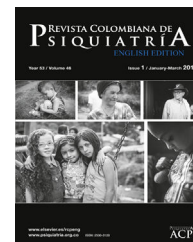




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Original article

Working and non-working conditions related to the presence of depressive symptoms in women workers with subsistence jobs in the centre of Medellín, 2015–2019



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ABSTRACT

Objective: To determine the working and non-working conditions related to depressive symptoms in informal workers in the centre of Medellín in 2015–2019.

Methods: Cross-sectional study with analytical intention and primary sources of information. Data collection with assisted survey in one of its union headquarters in 2016, after a pilot test and standardisation of pollsters. A total of 291 women workers were taken as a census, and their working and non-working conditions were explored.

Results: The women had an average age of 45 years, ≤ 5 years of schooling, low and middle-income housing, and income below the 2016 minimum wage. About 60% suffered moderate-severe food insecurity, and received no state benefits. They were mainly the head of the family, with 1 or 2 dependents, and were responsible for the work at home. They worked at least 8 h a day, 6 or 7 days a week, with parents or relatives selling in the street, and at least 20 years in their work. About 60% had a partner, 21.6% with family dysfunction, and 15.4% moderate-severe depressive symptoms. Living in one room or a slum, with a low socioeconomic status and moderate-severe family dysfunction were associated with, and contributed to the explanation of, moderate-severe depressive symptoms.

Conclusions: The non-working conditions that are associated with and explain the moderate-severe depressive symptoms of female workers can be modified with actions that impact on the social determinants of health.

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Condiciones laborales y extralaborales relacionadas con la presencia de síntomas depresivos en mujeres trabajadoras con empleos de subsistencia en el centro de Medellín, 2015-2019

R E S U M E N

Palabras clave:

Trabajo

Trastornos mentales

Depresión

Epidemiología

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Objetivo: Determinar las condiciones laborales y extralaborales relacionadas con los síntomas depresivos de trabajadoras informales del centro de Medellín en 2015-2019.

Métodos: Estudio transversal con intención analítica y fuentes primarias de información. Toma de datos con encuesta asistida en una de sus sedes gremiales en 2016, después de prueba piloto y estandarización de encuestadores. Se tomó por censo a 291 trabajadoras y se exploraron sus características laborales y extralaborales.

Resultados: Las mujeres tenían una media de edad de 45 años, escolaridad ≤ 5 años, viviendas en estrato bajo y medio e ingresos inferiores al salario mínimo de 2016. Alrededor del 60,0% tenía inseguridad alimentaria moderada-grave, sin subsidio del Estado; eran fundamentalmente cabezas de familia, con 2 o menos personas a su cargo, y responsables de sus labores en el hogar. Laboraban al menos 8 h al día 6 o 7 días a la semana, con padres o parientes venteros, y al menos 20 años en su labor. Alrededor del 60,0% tenía pareja, el 21,6% con disfuncionalidad familiar, y el 15,4% sufría síntomas depresivos moderados-graves (MG). Se asociaron y aportaron a la explicación de síntomas depresivos MG, vivir en cuarto o inquilinato, en estrato socioeconómico bajo y tener disfuncionalidad familiar MG.

Conclusiones: Las condiciones extralaborales que se asocian y explican los síntomas depresivos MG de las trabajadoras pueden modificarse con acciones que impacten en los determinantes sociales de la salud.

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Introduction

Work is defined as the set of productive human activities whose purpose is to provide services, goods or products, involving psychosocial aspects such as autonomy, social identity and knowledge acquisition.¹ The International Labour Organization (ILO) established 5 forms of work: own-use production work, employment, unpaid trainee work, volunteer work and other work activities.² These are grouped as formal and informal work and it is to the latter group that this study's population of interest belongs.

Informal work is defined as "an employment relationship not subject to the payment of taxes and that lacks social insurance".³ However, according to Women in Informal Employment: Globalizing and Organizing (WIEGO),⁴ informal work is any work having no written contract or declaring no payment of pension or health contributions. Non-compliance with labour, tax and social insurance laws is therefore considered a relevant characteristic of this type of work.³

There is an informal work subgroup known as subsistence work. This includes self-employed workers whose income is a major source for subsistence.⁵ This subgroup includes "street vendors". This population of subsistence workers is, according to the ILO⁶ and the Ministry of Health of Colombia,⁷ a vulnerable working population due to their low level of education, their low level of economic resources and their precarious relations with health systems, plus their unsatisfactory work conditions and low salary, which finally lead to labour exploitation, food and economic insecurity and a lack of

health coverage.⁸ This eventually results in the inability to deal with illnesses or conditions that cause high rates of morbidity or disability, such as depressive disorders, which are the main cause of disability in Colombia according to the Pan American Health Organization (PAHO),⁹ or their inability to face, cope with and overcome everyday adverse situations, according to Garzón et al.¹⁰

The PAHO characterises depressive disorders based on depressed mood, loss of interest or pleasure, feelings of guilt or low self-worth, vegetative symptoms, fatigue and poor concentration, which can eventually lead to impaired performance at work or in everyday life.¹¹ Some of the predisposing factors for depressive disorders are poverty, unemployment or economic insecurity, life events such as the death of a loved one, physical illness and problems caused by alcohol and drug use.¹² Some of these factors were present in our study participants.¹⁰

According to the Colombian National Administrative Department of Statistics (DANE), in 2019¹³ informal workers in Colombia accounted for 47.2% of employees and 48.2% of these were women in a condition of vulnerability due to performing subsistence work, for whom information on their mental health is also limited. This situation makes the configuration of their socio-environmental and employment vulnerability condition and the design and implementation of actions that may allow them to face, cope with and overcome difficulties affecting their mental health on a daily basis even more difficult, particularly for those who make the streets of Medellín their workplace.

