

QUALITY OF LIFE OF VENEZUELAN MIGRANTS IN TWO CITIES IN NORTHERN PERU

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ABSTRACT

Objectives. To describe the health-related quality of life (HRQoL) of Venezuelan migrants residing in the cities of Chimbote and Nuevo Chimbote, in Peru, and assess its associated factors. **Materials and Methods.** Cross-sectional study of 212 Venezuelan migrants recruited by snowball sampling. The QoL was evaluated with the European Quality of Life-5 Dimensions at three levels (EQ-5D-3L). The results were presented descriptively. Linear regressions and Poisson adjusted regressions were used to evaluate the factors associated with QoL. **Results.** The percentage of participants affected in each QoL dimension was: mobility (1.4%), self-care (0.5%), usual activities (2.4%), pain/discomfort (18.4%), and anxiety/depression (68.9%). As for the QoL Visual Analog Scale (VAS), the median score was 85 (RIC: 70-90). In evaluating the associated factors, it was found that none of the factors was associated with the VAS score or pain/discomfort. However, the frequency of anxiety/depression was higher in those with higher education (university) level compared to those with secondary education (RR 1.28; 95% CI: 1.03 to 1.60). **Conclusions.** Venezuelan migrants who participated in the study reported problems in their QoL; more than two-thirds reported anxiety/depression, and one in six experienced pain/discomfort. The frequency of anxiety/depression was higher in those with university-level education.

Keywords: Anxiety; Depression; Migrant; Quality of life. (source: MeSH NLM).

INTRODUCTION

Migration is the movement of a person from one place of habitual residence to another^(1,2). This is a frequent phenomenon: in 2016, 65.5 million people migrated worldwide⁽³⁾. Likewise, in Latin America, from 1990 to 2015, nearly 30 million people were registered as having migrated to countries other than their country of birth⁽⁴⁾.

Health-related quality of life (QoL) is defined as “the perception that encompasses the functioning of the physical, mental, emotional, and social state of the individual according to their values and beliefs over time”⁽⁵⁾.

It has been reported that migrants may have a decrease in their QoL⁽⁶⁻¹⁰⁾, due to factors such as the feeling of being marginalized⁽¹¹⁾, low socioeconomic status, lack of access

to health services⁽¹²⁾, poverty-related illnesses and mental disorders⁽¹³⁾, informality, and overwork⁽¹⁴⁾.

Venezuela is currently going through a socio-economic and political crisis, characterized by increased poverty, food and medicine shortages, violence, and insecurity⁽¹⁵⁾. This has caused a massive migration to different countries in search for better opportunities⁽¹⁶⁾. Thus, it is estimated that in the period 2015-2018, approximately three million Venezuelans have emigrated, from which 450,000 have entered Peru, making it the second country to receive more Venezuelans after Colombia⁽¹⁷⁾.

Up to 2017, the National Institute of Statistics and Informatics of Peru reported the residence of 47,481 Venezuelan persons, being the departments with the

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most registered Venezuelan migrants: Lima (37,136 migrants), La Libertad (1325 migrants), Arequipa (945 migrants), and Áncash (553 migrants) ⁽¹⁸⁾.

This abrupt migration to Peru has led to changes in certain policies, which have improved the access of migrants residing in Peru to social health insurance and free basic education⁽¹⁹⁾. In addition, the Peruvian state and funds from international organizations seek to provide humanitarian aid to migrants⁽²⁰⁾. However, there are few studies on the situation of Venezuelan migrants⁽²¹⁾, which makes it difficult to develop and implement interventions to improve their QoL.

Therefore, this study seeks to identify the quality of life and its associated factors in Venezuelan migrants residing in Chimbote and Nuevo Chimbote (Ancash, Peru).

