age (years) | | | | | | |
| 18 – 24 | 53 | 14.4 | 5.7 (1.2-15.7) | 2.1 (0.1-11.3) | 2.1 (0.1 5-11.) | 6.1 (1.3-16.9) |
| 25 – 39 | 90 | 24.5 | 10.0 (3.2-16.7) | 6.8 (2.2-15.1) | 5.7 (1.6-13.9) | 12.0 (3.9-20.0) |
| 40 – 54 | 119 | 32.3 | 24.6 (16.4-32.8) | 16.5 (9.3-23.7) | 13.1 (6.4-19.6) | 25.9 (17.5-34.3) |
| 55 – 69 | 58 | 15.8 | 27.6 (15.2-39.9) | 24.1 (11.7-36.4) | 13.0 (3.1-22.8) | 35.2 (21.5-48.8) |
| ≥ 70 | 48 | 13.0 | 45.8 (30.7-60.9) | 28.3 (14.2-42.4) | 10.9 (3.6-23.6) | 28.3 (14.2-42.4) |
| Medical insurance | | | | | | |
| Subsidized | 132 | 35.9 | 27.3 (19.3-35.2) | 17.1 (10.2-23.9) | 13.4 (7.1-19.7) | 27.1 (19.1-35.2) |
| Contributory | 174 | 47.3 | 16.8 (10.9-22.6) | 10.4 (5.2-15.5) | 6.0 (1.8-10.1) | 14.8 (8.9-20.8) |
| Special | 53 | 14.4 | 26.4 (13.6-39.2) | 25.5 (14.9-44.2) | 13.1 (2.2-23.9) | 34.1 (19.4-48.6) |
| No data | 9 | 2.4 | | | | |
| Socio-economic level* | | | | | | |
| 1 | 127 | 34.5 | 27.0 (18.8-35.1) | 15.1 (8.3-21.9) | 8.3 (2.9-13.7) | 22.1 (14.4-19.9) |
| 2 | 78 | 21.2 | 23.1 (13.1-33.1) | 18.1 (8.5-27.6) | 18.3 (8.6-28.0) | 31.9 (20.5-43.4) |
| 3 | 109 | 29.6 | 21.1 (12.9-29.2) | 17.5 (9.44-25.6) | 6.3 (0.9-11.7) | 19.4 (11.0-27.7) |
| 4 | 43 | 11.7 | 7.0 (1.5-19.1) | 5.3 (0.617.7) | 5.4 (0.7-18.2) | 7.9 (1.7-21.4) |
| 5 and 6 | 6 | 1.6 | 0 | 0 | 0 | 0 |
| No data | 5 | 1.4 | - | - | - | - |
| Chronic headache | 36 | 9.8 | 36.1 (19.0-53.2) | 30.6 (14.1-46.9) | 5.6 (0.7-18.7) | 36.1 (19.03-53.19) |
| History of depression | 25 | 6.8 | 36.0 (15.2-56.8) | 21.7 (7.5-43.7) | 9.1 (1.1-29.2) | 39.1 (17.01-61.25) |
| High blood pressure | 53 | 14.4 | 47.2 (32.8-61.5) | 30.6 (16.7-44.5) | 26.0 (12.8-39.2) | 42.0 (27.3-56.7) |
| Self-reported insomnia | 60 | 16.3 | 38.3 (25.2-51.5) | 26.8 (14.3-39.3) | 21.4 (9.8-33.1) | 38.6 (25.1-52.1) |

(95%CI = 3.6-5.5), and the figure in relation to poor mental health was 2.7 (95%CI = 1.9-3.5). The value for usual daily activities restricted by poor physical and mental health was 2.3 (95%CI = 1.6-3.0).

The prevalence of FPD was higher in women (18.2%) than in men (12.8%), p=0.216; it also increased with age, and decreased with higher socio-economic levels. The prevalence of FPD reported by people suffering from chronic headache, depression, high blood pressure, or insomnia, was 30.6%, 21.7%, 30.6% and 26.8%, respectively (Table 2).

The prevalence of FMD was higher in women (10.4%) than in men (8.9%), p=0.804, and also higher in the 40-54 years group (13.1%), but lower in the youngest population (2.1%), p=0.064. The prevalence of FMD reported by people suffering from chronic headache, depression, high blood pressure, self-reported insomnia was 5.6%, 9.1%, 26.0% and 21.4%, respectively (Table 2).

The prevalence of FAL was higher in women (25.3%) than in men (18.9%), p=0.199. It was also higher in the 55-69 years group (35.2%) and lower in the youngest group (6.1%, p=0.001). The prevalence of FAL reported by people suffering from chronic headache, depression, high blood pressure, or insomnia was, respectively, 36.1%, 39.1%, 42.0%, and 38.6% (Table 2).