Due to the above, it is important to determine the working and non-working conditions that may be related to depressive symptoms in these workers and, from this, provide information for the development of health policies that could be applied as part of health promotion and prevention programmes.

Methods

Design

Analytical cross-sectional study and primary sources of information. This study is a sub-product of the PhD dissertation project entitled “Environmental, social employment, demographic, economic and health conditions configuring the employment vulnerability condition of a group of informal workers (street vendors) from the centre of Medellín 2015–2019”. After performing a pilot aptitude test and after obtaining informed consent, in 2016 a computer-assisted survey was given to workers at one of their trade union headquarters. Those who had worked in the same job for at least 5 years, were aged ≥ 18 years and were aware of the study were included. No participants were excluded due to established criteria. A total of 291 female participants were included in the census and the presence of depressive symptoms was explored as an event of interest. Socio-demographic, family, working and non-working conditions were considered as independent variables.

Screening bias was controlled by taking all “street vendors” from informal worker unions. Information bias was controlled using standardisation of investigators and just one public health professional, and an instrument with both validated form and content was used with the worker leaders and the workers who were study participants.

The Zung Scale, which has been validated internationally by the WHO¹⁴ and in Colombia¹⁵ for adults, was used to screen for depressive symptoms. The scale comprises 20 items, providing total scores ranging from 20 to 80 points; the closer the score is to 80, the more depressive symptoms the person has. On recategorising the total score, the scale reads like this: No depression, 20–35; subclinical and normal variants, 36–51; moderate to severe, 52–67; and severe, 68–80.

Moderate-to-severe depressive symptoms was taken as a dependent variable and the other independent variables were recategorised as dichotomous and polytomous, based on the information obtained in exploratory analyses and the principal investigator's and her co-investigators' knowledge of the population in question.

Data analysis

A descriptive analysis was performed, taking into account the level of measurement of each variable and its nature. All quantitative variables were recategorised as dichotomous or polytomous for bivariate analysis. The χ^2 test of association was used and the prevalence ratio (PR) was calculated as an epidemiological measure to identify the strength of

association between the presence of depressive symptoms and other characteristics and conditions of the study, with their respective 95% confidence intervals (95% CI). The multivariate analysis was performed using multiple binary logistic regression with explanatory variables to identify the factors that contribute most to the depressive symptoms, including all the characteristics and conditions significantly associated with moderate-to-severe depressive symptoms or that had p-values < 0.25 in the Hosmer–Lemeshow test. All tests were calculated with a 95% confidence interval and a 5% margin of error. Calculations and graphs were prepared using the SPSS 21 software licensed to Universidad CES, Epidat 3.1 and Excel and Word.

The main project from which this sub-project stemmed was approved by the Independent Ethics Committee for research in humans (minutes No. 84 of 24 September 2015) and was classified as a minimal-risk project.

Results

Socio-demographic and economic conditions of workers

The average age was 48.35 ± 12.05 years. Most of the workers had a partner and around 60.0% had ≤ 5 years of education. One quarter lived in housing of low socio-economic status and more than half received a monthly income of $\leq 500,000$ Colombian pesos. Eighty-five percent (85.0%) of the workers were mothers and heads of the family and around 41.0% were responsible for more than 2 people. In addition, although almost all were affiliated with the health subsystem, their membership category was primarily subsidised (82.9%) (Table 1).

On exploring the food insecurity experienced by these workers within their households, around 62.0% considered that their households were experiencing moderate-to-severe food insecurity. This situation was accompanied by a prevalence of severe family dysfunction in the homes of the workers, with rates of around 27.0%.

Family and living conditions of “street vendors”

Around 40.0% had single-parent or single-person households and more than 80.0% had to take care of children, elderly adults or individuals with special care needs (disabled people). Half of the workers had to divide their time between being “street vendors” and doing housework.

Around 43.0% reported having had to miss work on occasions due to not having anyone to take care of their children. More than 62.0% reported that they had taken their children to work with them on occasions due to not having anyone to take care of them, and 1 in 4 had thought about quitting their job due to complications at home.

With regards to accommodation ownership, less than 40.0% reported having their own home and more than 10.0% of the “street vendors” lived in one room, a lodging house or somewhere other than a house or apartment.

Table 1 – Distribution of frequencies and percentages of socio-demographic, family, working and non-working conditions and emotional symptoms investigated in the study (N = 291).