MATERIALS AND METHODS

RESEARCH DESIGN AND CONTEXT

An analytical cross-sectional study was conducted in the cities of Chimbote and Nuevo Chimbote (Figure 1). These are adjacent cities located in the department of Áncash (Peru), on the shores of the Pacific Ocean. The National Institute of Statistics and Informatics and the Provincial Municipality of Nuevo Chimbote reported that, by 2018, Chimbote had an approximate population of 206,213 inhabitants and Nuevo Chimbote, an estimated population of 153,170 inhabitants. Its economy is centered on the fishing and metallurgical industries ^(22,23).

PARTICIPANTS

The study population comprised Venezuelan migrants residing in the cities of Chimbote and Nuevo Chimbote, who are 18 years of age or older. Excluded were those who did not agree to participate in the study or had a mental condition that did not allow them to answer the questionnaire.

PROCEDURES

Due to the lack of a reliable census of the migrant population, a snowball type non-probability sampling was carried out. The interviewers were 10-semester psychology students, who were trained in the application of the questionnaire, ethical aspects to consider, and the general quality of life variable. They carried out the tracking and identification of Venezuelan migrants, for which they toured the streets and commercial posts adjacent to the main square of both cities (because

KEY MESSAGES

Research motivation. There are more than 450,000 Venezuelans in Peru, and it has become the second highest receiving country. However, there are few quality of life (QOL) studies in this population.

Main Findings. When analyzing migrants' QoL by dimensions, more than two thirds presented anxiety/depression and one in six presented pain/ discomfort. The frequency of anxiety/depression was higher in those with university instruction.

Implications. These results show us a worrisome picture, so it is necessary to promote interventions to improve the QoL, especially the most affected migrant groups.

it is a central zone with a large movement of people). Surveyors identified Venezuelan migrants with special attention to the use of clothing with the colors of the Venezuelan flag, physical features, and accent.

Once it was confirmed that the participant fulfilled the inclusion criteria, the objective of the study and its procedures were explained to them, and the signing of the informed consent was carried out. With those who accepted to participate, the survey was applied through individual interviews looking for privacy in the cases where we found more than one possible participant.

When the survey was completed, the migrant was asked for information to locate other Venezuelan migrants; once the information had been obtained, the interviewers looked for these persons in order to reapply the procedures mentioned in the previous paragraph.

When there was no information regarding the location of a new migrant participant, interviewers started over from the beginning. In this way, 21 Venezuelan migrants were reported who served as referrals for other migrants; this had to started over again 20 times. The fieldwork was completed when the interviewers found no new migrants to interview in Chimbote and Nuevo Chimbote for an entire day.

VARIABLES

The main variable of this study was QoL, evaluated with the European Quality of Life-5 Dimensions questionnaire at three levels (EQ-5D-3L)⁽²⁴⁾. This questionnaire has five dimensions (pain/discomfort, anxiety/depression, mobility, self-care, and usual activities), each of which could be reported in three possible levels on an ordinal scale according