The results of self-rated depression symptoms, based on the Zung Scale, of this population showed that 83.2% (175 men and 131 women) did not report any depression symptoms, 12.2% presented with mild depression, 3.8% had moderate depression, and less than 1% were categorized as severe depression. The prevalence of fair or poor health status, FMD, FPD and FAL increased with a greater severity of depression on this population (Table 3).

ODSS= Overall Disability Sum Score, FPH = fair or poor health, FPD = frequent physical distress, FMD = frequent mental distress, FAL = frequent physical distress by depression symptoms according to the Zung Scale and disability according to the ODSS in the general population of Barranquilla, Colombia, 2017

The results of physical disability level in this population, measured by the ODSS, showed that 94% (193 men and 153 women) had no disability in arms or legs. 3.5% (8 men and 5 women) of the sample presented a score of 1-2 points, and 2.5% (4 men and 5 women) of the participants presented a score ≥3 points. The prevalence of fair or poor health, FMD, FPD and FAL increased with higher scores of ODSS, e.g., the prevalence of fair or poor health was 19.4% for people with 0 points, 38.5% for people with 1-2 point, and 77.8% for people with ≥3 points (Table 3).

## DISCUSSION

This study attempted to estimate self-reported health-related quality of life based on "unhealthy days" of physical

**Table 3**. Prevalence of FPH, FPD, FMD and FAL by depression and disability in the population sample of Barranquilla, Colombia, 2017

| Variable | Number | Percentage | FPH % (95%CI) | FPD % (95%CI) | FMD % (95%CI) | FAL % (95%CI) |
|---|---|---|---|---|---|---|
| Zung Scale | | | | | | |
| No depression (< 50) | 306 | 83.2 | 16.1 (11.2-20.3) | 12.2 (8.2-16.20) | 6.5 (3.4-9.6) | 17.7 (13.0-22.3) |
| Mild depression (51 – 59) | 45 | 12.2 | 42.2 (26.7-57.8) | 28.6 (13.7-43.4) | 22.0 (8.1-35.8) | 38.1 (22.2-53.9) |
| Moderate depression(60-69) | 14 | 3.8 | 57.1 (28.9-82.3) | 25.0 (5.5-57.2) | 33.3 (9.9-65.1) | 50.0 (21.1-78.9) |
| Severe depression (> 69) | 3 | 0.8 | 100 (29.2-100) | 66.7 (9.4-99.2) | 33.3 (0.8-90.6) | 66.7 (9.4-99.2) |
| ODSS | | | | | | |
| Points 0 | 346 | 94 | 19.4 (15.1-23.7) | 12.9 (9.0-16.7) | 8.3 (5.1-11.5) | 19.3 (14.8-23.8) |
| Points 1 - 2 | 13 | 3.5 | 38.5 (13.9-68.4) | 44.4 (13.7-78.8) | 30.0 (6.7-65.2) | 60.0 (26.2-87.8) |
| Points ≥ 3 | 9 | 2.5 | 77.8 (39.9-97.2) | 66.7 (29.9-92.5) | 33.3 (7.5-70.1) | 66.7 (29.9-92.5) |

and mental health, self-reported depression symptoms, and overall disability score in a population sample of the city of Barranquilla, Colombia.

Regarding self-reported health status in this study, 78.3% of the population reported that they were in good, very good, or excellent health. In general, these results corroborate the findings from a previous study that also estimated perceived HRQOL in the Colombian adult population (15). However, the authors used the EQ-5D 3 level version by the EuroQol group and found that around 70% of the population reported being "completely healthy" (15). Furthermore, they reported that men tend to perceive their health status better compared to women of the same age range (15). Therefore, based on these surveys, in spite of using different instruments to measure HRQOL, there is evidence that the Colombian populations represented in these studies are generally in good health.

In this study, the majority of participants (48%) self-reported a "good health" status; these results show some similarities with other reports from Latin America. A decade ago, a study showed that self-reported "good health" was around 50% in Bridgetown (Barbados) and in Sao Paulo (Brazil), being a little lower than the 60% reported in Buenos Aires (Argentina) and Montevideo (Uruguay), yet higher than the 30% reported in Havana (Cuba), Santiago (Chile), and Mexico City (Mexico) (27). However, the percentage of our study population (21.5%) that reported fair-to-poor health status is higher than previously reported by that study (27). The percentage of the population reporting "poor" heath status in Buenos Aires, Montevideo and Bridgetown ranged between 5-7%, followed by Havana (13%), Santiago (18%), and Mexico City (19%) (27). In addition, in the United States, between 1993 and 2002, the percentage of people reporting regular-to-poor health status ranged between 14.4% and 15.4% (28). Other studies in Colombia (29), using the 36-Item Short Form (SF-36) survey, have found that the general health status is lower in Colombia than in the United States, Canada, or Mexico. Although the reasons for these findings are not clear, varying expectations or beliefs that the population uses to define their health status may play a key role in these differences. It is important to note that these studies, as in our research, used a general population, not specific groups of patients.