Variables	n	%	Variables	n	%
Age (years)			Type of vendor		
18–44	124	42.6	Mobile-semi-stationary	245	84.1
≥45	167	57.3	Stationary	46	15.8
Marital status			Type of product sold		
No partner	117	40.2	Bits and bobs and other junk	180	61.8
Partner	174	59.7	Crops and perishables	111	38.1
Education			Hours worked per day		
≤5 years	173	59.4	≤8	74	25.4
>5 years	118	40.5	>8	217	74.5
Socio-economic status					
Days worked per week					
Low-low and low	220	75.6	≤5	10	5.23
Medium-low and medium	71	24.3	6 and 7	281	94.7
Monthly income (Colombian pesos)					
≤500,000	161	55.3	≥20	120	41.2
>500,000	130	44.6	<20	171	58.7
Subsidy from state (n = 183)					
Number of years in sector (years)					
Yes	34	18.5	≤5	40	13.7
No	149	81.4	>5	251	86.2
Persons responsible for					
Permit to use public place					
>2	120	41.2	Yes	166	58
≤2	171	58.7	No	125	42.9
Head of the family					
Previous job					
Yes	249	85.5	Street vendor	67	23
No	42	14.4	Other (farmer, housewife)	224	76.9
Affiliation with health system					
Work as social and emotional support (n = 231)					
Yes	279	95.8	No	18	7.7
No	12	4.12	Yes	213	92.2
Type of affiliation with health system					
Need to work harder than male colleagues (n = 288)					
Subsidised	233	82.9	Yes	148	51.3
Contribution-based or other	48	17.08	No	140	48.6
Home ownership					
Gender equality at work (n = 288)					
Not own home	179	61.5	No	111	38.5
Own home	112	38.4	Yes	177	61.4
Type of family					
Respected by male colleagues (n = 287)					
Single-parent — single-person	112	38.4	No	38	13.24
Other type	179	61.5	Yes	249	86.7
Parents or relatives who were street vendors					
Support from male colleagues (n = 287)					
Yes	169	58.6	No	71	24.7
No	119	41.3	Yes	216	75.2
Responsible for children, elderly or disabled people (n = 245)					
Discrimination by male colleagues (n = 288)					
Yes	216	88.1	Yes	75	26.04
No	29	11.8	No	213	73.9

– Table 1 (Continued)

Variables	n	%	Variables	n	%
Children taken to work (n = 185)			Discriminated against by authorities (n = 288)		
Yes	115	62.1	Yes	164	56.9
No	70	37.8	No	124	43.05
Missed work to take care of children (n = 182)			Support from the union the worker belongs to		
Yes	78	42.8	Very good, good	263	90.3
No	104	57.1	Regular, poor, very poor	28	9.62
Thought about quitting job due to complications at home (n = 287)			Use of chemical substances to work		
Yes	70	24.3	Yes	21	7.21
No	217	75.6	No	270	92.78
Food insecurity			Perceived morbidity-noise pollution		
Moderate-severe	179	61.7	Yes	118	40.5
Security and mild insecurity	111	38.2	No	173	59.4
Depressive symptoms			Noise pollution affects work		
Moderate-severe	45	15.5	Yes	205	70.4
None-subclinical	246	84.5	No	86	29.5
Wanted to self-harm or cause oneself pain			Enough space to move around		
Never	271	93.4	Yes	259	89.0
Sometimes	14	4.8	No	32	10.9
Often	4	1.40	Work stability		
Always	1	0.30	Very good, good	214	73.5
Feel like you want to die			Regular, poor, very poor	77	26.4
Never	262	90.0	Family dysfunction		
Sometimes	20	6.9	Moderate-severe	63	21.64
Often	7	2.4	Mild and no dysfunction	228	78.35
Always	1	0.3			

Working and environmental conditions and perceived morbidity reported by workers

Regarding the number of days of work per week, 95% reported that they worked between 6 and 7 days a week and 3 in 4 reported working more than 8 h a day. More than 80% were mobile or semi-stationary vendors (they simply set up their stall in a public place during their hours of work) of primarily bits and bobs and other junk. Around 77.0% of the workers had been farmers and housewives before becoming “street vendors” (Table 1).

With regards to the number of years in their job, more than 41% had been working as “street vendors” for more than 20 years but 43% did not have a permit to work in a public place. More than half of the “street vendors” thought that they needed to work harder than their male counterparts, although 61.4% of the workers thought that street work was the same for men and women.

More than 90.0% considered work to be their economic, social and emotional support. Nevertheless, 13% felt that their

male colleagues did not respect them, around 25.0% felt that they did not support them, 25% felt discriminated against by their male colleagues and around 60.0% felt discriminated against by the authorities.

It was also found that, at the time of the survey, around 60.0% of the workers had, or had previously had, parents or relatives who were also “street vendors”, which leads us to consider that their job is not necessarily temporary for them and is instead an inherited activity.

Regarding work-related risk factors, around 90.0% believed that they had enough space to move around, 70% perceived such a loud noise at their place of work that they felt that they needed to shout to talk to their colleagues and more than 26% thought that their work stability was regular, poor or very poor, although, in general, they felt satisfied with the support they received from the workers’ union they belonged to.