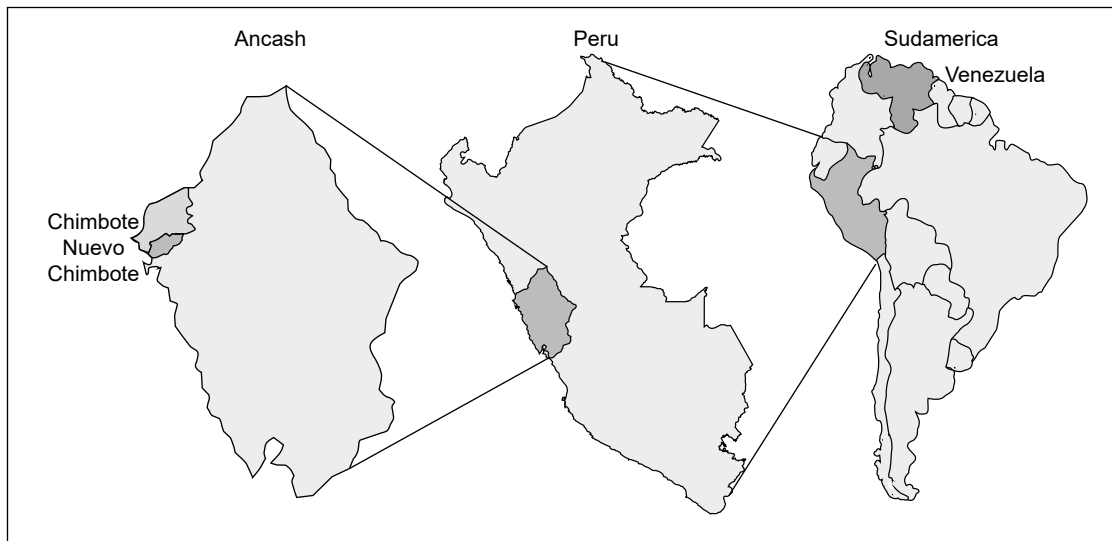


Figure 1. Geographical location of the cities of Chimbote and Nuevo Chimbote, on the northern coast of Peru.

to their presence: "absence," "moderate presence," and "severe presence." In addition, this questionnaire has a visual analogue scale (VAS) that assesses the current state of health, with a range of 0 (the worst imaginable state of health) to 100 (the best imaginable state of health). This questionnaire has been used and recognized worldwide, has translations and adaptations in multiple languages, and previous studies have used this instrument in Peru ^(25,26).

In addition, the following independent variables were collected: age (in terciles), sex (male or female), degree of education (no education/primary, complete or incomplete high-school, complete or incomplete technical higher education, and complete or incomplete college), marital status (single/separated/widowed or married/domestic partner), number of children (no children, one child, and two or more children), time residing in Peru (in terciles), daily working hours (0-4 hours, 5-8 hours and 9 to more hours), monthly income in soles (in terciles), and religion (Catholic, Evangelical, others and none).

STATISTICAL ANALYSIS

The variables were presented in a descriptive manner, using measures of central tendency and dispersion (for numerical variables) and absolute and relative frequencies (for categorical variables). To assess the factors associated with the EQ-VAS score, the coefficients (β) and their 95% confidence intervals (95% CI) were calculated using linear regression with robust variance. In order to evaluate the factors associated with the dimensions of the EQ-5D

(which were re-categorized as "absence" and "moderate or severe presence"), prevalence ratios (PR) and their 95% CI were calculated using Poisson regression with log-link function and robust variance. In all cases, those variables that obtained a $p < 0.20$ in the raw model were included in the adjusted model. In addition, a sensitivity analysis was performed using ordinal logistic regression. All analyses were performed using Stata v15.0 ⁽²⁷⁾ statistical software.

ETHICAL CONSIDERATIONS

The study was approved by the Institutional Committee on Research Ethics (CIEI) of Universidad Católica Los Ángeles de Chimbote. Participation in the study was voluntary, after signing an informed consent. The principles of justice, confidentiality, and autonomy necessary for human investigations were also respected ⁽²⁸⁾.

RESULTS

220 Venezuelan migrants were approached, eight of whom did not agree to participate in the study, so data was finally collected from 212 migrants. The median age was 27 years (interquartile range: 23 to 31 years), 128 (60.4%) were male, 133 (62.7%) had complete or incomplete higher technical or college education; 122 (57.6%) reported being single, separated or widowed, 118 (55.7%) had children, residence time in Peru had a median of two months (interquartile range: one to four months), 117 (55.2%) worked more than nine hours a day, and the median monthly income was 600 soles (interquartile range: 400 to 800 soles) (Table 1).