The results of self-reported "unhealthy days" of this study due to physical symptoms, mental symptoms and limitation to perform usual daily activities also show some similarities with previously published international results. Jia et al. (30) applied a multilevel model to examine the association of selected county-level indicators and self-reported number of physically and mentally unhealthy days and activity limitation days (HRQOL measures) reported by respondents through the Behavioral Risk Factor Surveillance System of the United States. Their results were 3.34 and 3.17, respectively, for physically and mentally unhealthy days, and 1.91 for limited activity days (30), being quite similar to our results.

Although we found similar results with other studies, they should be interpreted with caution because socioeconomic indicators, environmental determinants, and other variables, which may cause large variations between populations, may heavily influence HRQOL estimates, thereby limiting comparisons of general populations between countries. Also, it is worth mentioning that the prevalence of FPD increases with age on the people that reported fair or poor health status. This fact has already been exposed in previous studies that found an association between self-reported physical unhealthy days and worse health status (28). The FMD and FAL do not seem to show a clear association with those that rated their health status as fair or poor.

The results of self-rated depression symptoms showed that most of our study sample (83.2%) did not report any depression symptoms. This finding is similar to a study conducted on the Colombian general population (84.2%), two decades ago, using the same questionnaire (31). Considering the Zung Depression Scale scores, it seems that self-reported depression symptoms were sta-

ble in Colombia for the past 20 years. Gomez-Restrepo et al. also reported a lower prevalence of depression in 2004 and 2016 based on data from the National Mental Health Survey, using a different questionnaire (32). Moreover, Hinz et al. generated normative values for anxiety and depression using the Hospital Anxiety and Depression Scale (HADS) in Colombia, showing that the mean values from a representative, face-to-face, household sample of 1500 individuals were similar to those reported by other European studies (33). In general, interpreting population data on self-reported depression symptoms is a challenge, since factors, such as, survey methodology, population characteristics, questionnaires, and the socio-economic and political situation of the country at the time of the survey, may hinder relevant comparisons among general populations between countries. On the other hand, our study provides data to corroborate previous findings, demonstrating that people with more self-reported symptoms of depression have a tendency to report a worse health status (34).

This study provides, for the first time, ODSS data for a population sample of Barranquilla. The data revealed that 94% of the Barranquilla population does not present any disability due to arm/leg weakness. This result coincides with the national prevalence of disability rate (6.4%) reported by the Colombian population census performed in 2005 by the National Department of Statistics (DANE) (35).

In addition, the results of this study corroborate other studies that examined population HRQOL data showing that the prevalence of reporting fair or poor health status is higher in women than in men (36), and that it increases with greater severity of depression and higher disability scores. This fact is supported by studies that prove that physical and mental health are key determinants of perceived health, and people with depression or disability often perceive their HRQOL worse than the healthy population (37).

This study provided HRQOL values for a sample of the population from Barranquilla, Colombia. Overall, the HRQOL of this population, with subtle differences, is similar to other reports from Colombia. In general, women, people with depression and physical disabilities had a worse quality of life. However, these data should be interpreted with caution when comparing other populations. We estimated the HRQOL cross-sectionally based on self-reported questionnaires, which is a limiting factor of the study. On the other hand, this study used validated questionnaires with good psychometric properties, which is one of its greatest strengths. Future studies should strive to use high quality HRQOL when comparing normal and disease specific populations ♣

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***Authors' contributions***: JA, EN and JCB contributed to the planning of this study. JA, EN, JCB, EB, JIG and DW participated in the training and in the process of adapting the instruments. JCB, EB, EG, JIG and DW participated in the collection of data. JA, JIG and DW built the database and performed the quality control of the data. JA, EN, JCB, participated in the analysis and interpretation of data, and were involved in the drafting and critical review of the manuscript for relevant intellectual content.

All authors read and approved the final text.

***Ethics approval***: The institutional review committee from the Universidad del Norte approved the study protocol. Ethical recommendations were taken into consideration at all stages during the research. The study complied with the principles of the Declaration of Helsinki.

***Conflict of interests***: None.

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