With regards to their perceived morbidity, it was determined that more than 40.0% of the workers perceived morbidity as a result of noise pollution and more than 7.0% reported that they used chemical substances at their place

of work. As far as depressive symptoms are concerned, such symptoms were moderate to severe for 15.46% of the street vendors (45). Finally, when asked if they had ever wanted to cause themselves harm or pain or if they had ever wished that they were dead, 5.5% said yes to the first question and 2.7% said yes to the second.

Socio-demographic and economic characteristics associated with the workers' depressive symptoms

A statistically significant association ($p < 0.05$) was identified between the socio-economic status of the workers' housing and their perception of moderate-to-severe depressive symptoms. The workers who lived in housing classified as being of medium and low-medium socio-economic status perceived an 88.0% higher prevalence of moderate-to-severe depressive symptoms ($PR = 1.88$; 95% CI, 1.10–3.23). It was also observed that the fewer the number of years of education, the higher the prevalence of moderate-to-severe depressive symptoms ($PR = 1.36$) (Table 2).

A higher prevalence of moderate-to-severe depressive symptoms was identified in those workers who lived in one room, a lodging house or another type of dwelling, and this higher prevalence was 88% higher than in those who lived in a house or apartment. These symptoms were also 21.0% higher in workers with a monthly income of $\leq 500,000$ Colombian pesos and, based on the type of affiliation with the health subsystem, moderate-to-severe depressive symptoms were higher ($PR = 1.31$) in those workers who reported having subsidised membership (Table 2).

Family, household responsibility and housing characteristics associated with the workers' depressive symptoms

Only one statistically significant association ($p < 0.05$) was identified between moderate-to-severe depressive symptoms and the severe family dysfunction reported by workers, with such symptoms being greater in those workers who reported having severe family dysfunction ($PR = 1.81$; 95% CI, 1.04–3.15) (Table 3).

Although there were no statistically significant associations, a higher prevalence of moderate-to-severe depressive symptoms (31.0%) was identified in workers who were responsible for children, elderly adults or people needing special care (disabled people). However, the prevalence of moderate-to-severe depressive symptoms was lower in workers who had taken their children to work with them (39.0%) and in workers who had thought about quitting their job due to complications resulting from being both a housewife and a street vendor (29.0%). The prevalence of symptoms was also lower among workers who had single-parent households (22.0%) or who had stopped working at some time due to having nobody to take care of their children (17.0%).

Work characteristics associated with the perception of depressive symptoms in workers

It was observed that the prevalence of moderate-to-severe depressive symptoms in workers whose work day was

> 8 h/day was 36.0% higher, and that the prevalence in workers who did not have a permit to work in a public place was also 27.0% higher (Table 4).

However, a statistically significant association ($p < 0.05$) was identified between moderate-to-severe depressive symptoms and believing that they had enough space to move around at their place of work, with the prevalence being 4.44 times higher than in workers who did not believe this.

The prevalence of moderate-to-severe depressive symptoms was also higher in those who felt that their work stability was very good or good (44.0%), in those who thought that their male colleagues did not treat them with respect (50.0%) and in those who did not feel they had their support (32.0%). It is interesting to note that those workers who felt that their work was an emotional support to them had a 42.0% higher prevalence of moderate-to-severe depressive symptoms.

However, it is also striking that those workers who thought they needed to work harder than their male counterparts had 38.0% fewer moderate-to-severe depressive symptoms than those who said they did not feel this way. Depressive symptoms were also lower among workers who felt discriminated against by their male colleagues (35.0%) and in those who believed that noise pollution affected their work (31.0%).

Work and non-work characteristics that help explain the moderate-to-severe depressive symptoms of the informal "street vendor" workers participating in the study

On adjusting working and non-working conditions that met the criterion of Hosmer-Lemeshow in bivariate analyses ($p < 0.25$) (Table 5) in order to identify which of these characteristics or factors could help explain a higher prevalence of moderate-to-severe depressive symptoms, no conditions were identified that significantly helped with this explanation. However, it was observed that working conditions generally resulted in a lower prevalence, whereas non-working conditions resulted in a higher prevalence of moderate-to-severe depressive symptoms, with the exception of having had to take their children to work.

Believing that they had to work harder than male street vendors resulted in a 45.5% lower prevalence of moderate-to-severe depressive symptoms. The prevalence of moderate-to-severe depressive symptoms was also 55.0% lower for those who thought that their male colleagues discriminated against them and 58.0% lower among workers who believed that noise pollution affected their work. These results were achieved after keeping all other variables included in the multivariate analysis constant.

With regards to working conditions, it is important to highlight that a change in the directionality of one of the measures of association, compared to gross values, was observed. A higher prevalence of depressive symptoms had been identified in gross values among workers who believed that they had enough space to move around, which changed from being 4.44 times higher to be considered a value associated with a lower prevalence (Table 5).

Regarding non-working conditions, all of the included conditions maintained the directionality they had in the bivariate analysis. However, a loss of statistical significance for socio-economic status was also observed, which changed from a

Table 2 – Socio-demographic and economic characteristics associated with depressive symptoms of female informal “street vendors” from the centre of Medellín (n = 291).