Table 1. Characteristics of Venezuelan migrants to the cities of Chimbote and Nuevo Chimbote

Characteristics	n=212 (%)
Age in years: Median (RIC)*	27 (23 - 31)
Age in terciles (years)	
18 to 24	74 (34.9)
25 to 29	71 (33.5)
30 to 56	67 (31.6)
Sex	
Male	128 (60.4)
Female	84 (39.6)
Degree of education	
Complete high school or lower	79 (37.3)
Complete or incomplete technical	59 (27.8)
Complete or incomplete university	74 (34.9)
Marital status	
Single/ Separated/Widowed	122 (57.6)
Married/ Cohabiting	90 (42.5)
Number of children	
None	94 (44.3)
One	54 (25.5)
Two or more	64 (30.2)
Time residing in Peru in months: median (IQR)	2 (1 - 4)
Time residing in Peru in terciles (months)	
0 or 1	73 (34.4)
2 to 3	77 (36.3)
4 to 8	62 (29.3)
Working hours (hours)	
0 to 4	21 (9.9)
5 to 8	74 (34.9)
9 or more	117 (55.2)
Monthly economic income in soles: median (IQR)	600 (400 - 800)
Monthly economic income (soles)	
0 to 500	76 (35.9)
501 to 750	71 (33.5)
751 to 930	65 (30.7)
Religion	
Catholic	97 (45.8)
Evangelical	31 (14.6)
Other	13 (6.1)
None	71 (33.5)

IQR: Interquartile Range

With respect to the outcomes of QoL: three (1.4%) migrants reported having problems walking; one (0.5%) regarding personal self-care; five (2.4%) in their daily activities; 39 (18.4%) reported moderate or severe pain/ discomfort; and 146 (68.9%) reported moderate or severe anxiety/depression. As for the visual analogue QoL scale, the median score was 85 (interquartile range: 70 to 90) (Table 2).

None of the factors assessed were found to be associated with the VAS score, or moderate or severe pain/discomfort. However, the frequency of moderate or severe presentation of anxiety/depression was higher in those with higher university education compared to those with secondary

Table 2. Quality of life in Venezuelan migrants to the cities of Chimbote and Nuevo Chimbote

Characteristics	n=212 (%)
Mobility	
I have no trouble walking	209 (98.6)
I have some trouble walking	3 (1.4)
I have to be in bed	0 (0.0)
Self-care	
I have no problems with care staff	211 (99.5)
I have some personal care issues	1 (0.5)
Unable to wash or dress	0 (0.0)
Daily activity	
I have no problem performing my day-to-day activities	207 (97.6)
I have some problems performing my daily activities	5 (2.4)
Unable to perform my activities	0 (0.0)
Pain or discomfort	
I have no pain or discomfort	173 (81.6)
I have moderate pain or discomfort	34 (16.0)
I have a lot of pain or discomfort	5 (2.4)
Anxiety or depression	
I am not anxious or depressed	66 (31.1)
I am moderately anxious or depressed	110 (51.9)
I am very anxious or depressed	36 (17.0)
Quality of life (VAS points)	
Median (IQR)	85 (70-90)
70 to 100	184 (86.8)
80 to 100	147 (69.3)
90 to 100	106 (50.0)

VAS: Visual analog scale; IQR: Interquartile range.

education (RR 1.32, 95% CI 1.06 to 1.66). This association was maintained by adjusting for the number of working hours (RR: 1.28; 95% CI: 1.03 to 1.60) (Table 3, Table 4).

DISCUSSION

Among Venezuelan migrants who participated in the study, the median VAS score was 85 points, more than two-thirds reported anxiety/depression, and one in six experienced

pain/discomfort. In evaluating the factors associated with VAS and each dimension of EQ-5D, it was only found that the frequency of presenting anxiety/depression was higher in those with a college education.

In the study population, the main dimensions affected were anxiety/depression (68.9%) and pain/ discomfort (18.4%). This coincides with a study of Albanian immigrant adults, which reported that the main dimensions affected were

Table 3. Factors associated with the analogous visual scale of quality of life in Venezuelan migrants residing in the cities of Chimbote and Nuevo Chimbote.

