

Frequency of depressive symptoms in patients with leprosy in a Colombian Caribbean city

Salas-Romero S ^a, Borge-Pérez P ^b, Herrera Yineth ^c, Guerra-Guardo C ^d

- a. Rafael Núñez University Corporation. Medicine Program. GINUMED Group. Cartagena- Colombia. ORCID: <https://orcid.org/0000-0003-1758-7365>
- b. Rafael Núñez University Corporation. Medicine Program. GINUMED Group. Cartagena- Colombia. ORCID: <https://orcid.org/0000-0003-1423-3465>
- c. Rafael Núñez University Corporation. Medicine Program. GINUMED Group. Cartagena- Colombia. ORCID: <https://orcid.org/0000-0002-2128-8926>
- d. Administrative Health Department of Cartagena DADIS. Public Health Operative Direction. ORCID: <https://orcid.org/0009-0008-2579-0076>

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Abstract

Introduction: Leprosy affects millions of people, deteriorating physical and mental health, generating complications such as depressive symptoms that can affect quality of life.

Objective: To estimate the prevalence of depressive symptoms in a group of patients and former patients with Hansen's disease in a Colombian Caribbean city.

Materials and methods: descriptive study with non-probabilistic sampling in members of an association of patients and former patients with Hansen's disease in a Colombian Caribbean city. Depressive symptoms were estimated by Beck I test and the results were contrasted with socio-demographic and clinical variables through bivariate analysis.

Results: 51 individuals participated, with a mean age of 52 years (CI 35.7-68.5), and a predominance of male gender (57%). 39% of the population had a history of depression. Thirty-nine percent of the population attended high school, 25% were undergoing treatment at the time of the survey and 33% had some degree of disability. Mild, moderate and severe depression were present in 27%, 16% and 2% of the population, respectively. The most frequently described depressive symptom was fatigue (13%) followed by changes in appetite (84.2%), crying (81.6%), and sadness (79%). No statistically significant relationship was found between the presence of

depressive symptoms and sociodemographic characteristics, treatment and disability.

Conclusions: 35% of the participants with the Beck I test obtained scores compatible with depression. It is recommended to include specialized management in mental health within the integral approach of the patient and former patient with Hansen's disease.

Keywords: Depression, Leprosy, Hansen's Disease.

Resumen

Introducción: la lepra afecta a millones de personas deteriorando la salud física y mental, generando complicaciones como síntomas depresivos que pueden afectar la calidad de vida.

Objetivo: estimar la prevalencia de síntomas depresivos en una agremiación de pacientes y expacientes con enfermedad de Hansen de una ciudad del Caribe colombiano.

Materiales y métodos: estudio descriptivo con muestreo no probabilístico en miembros de una agremiación de pacientes y ex-pacientes con enfermedad de Hansen de una ciudad del Caribe colombiano. Los síntomas depresivos fueron estimados mediante test de Beck I y los resultados se contrastaron con variables sociodemográficas y clínicas mediante análisis bivariado.

Resultados: participaron 51 personas, con una edad promedio de 52 años (IC 35,7-68,5), y predominio del sexo masculino (57%). El 39% de la población cursó bachillerato, el 25% se encontraban en tratamiento al momento de la encuesta y el 33% presentaban algún grado de discapacidad. El 27%, 16% y 2% de la población presentó depresión leve, moderada y severa respectivamente. El síntoma depresivo más frecuentemente descrito fue la fatiga (13%) seguido de cambios en el apetito (84,2%), llanto (81,6%), y tristeza (79%). No se encontró relación estadísticamente significativa entre presencia de síntomas depresivos y características sociodemográficas, el tratamiento y la discapacidad.

Conclusiones: el 35% de los encuestados con el test de Beck I obtuvo calificaciones compatibles con depresión, se recomienda incluir manejo especializado en salud mental dentro del abordaje integral del paciente y expaciente con enfermedad de Hansen.

Palabras clave: depresión, lepra, enfermedad de Hansen.

Introduction

Leprosy or Hansen's disease is a granulomatous infectious-contagious

pathology caused by *Mycobacterium leprae*, which is a gram-positive, obligate intracellular acid-fast bacillus. It mainly affects the peripheral nervous system, especially Schwann cells (1).

Although the appearance of leprosy has been recorded since the time before Christ, according to religious writings, it was not until 1873 that Gerhard Henrik Armauer Hansen discovered the microorganism responsible for the disease (1). In 2020, 19,195 new cases were reported in the Americas with a prevalence of 25,786, Brazil being the country with the most cases in the region (>10,000). This represents for Latin American countries new challenges such as late diagnosis, weak active search programs for new cases and follow-up of household contacts, lack of awareness, stigma associated with the disease, lack of specialized professionals, public policies (2). For the year 2020, the country had a prevalence of 0.51 per million inhabitants, reporting 308 cases of which 192 were new cases (3).