Characteristics	Depressive symptoms				Total		χ^2 (p)	PR (95% CI)
	Moderate-severe		Subclinical-none		n	%		
	n	%	n	%				
Age								
18–44 years	18	14.5	106	85.5	124	42.6	0.148 (0.700)	0.89 (0.52–1.55)
≥45 years	27	16.2	140	83.8	167	57.3		1.0
Marital status								
No partner	18	15.4	99	84.6	117	40.2	0.000 (0.975)	0.99 (0.57–1.71)
Partner	27	15.5	147	84.5	174	59.7		1.0
Education								
≤5 years	30	17.3	143	82.7	173	59.4	1.150 (0.283)	1.36 (0.77–2.42)
>5 years	15	12.7	103	87.3	118	40.5		1.0
Socio-economic status of worker's housing								
Medium, low-medium	17	23.9	54	76.1	71	24.3	5.16 (0.023)	1.88 (1.10–3.23)
Low, low-low	28	12.7	192	87.3	220	75.6		1.0
Type of housing								
Room, lodging house, other	8	26.7	22	73.3	30	10.3	3.211 (0.073)	1.88 (0.96–3.65)
House, apartment	37	14.2	224	85.8	261	89.6		1.0
Monthly income (Colombian pesos)								
≤500,000	27	16.8	134	83.2	161	55.3	0.470 (0.493)	1.21 (0.70–2.10)
>500,000	18	13.8	112	86.2	130	44.6		1.0
Receive any subsidy from state								
Yes	5	14.7	29	85.3	34	18.5	<0.001 (0.993)	0.99 (0.41–2.44)
No	22	14.8	127	85.2	149	81.4		1.0
Head of the family								
Yes	37	14.9	212	85.1	249	85.5	0.482 (0.487)	0.78 (0.39–1.56)
No	8	19	34	81.0	42	14.4		1.0
Affiliation with health social security system								
Yes	44	15.8	235	84.2	279	95.8	0.486 (0.485)	1.89 (0.28–12.60)
No	1	8.3	11	91.7	12	4.12		1.0
Type of affiliation								
Subsidised	38	16.3	195	83.7	233	82.9	0.437 (0.508)	1.31 (0.58–2.91)
Contribution-based	6	13.3	42	86.7	48	17.1		1.0
p < 0.05 indicates a statistically significant association.								

p < 0.05 indicates a statistically significant association.

prevalence of moderate-to-severe depressive symptoms in those living at a medium and low-medium socio-economic status that was 88.0% higher to being 68.0% higher after adjusting for the other non-working conditions (OR = 1.88; 95% CI, 1.10–3.23; aPR = 1.68) included in the analysis.

An increase in the strength of association for the type of housing was observed, changing from a prevalence of moderate-to-severe depressive symptoms that was 0.88 times higher in those living in one room or a lodging house to 1.15 times higher after adjusting for the other non-working conditions included in the analysis.

Finally, a loss of statistical significance and a decreased strength of association was identified for family dysfunction, which changed from a prevalence of moderate-to-severe depressive symptoms that was 81.0% higher in those with severe dysfunction to 71.0% higher after adjusting for the other non-working conditions.

Discussion

Mental disorders are caused by multifactorial conditions acting in synergy. Of note is depression, which is also a worldwide

public health problem due to both its prevalence and the disability it causes, plus its common comorbidities, dysfunction and high cost.¹⁶

Depression is more prevalent in females and women are nearly twice as likely as men¹⁷ to be diagnosed. This may be linked to hormonal mechanisms and stressful situations or events that women are exposed to (being mothers and heads of the family, wage gap, gender or sexual abuse).

The average age of participants was 48.35 ± 12.05 years. According to the WHO, depression can occur at any time of life¹⁸ but it is more likely at middle age since this stage of life is a particularly vulnerable period for women. As a result, such disorders are reported less in women aged 65 years or over.¹⁹ In total, 15.46% of the workers had moderate-to-severe depressive symptoms and less than 3.0% said they had felt like they wanted to harm themselves or die. Even though an individual may manifest these desires and have protective factors in place to ensure they do not go that far, the diagnosis and treatment should be explored.²⁰ Although this variable was not explored in this study, it is recommended that it be taken into consideration for future research with female workers from the informal sector.

Table 3 – Family, household responsibility and housing characteristics associated with depressive symptoms of female “street vendors” from the centre of Medellín (n = 291).