Characteristics	Mean (SD)	Crude analysis		Adjusted Regression	
		β (95% CI)	p value	β (95% CI)	p value
Age in terciles (years)					
18 to 24	81.1 (17.9)	Ref		--	--
25 to 29	80.4 (13.3)	-0.66 (-5.82 to 4.50)	0.802	--	--
30 to 56	84.0 (14.9)	2.95 (-2.51 to 8.40)	0.288	--	--
Sex					
Male	83.0 (14.3)	Ref		Ref	
Female	80.0 (17.2)	-2.97 (-7.43 to 1.49)	0.191	-2.76 (-7.37 to 1.85)	0.239
Degree of Instruction					
Complete or incomplete secondary	82.2 (15.4)	Ref		Ref	
Complete or incomplete technical	84.6 (13.0)	2.36 (-2.42 to 7.14)	0.331	1.85 (-3.03 to 6.73)	0.456
Complete or incomplete college	79.1 (17.3)	-3.09 (-8.32 to 2.13)	0.245	-3.75 (-9.03 to 1.53)	0.163
Marital Status					
Single/ Separated/Widowed	80.7 (15.4)	Ref			
Married/Cohabiting	83.2 (15.7)	2.48 (-1.78 to 6.75)	0.253	--	--
Number of children					
No	81.7 (16.7)	Ref			
One	82.0 (14.8)	0.33 (-4.90 to 5.57)	0.9	--	--
Two or more	81.7 (14.5)	0.02 (-4.93 to 4.96)	0.995	--	--
Time residing in Peru in terciles (months)					
0 or 1	80.5 (14.8)	Ref			
2 to 3	80.6 (15.6)	0.17 (-4.73 to 5.07)	0.946	--	--
4 to 8	84.8 (16.2)	4.28 (-1.02 to 9.58)	0.113	--	--
Working hours (hours)					
0 to 4	83.3 (22.0)	Ref			
5 to 8	83.1 (14.7)	-0.23 (-10.11 to 9.66)	0.964	--	--
9 or more	80.7 (14.8)	-2.65 (-12.33 to 7.03)	0.59	--	--
Monthly Income (soles)					
0 to 500	79.4 (17.5)	Ref		Ref	
501 to 750	81.7 (13.4)	2.28 (-2.77 to 7.34)	0.374	2.10 (-2.94 to 7.15)	0.411
751 to 930	84.7 (15.0)	5.28 (-0.12 to 10.69)	0.055	4.74 (-0.80 to 10.28)	0.093

SD: Standard deviation, Ref: Reference category

Table 4. Factors associated with the quality of life dimensions of 5D 3L QS in Venezuelan migrants residing in the cities of Chimbote and Nuevo Chimbote.