Leprosy is considered a stigmatizing disease that can affect any organ or system, causing clinical manifestations at the skin level, which can progress over time being noticeable to the naked eye, deforming or compromising motility, which generates vulnerability in patients to suffer from mental health problems (4).

Mental health illnesses occur in most cases secondary to social rejection, exclusion and discrimination. In the case of patients with leprosy, depression occurs due to isolation, fear of infecting others or internalized feelings of being less worthy (5).

Depressive states refer to the dysregulation of cerebral homeostatic mechanisms, which can generate somatic changes in the organism, driven by different factors whose interference is usually negative when performing daily activities, such as walking or thinking. Depression, on the other hand, is a functional, reversible and recurrent pathology of chronic character (6).

The depressive syndrome in patients with Hansen's disease is a very little explored topic in the literature, despite the comprehensive care strategies that include such activities, the mental health situation of the patient with Hansen's disease is unknown; therefore, the present study estimated the prevalence of depressive symptoms in a group of patients and former patients with Hansen's disease in a Colombian Caribbean city.

Materials and methods

A descriptive cross-sectional study was carried out; the population corresponding to former patients and patients affected by Hansen's disease

belonging to an association of people affected by Hansen's disease in a Colombian Caribbean city was taken into account. A non-probabilistic sampling was carried out in a total of 51 persons of legal age, who expressed their willingness to participate, were part of the association and attended the meetings agreed upon during the development of the research.

The information pertinent to the variables investigated was collected from primary sources, by means of interviews with the patients with their respective informed consent. The variables considered in the study were: age, gender, marital status, socioeconomic level, onset of the disease, current treatment of Hansen's disease defined as completed treatment or treatment in progress, work activity defined as income-generating and non-income-generating occupation.

The presence of depressive symptoms was assessed using the Beck I inventory, being a self-report that provides a measure of the presence and severity of depression in adults and adolescents aged 13 years or older. It is composed of 21 items indicative of symptoms such as sadness, crying, loss of pleasure, feelings of failure and guilt, thoughts or desires of suicide, pessimism, etc. These symptoms correspond to the criteria for the diagnosis of depressive disorders contained in the DSM-IV and ICD-10. Each item is answered on a 4-point scale, from 0 to 3, except for items 16 (changes in sleep pattern) and 18 (changes in appetite) which contain seven categories. Cut-off points have been established to classify those evaluated into one of the following four groups: 1-10 Normal, 11-16 Mood disturbance, 17-20 Mild depression, 21-30 Moderate depression, 31 to more severe depression (7).

Univariate analysis was performed by calculating absolute and relative frequencies for qualitative variables, presenting them in summary frequency tables. For bivariate analysis, the Chi-square test of statistical association with Pearson's correction was used using SPSS V24 statistical software.

The ethical framework of this study was established in Resolution 8430 of 1993, which sets out the academic, technical and administrative standards for health research. In accordance with these regulations, the study was classified as a risk-free research study (8).

Results

A total of 51 records were analyzed, of which 57% (n=29) were male and 43% (n=22) were female, with an average age of 52 years SD (16.4). Of the population, 62.7% had been diagnosed with the disease for more than one year and 25% of the participants reported being under treatment for

Leprosy.

Of the 51 patients and former patients with Hansen’s disease, 17 had some type of disability as a consequence of the disease, which is equivalent to 33% of the population studied.

According to the Beck I questionnaire, 29% of the population presented mood disturbance, 27% presented symptoms of mild depression, 16% and 2% presented moderate and severe depression respectively (Table 1).

Table 1. Sociodemographic and clinical characteristics of patients and former patients with aggregated Hansen's disease and the presence of depressive symptoms.

Characteristics		N	Relative frequency
Educational level	None	10	19,60%
	Elementary school	16	31,40%
	High School	20	39,20%
	Technical	4	7,80%
	Professional	1	1,96%
Marital status	Married	10	19,60%
	Single	23	45,10%
	Unmarried	15	29,40%
	Widowed	3	5,90%
Disabled	No	34	67%
	Yes	17	33%
Treatment for Hansen's disease	No	38	75%
	Yes	13	25%
Beck I Inventory Result	Normal	13	25%
	Mood disturbance	15	29%
	Mild depression	14	27%
	Moderate depression	8	16%
	Severe depression	1	2%
Age		47,4 (Media)	19 (DS)

The Beck I inventory statements most frequently reported by the study population were not having thoughts of killing myself, I get tired more easily than usual and I sleep a little more than usual, which corresponded to 86.3%, 64.7% and 60.8% respectively (Table 2).