Condition or characteristic	Depressive symptoms				Total		χ^2 (p)	PR (95% CI)
	Moderate-severe		Subclinical-none					
	n	%	n	%	n	%		
<i>Type of family</i>								
Single parent	16	14.3	96	85.7	112	38.4	0.193 (0.660)	0.88 (0.50–1.55)
Single person, other	29	16.2	150	83.8	179	61.5		
<i>Home ownership</i>								
Yes	28	15.6	151	84.4	179	61.5	0.011 (0.915)	1.03 (0.59–1.79)
No	17	15.2	95	84.8	112	38.4		
<i>Persons economically responsible for</i>								
>2	18	15.0	102	85.0	120	41.2	0.033 (0.854)	0.95 (0.55–1.64)
≤2	27	15.8	144	84.2	171	58.7		
<i>Parents or relatives who were street vendors (n = 288)</i>								
Yes	25	14.8	144	85.2	169	58.6	0.006 (0.937)	0.97 (0.56–1.71)
No	18	15.1	101	84.9	119	41.3		
<i>Responsible for children, elderly or disabled people (n = 245)</i>								
Yes	34	15.7	182	84.3	216	88.1	0.039 (0.842)	1.31 (0.43–3.96)
No	3	10.3	26	89.7	29	11.8		
<i>Children taken to work (n = 185)</i>								
Yes	14	12.2	101	87.8	115	62.1	2.074 (0.149)	0.61 (0.31–1.20)
No	14	20.0	56	80.0	70	37.8		
<i>Time spent on combined work activities (at home and as street vendor)</i>								
>10 years	38	15.7	204	84.3	242	83.1	0.062 (0.802)	1.09 (0.52–2.32)
≤10 years	7	14.3	42	85.7	49	16.8		
<i>Stopped going to work due to not having anyone to take care of children (n = 182)</i>								
Yes	10	12.8	68	87.2	78	42.8	0.239 (0.624)	0.83 (0.40–1.73)
No	16	15.4	88	84.6	104	57.1		
<i>Thought about quitting job due to complications at home (n = 287)</i>								
Yes	8	11.4	62	88.6	70	24.3	0.918 (0.338)	0.71 (0.34–1.45)
No	35	16.1	182	83.9	217	75.6		
<i>Food insecurity, ELCSA [Latin American and Caribbean Food Security Scale]</i>								
Moderate-severe	15	14.4	89	85.6	104	35.7	0.134 (0.714)	0.90 (0.51–1.59)
Security and mild insecurity	30	16.0	157	84.0	187	64.26		
<i>Family dysfunction, APGAR questionnaire</i>								
Severe	15	23.8	48	76.2	63	21.64	4.284 (0.038)	1.81 (1.04–3.15)
Mild, moderate, functional	30	13.2	198	86.8	228	78.35		
p < 0.05 indicates a statistically significant association.								

p < 0.05 indicates a statistically significant association.

Overall, 59% of the workers had a partner, which is consistent with the belief that social ties are beneficial for maintaining psychological well-being and an important factor for preventing or overcoming depressive symptoms.²¹ However, the workers' low level of education was associated with a higher prevalence of moderate-to-severe depressive symptoms. In this regard, the literature reports that having any level of education may decrease the likelihood of a depressive state,²² although an increased risk of suicide has also been observed.²³

Moderate-to-severe depressive symptoms were also greater in those living in medium and low-medium level housing or receiving a monthly income of <500,000 Colombian pesos, and in workers who were mothers and heads of the family (85.0%) and who were responsible for at least 2 people (58.0%). This shows that most of the study participants earn less than the minimum monthly salary in Colombia, which was 689,455 Colombian pesos in 2016,²⁴ and when combined with their role as head of the family, this income may not be enough to survive.

Although 95.8% were affiliated to the health system and 82.9% had subsidised membership, this condition was associated with a higher prevalence of moderate-to-severe depressive symptoms. On this matter, in Colombia²⁵ it has been observed that access to and use of healthcare services under the subsidised membership regimen poses greater difficulties, which may, in turn, have a negative impact on the physical and mental health of working women.

In total, 61.70% of the participants had moderate-to-severe food insecurity in their households. This condition is a factor that has a negative impact on the mental health of these workers given that the lack of food may increase the risk of poor health, chronic diseases and other negative effects, such as mental conditions like depression and stress.²⁶

Family and living conditions of “street vendors”

Around 60.0% of these workers had a partner, which is a potentially favourable factor, since the structure of a nuclear or extended family, comprising at least 3 people, may be related

Table 4 – Employment characteristics associated with depressive symptoms of female informal “street vendors” from the centre of Medellín (n = 291).