Characteristics	Presence of pain or discomfort (moderate or severe) *				Presence of anxiety or depression (moderate or severe)					
	No n (%)	Yes n (%)	Crude analysis		No n (%)	Yes n (%)	Crude analysis		Adjusted regression	
			PR (95% CI)	p value			PR (95% CI)	p value	PRa (95% CI)	p value
Age in terciles (years)										
18 to 24	60 (81.1)	14 (18.9)	Ref		25 (33.8)	49 (66.2)	Ref			
25 to 29	62 (87.3)	9 (12.7)	0.67 (0.31 to 1.45)	0.310	21 (29.6)	50 (70.4)	1.06 (0.85 to 1.33)	0.587	--	--
30 to 56	51 (76.1)	16 (23.9)	1.26 (0.67 to 2.39)	0.474	20 (29.9)	47 (70.1)	1.06 (0.85 to 1.33)	0.617	--	--
Sex										
Male	105 (82.0)	23 (18.0)	Ref		41 (32.0)	87 (68.0)	Ref			
Female	68 (81.0)	16 (19.0)	1.06 (0.60 to 1.89)	0.843	25 (29.8)	59 (70.2)	1.03 (0.86 to 1.24)	0.726	--	--
Degree of Instruction										
Complete or incomplete high	67 (84.8)	12 (15.2)	Ref		33 (41.8)	46 (58.2)	Ref		Ref	
Superior technique complete or incomplete	50 (84.7)	9 (15.3)	1.00 (0.45 to 2.23)	0.992	16 (27.1)	43 (72.9)	1.25 (0.98 to 1.60)	0.071	1.27 (0.99 to 1.62)	0.056
Complete or incomplete university	56 (75.7)	18 (24.3)	1.60 (0.83 to 3.10)	0.162	17 (23.0)	57 (77.0)	1.32 (1.06 to 1.66)	0.015	1.28 (1.03 to 1.60)	0.028
Marital Status										
Single/ Separated Widowed	102 (83.6)	20 (16.4)	Ref		40 (32.8)	82 (67.2)	Ref			
Married/Cohabiting	71 (78.9)	19 (21.1)	1.29 (0.73 to 2.27)	0.382	26 (28.9)	64 (71.1)	1.06 (0.88 to 1.27)	0.542	--	--
Number of children										
None	81 (86.2)	13 (13.8)	Ref		32 (34.0)	62 (66.0)	Ref			
One	42 (77.8)	12 (22.2)	1.61 (0.79 to 3.27)	0.191	16 (29.6)	38 (70.4)	1.07 (0.85 to 1.34)	0.575	--	--
Two or more	50 (78.1)	14 (21.9)	1.58 (0.80 to 3.14)	0.190	18 (28.1)	46 (71.9)	1.09 (0.88 to 1.35)	0.426	--	--
Time residing in Peru in terciles (months)										
0 or 1	57 (78.1)	16 (21.9)	Ref		21 (28.8)	52 (71.2)	Ref			
2 to 3	62 (80.5)	15 (19.5)	0.89 (0.47 to 1.67)	0.713	23 (29.9)	54 (70.1)	0.98 (0.80 to 1.21)	0.882	--	--
4 to 8	54 (87.1)	8 (12.9)	0.59 (0.27 to 1.28)	0.183	22 (35.5)	40 (64.5)	0.91 (0.72 to 1.15)	0.410	--	--
Working hours (hours)										
0 to 4	19 (90.5)	2 (9.5)	Ref		10 (47.6)	11 (52.4)	Ref		Ref	
5 to 8	65 (87.8)	9 (12.2)	1.28 (0.30 to 5.48)	0.742	28 (37.8)	46 (62.2)	1.19 (0.76 to 1.85)	0.452	1.10 (0.71 to 1.72)	0.667
9 or more	89 (76.1)	28 (23.9)	2.51 (0.64 to 9.80)	0.184	28 (23.9)	89 (76.1)	1.45 (0.95 to 2.21)	0.083	1.36 (0.90 to 2.08)	0.146
Monthly Income (soles)										
0 to 500	58 (76.3)	18 (23.7)	Ref		22 (28.9)	54 (71.1)	Ref			
501 to 750	60 (84.5)	11 (15.5)	0.65 (0.33 to 1.29)	0.220	18 (25.4)	53 (74.6)	1.05 (0.86 to 1.28)	0.625	--	--
751 to 930	55 (84.6)	10 (15.4)	0.65 (0.32 to 1.31)	0.227	26 (40.0)	39 (60.0)	0.84 (0.66 to 1.08)	0.177	--	--

* Only one variable (working hours) had $p < 0.20$, therefore no adjusted analysis was performed
 RP: Prevalence ratio, Ref: reference category

anxiety/depression (54%) and pain/ discomfort (37.7%)⁽²⁹⁾. Additionally, a similar affectation was found in the dimensions of pain/discomfort (33%) and anxiety/depression (28%) in another study with migrants in England⁽³⁰⁾. However, in a study of older rural migrants (average age 63) in China⁽³¹⁾, as well as in population studies in Peru⁽²⁵⁾, Brazil⁽³²⁾, Colombia⁽³³⁾, and Chile⁽³⁴⁾, although these two dimensions tend to be the most affected, the pain/uneasiness dimension is more affected than anxiety/depression.