Characteristic or condition	Depressive symptoms				Total		χ ² (p)	PR (95% CI)
	Moderate-severe		Subclinical-none					
	n	%	n	%	n	%		
<i>Type of vendor</i>								
Mobile-semi-stationary	37	15.1	208	84.9	245	84.1	0.155 (0.693)	0.87 (0.43–1.74)
Stationary	8	17.4	38	82.6	46	15.8		
<i>Type of product sold</i>								
Bits and bobs and other junk	28	15.6	152	84.4	180	61.8	0.003 (0.956)	1.01 (0.58–1.77)
Other types	17	15.3	94	84.7	111	38.1		
<i>Hours worked per day</i>								
>8	36	16.6	181	83.4	217	74.5	0.827 (0.363)	1.36 (0.69–2.69)
≤8	9	12.2	65	87.8	74	25.4		
<i>Days worked per week</i>								
6 and 7	43	15.3	238	84.7	281	94.7	0.001 (0.967)	0.76 (0.21–2.72)
≤5	2	20.0	8	80.0	10	5.23		
<i>Number of years in same job (years)</i>								
<20	27	15.8	144	84.2	171	58.7	0.033 (0.854)	1.05 (0.61–1.82)
≥20	18	15.0	102	85.0	120	41.2		
<i>Number of years in sector (years)</i>								
≤5	5	12.5	35	87.5	40	13.7	0.311 (0.576)	0.78 (0.33–1.87)
>5	40	15.9	211	84.7	251	86.2		
<i>Permit to use public place</i>								
No	22	17.6	103	82.4	125	42.9	0.764 (0.381)	1.27 (0.74–2.17)
Yes	23	13.9	143	86.1	166	57.0		
<i>Previous job</i>								
Only been street vendor	9	13.4	58	86.6	67	23.0	0.274 (0.600)	0.83 (0.42–1.64)
Other jobs	36	16.1	188	83.9	224	76.9		
<i>Need to work harder than male colleagues (n = 288)</i>								
Yes	17	11.5	131	88.5	148	51.3	2.84 (0.091)	0.62 (0.35–1.09)
No	26	18.6	114	81.4	140	48.6		
<i>Gender equality at work (n = 288)</i>								
No	17	15.3	94	84.7	111	38.5	0.021 (0.884)	1.04 (0.59–1.83)
Yes	26	14.7	151	85.3	177	61.4		
<i>Respected by male colleagues (n = 287)</i>								
No	8	21.1	30	78.9	38	13.2	1.266 (0.263)	1.50 (0.75–2.98)
Yes	35	14.1	214	85.9	249	86.7		
<i>Support from male colleagues (n = 287)</i>								
No	13	18.3	58	81.7	71	24.7	0.819 (0.365)	1.32 (0.73–2.38)
Yes	30	13.9	186	86.1	216	75.2		
<i>Feels discriminated against by male colleagues (n = 288)</i>								
Yes	8	10.7	67	89.3	75	26.0	1.451 (0.228)	0.65 (0.31–1.33)
No	35	16.4	178	83.6	213	73.9		
<i>Discriminated against by authorities (n = 288)</i>								
Yes	24	14.6	140	85.4	164	56.9	0.026 (0.871)	0.95 (0.55–1.66)
No	19	15.3	105	84.7	124	43.0		
<i>Work as social and emotional support (n = 231)</i>								
Yes	43	15.8	230	84.2	213	92.2	0.036 (0.848)	1.42 (0.32–5.39)
No	2	11.1	16	88.9	18	7.7		
<i>Enough space to move around</i>								
Yes	44	17.0	215	83.0	259	89.0	3.19 (0.074)	5.44 (0.77–38.13)
No	1	3.1	31	96.9	32	10.99		
<i>Use of chemical substances to work</i>								
Yes	3	14.3	18	85.7	21	7.21	0.024 (0.660)	0.92 (0.31–2.71)

– Table 4 (Continued)

Characteristic or condition	Depressive symptoms				Total		χ^2 (p)	PR (95% CI)
	Moderate-severe		Subclinical-none					
	n	%	n	%	n	%		
No	42	15.6	228	84.4	270	92.8		1.0
Perceived morbidity derived from noise pollution								
Yes	20	16.9	98	83.1	118	40.5	0.334 (0.562)	1.17 (0.68–2.01)
No	25	14.5	148	85.5	173	59.4		
Noise pollution affects work								
Yes	28	13.7	177	86.3	205	70.4	1.729 (0.188)	0.69 (0.40–1.19)
No	17	19.8	69	80.2	86	29.5		
Work stability								
Very good, good	36	16.8	178	83.2	214	73.5	1.141 (0.285)	1.44 (0.73–2.85)
Regular, poor, very poor	9	11.7	68	88.3	77	26.4		
Support from the union								
Very good, good	41	15.6	222	84.4	263	90.3	0.008 (0.557)	1.09 (0.24–2.82)
Regular, poor, very poor	4	14.3	24	85.7	28	9.62		

Table 5 – Working and non-working conditions that help explain depressive symptoms in “street vendors”. Medellín 2015–2019. N = 291.

Working conditions	OR	95% CI		aPR	95% CI	
Need to work harder than male colleagues	0.62	0.35	1.09	0.55	0.23	1.31
Discrimination from male colleagues	0.65	0.31	1.33	0.45	0.14	1.43
Enough space to move around: no	5.44	0.67	38.12	0.00	0.00	–
Noise pollution affects work	0.69	0.40	1.19	0.42	0.17	1.01
<i>Non-working conditions</i>						
Socio-economic status: medium, low-medium	1.88	1.10	3.23	1.68	0.66	4.25
Type of housing: one room, lodging house	1.88	0.66	3.65	2.15	0.64	7.23
Children taken to work: yes	0.61	0.31	1.20	0.46	0.20	1.09
Severe family dysfunction	1.81	1.04	3.15	1.71	0.68	4.43

to the support network and importance that people give to their families. This is significant when it comes to making decisions that affect your mental health.

Overall, 88.1% of the workers had children, elderly or disabled people to look after. With regards to taking care of elderly people, it has been shown that this may actively have an impact of the carer's mental health, since the carer feels either completely or somewhat responsible for the elderly adult, based on the elderly person's comorbidities and/or level of functionality.²⁷ This is similar to the results reported by Kawachi et al.,²¹ who found that social connections (understood to be the supposed support network) may paradoxically increase the symptoms of mental conditions in women with low resources, especially if such connections involve stress associated with the obligation to provide social support to others,²¹ such as being a carer of a child or, even more so, a disabled person.