The findings reinforce the idea that migrants are more affected in the anxiety/depression dimension than the general population. This may be because migrants find themselves alienated from their social and family circle and face vulnerable conditions such as the need to work long hours a day with a low pay, subject to rejection and marginalization⁽³⁵⁾. This suggests that interventions aimed at improving the quality of life of these migrants must strongly take this dimension into account.

Also, the dimensions of daily activity, mobility and self-care were reported to be affected minimally, possibly because most are young, and had no difficulty overcoming obstacles related to these dimensions.

A little over half of the Venezuelan migrants work more than nine hours a day, and over a third earn a monthly monthly income lower than or equal to 500 soles per month. This income is less than the minimum living wage (minimum amount of money which should be received for a full working day in Peru), which is 930 soles per month⁽³⁶⁾, and would be insufficient to satisfy the basic family basket in Peru, estimated at 521 soles per person⁽³³⁾. This may be due to the fact that most migrants do not have a permit to work in Peru, so they are forced to accept informal jobs with a low monthly income. This condition would force them to work long hours, damaging their health and QoL⁽³⁷⁾.

The frequency of anxiety/depression was higher in educated Venezuelan migrants compared to those with secondary education. This association was maintained when adjusting the number of working hours. The findings are similar to those found in 1,040 immigrants in Spain, where higher education and working hours were significantly associated with the anxiety/depression dimension⁽¹⁰⁾. This could be due to the legal labor context, due to the fact that Peruvian laws do not recognize the degree of academic education of migrants in their country of origin, if they do not carry out the legal validation of their degrees (which could not have been carried out by the majority of these migrants). Therefore, the work performed and the salary scale of a

migrant with higher education would be similar to that of a migrant without such education, causing dissatisfaction in their work, which would be expressed with symptoms of anxiety/depression⁽³⁸⁾.

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It was also observed that the monthly income was directly associated with the average obtained in VAS, and that the number of working hours was directly associated with greater affectation in anxiety/depression and pain/discomfort; although these differences were not statistically significant, possibly due to the lack of statistical power. However, these associations are plausible and seem to present a dose-effect relationship, in addition to coinciding with what has been reported by other studies carried out in migrants^(29,37,39,40). This suggests that the variables working hours and economic income may play an important role in the QoL, although future studies should confirm this hypothesis.

It is important to state some limitations in this study: first, the instrument used in this study (EQ-5D-3L) has not been validated in the Peruvian population; however, this is a simple instrument to understand that has been used in other studies in Peru^(25, 26); it was also adapted and translated in several countries and languages, in addition, since the survey was conducted through an interview, participants were able to clarify their doubts about the items evaluated. Also, because the reference subjects were collected around the main squares of Chimbote and Nuevo Chimbote, it is possible that we have only collected data from one group of migrants, obviating those who live on the periphery of these cities, who could present different results for the QoL dimensions.

In conclusion, a group of Venezuelan migrants with a median age of 27 was studied, of whom more than two thirds reported anxiety/depression, and one in six experienced pain/discomfort. In evaluating the factors associated with VAS and each dimension of the EQ-5D, it was found that the frequency of anxiety/depression was higher in those with a college education. Our results call for the need to study further and prospectively the quality of life of these migrants, and to evaluate interventions in the most affected groups, such as those with a college education.

Conflicts of Interest: The authors have declared that no competing interests exist.

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Authors' Contributions: JFQ, JC, JIN and ATR have participated in the conception and design of the article, drafting of the article; critical review of the article; approval of the final version. JFQ and JIN participated in the collection of results. MI and ATR participated in data analysis and interpretation, conception and design of the article and approval of the final version.

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