Half of the workers shared the housework and 81.0% spent at least 4 h a day doing such chores. The article “Responsabilidades en el hogar y salud de la mujer trabajadora” [“Responsibilities at home and health of working women”] by Blanco et al. suggests that women who work outside the home perceive both material and psychological benefits that have an effect on their professional and personal development. However, when the woman also has family responsibilities, this can represent a significant strain that may have a major

impact on her health and general well-being,²⁸ as shown in the study, as more than 40.0% of the workers reported having had to miss work on occasions due to not having anyone to take care of their children. Moreover, 62.1% reported that they had taken their children to work with them on occasions due to not having anyone to take care of them (situation that was associated with more moderate-to-severe depressive symptoms) and 24.3% had at some point thought about quitting their job due to complications at home.

Although more than 38.0% of the workers had their own home, 10.3% lived in one room, a lodging house or somewhere other than a house or apartment, and this condition was associated with a higher prevalence (88%) of moderate-to-severe depressive symptoms. This could be related to the workers' economic resources, since a low income does not always meet the basic needs, thereby affecting their mental stability.

In total, 26.6% of the participants considered that the family dysfunction present in their homes was serious, and this was associated with, and explained, a higher prevalence of moderate-to-severe depressive symptoms. This is consistent with evidence regarding family function, which plays an important role in the social and psychological development of family members. Stressful disturbances or situations affecting the family system may cause physical or emotional imbal-

ances for family members,²⁹ as shown by the prevalence of depressive symptoms in these female workers.

Working and environmental conditions reported by “street vendor”

These workers generally worked 6–7 days a week and for more than 8 h a day, predominantly as mobile or semi-stationary vendors, and around 62.0% sold bits and bobs and other junk. With regards to the time spent working each day, when this exceeds the permitted working hours (8 h/day in Colombia), the number of hours dedicated to other activities must be reduced since it is understood that these workers were also responsible for housework, there is a clear reduction in the amount of time available for leisure activities. Such situations affect the physical and mental health of the workers.³⁰

Their working conditions were generally fragile, although more than 40.0% of them had worked in the same job for more than 20 years. In addition, 42.9% of those surveyed had no permit to work in public places and this is a situation that causes mental fragility in workers due to the unstable nature of their work. This may affect the workers' day-to-day peace-of-mind since their job depends largely on the possibility of using public space.

It is important to note that, in this study, 51.3% of the women thought that they needed to work harder than male street vendors, and this situation was associated with a higher prevalence of moderate-to-severe depressive symptoms, although 61.4% thought that street work was the same for men and women. The fact that they have to work harder may be closely related to the gender wage gap,³¹ reported as a significantly lower difference in female workers of this type.³² It has also been shown that the lower the income, the higher the prevalence of family dysfunction.³³

For those workers participating in the study, their work was their economic, social and emotional support. According to the WHO, work is beneficial for a person's mental health. A negative work environment may cause physical and mental problems,³⁴ and although work may have been a beneficial factor for the workers, who generally felt respected and supported by their male counterparts, 26.1% said they felt discriminated against by their male colleagues and had a higher prevalence of moderate-to-severe depressive symptoms. It is also important to remember that their job may have been inherited, since around 60.9% of the workers had or had previously had parents or relatives who were street vendors.

For these workers, noise disturbed their work activity (70.4%) as they perceived such a loud noise at their place of work that they felt that they needed to shout to talk to their colleagues, while 40.5% also perceived morbidity associated with noise pollution. This is relevant because noise can increase stress or irritability levels.³⁵ In total, 7.21% of the participants reported using psychoactive substances at work. It has been found that the use of such substances is harmful to the central nervous system, specifically to the production and metabolism of neurotransmitters, and they may trigger mental disorders and/or exacerbate pre-existing mental disorders.³⁶

Study limitations

It is important to note that the data obtained from performing the surveys are necessary but insufficient for a diagnosis, since diagnosis of a major depressive disorder must be accompanied by other symptoms, in addition to a depressed state, such as vegetative symptoms, changes in appetite and symptom intensity. That is why the term “depressive symptoms” is used throughout the study and there is no mention of the specific diagnosis.

It is also important to remember that the diagnosis of depression includes 3 specific pathological processes, namely biological (genetic), psychological (each individual's resources to tackle a specific situation) and social factors. The aim of this study was to only evaluate social-related variables and therefore other factors should be considered when making a diagnosis in subsequent studies with this type of worker.

Conclusions

Living at a medium and low-medium socio-economic level, living in one room or lodging house and severe family dysfunction were associated with a higher prevalence of depressive symptoms, although not significantly.

This study shows that characteristics of each individual female participant may affect their mental health. Guidance and support from healthcare professionals through psychoeducation is needed in order to change the health of female “street vendors”. For future studies, it is proposed that depressive symptoms be looked at in more depth in order to reach a clinical diagnosis and offer the best possible treatment.

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Conflicts of interest

The authors declare that they have no conflicts of interest.

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