Table 2. Main statements of the Beck I Inventory selected by the population under study.

Beck I Inventory Statements	Absolute frequency	Relative frequency
I have no thoughts of killing myself	44	86,27%
I do not feel that I am being punished	33	64,70%
I get fatigued or tired more easily than usual	33	64,70%
I sleep a little more than usual	31	60,78%
I feel more discouraged about my future than I used to be	30	58,82%
I feel sad a lot of the time	29	56,86%
I have failed more than I should have	29	56,86%
I cry more than I used to	29	56,86%
I am less interested in other people or things than I used to be	29	56,86%
I have less energy than I used to have	29	56,86%
My appetite is a little less than usual	29	56,86%
I don't enjoy things as much as I used to	28	54,90%
I don't feel particularly guilty	27	52,94%
I feel about myself the same way I always have	26	50,98%
I don't criticize or blame myself more than usual	25	49,01%
I feel more restless or tense than usual	25	49,01%
I find it harder than usual to make decisions	25	49,01%
I am less interested in sex than I used to be	25	49,01%
I do not consider myself as valuable and useful as I used to consider myself	24	47,05%
I am not as irritable as usual	24	47,05%
I can concentrate as well as usual	24	47,05%

Bivariate analysis of the association between sociodemographic characteristics, aspects of Hansen’s disease with the presence of depressive symptoms.

For the bivariate analysis, the population was regrouped into two categories, those participants with normal Beck I test results or with mood disturbance and those participants with some degree of depression in the group with depression.

In the analysis of the sociodemographic variables, significant relationships were found between sex and the presence of depressive symptoms ($p=0.026$) as well as with the time greater than one year of having been diagnosed with the disease ($p=0.045$). No statistically significant associations were found in the bivariate analysis with the condition of having children ($p=1$), having some type of work activity ($p=0.78$), coming from an

urban or rural area ($p=0.647$) and receiving etiological treatment for leprosy ($p=2-7$), so they do not represent conditions associated with the presence of depressive symptoms (Table 3).

Table 3. Association of sociodemographic characteristics of patients and former patients with Hansen's disease with the presence of depressive symptoms.

Variables	Categories	DEPRESSION		OR	95% confidence interval	P - Value
		YES	NO			
		N	N			
Gender	Female	14	8	0,257	0,080 - 0,830	0,026
	Male	9	20			
Children:	No	20	25	0,8	0,145-4,401	1
	Yes	3	3			
Income-generating work activity	No	10	14	0,769	0,254-2,330	0,78
	Yes	13	14			
Origin	Urban	20	26	0,513	0,078-3,367	0,647
	Rural	3	2			
Onset of illness	Less than or equal to 1 year	5	14	0,278	0,081-0,957	0,047
	Greater than 1 year	18	14			
Disability	No	16	18	0,788	0,243-2,556	,771
	Yes	7	10			
Current treatment	No	15	23	2.453	0,673-8,938	0,207
	Yes	8	5			

Source: Study data

Discussion

Leprosy is considered a neglected infectious disease (NIDD), which currently persists exclusively in the world's poorest and most neglected communities. By the year 2000, it was no longer considered a public health problem, but it continues to be endemic in 11 countries, and cases continue to be reported in the Americas (9).

The results of the present study show that 29% of the study subjects had mood disturbance, 27% had mild depressive symptoms and 16% had moderate depression. Saylan and collaborators use the Beck depression scale in patients with leprosy and describe a frequency of moderate and severe depression in 70% of the patients. In the same sense, the relationship between Hansen's disease and psychological disorders has been documented since ancient times, which are attributed to the physical defects generated

by this disease, family and community rejection, with several studies reporting a higher prevalence of psychiatric morbidity in the population affected by Hansen's disease than in the general population (10).

Likewise, a high prevalence of depressive symptoms was found among the female respondents; other authors point out that the female gender increases up to twice the probability of suffering from depression compared to the male gender, probably due to the fact that the production of serotonin by the brain in men is normally 52% higher than in women (11), the study by Bihar and Maharashtra concludes that the impact of Hansen's disease was greater for women, since they suffered greater isolation and rejection than men (12), Bakare points out that various factors can increase the risk of depression in women, such as being more interested in personal appearance and less satisfied with their personal presentation, in addition to coping with their menstrual cycles, pregnancy and menopause (13). Some studies reveal that depressive symptoms are more frequent in divorced people, since they are commonly related to stigma (14). This study only found a statistically significant association between gender and depressive symptoms.

The literature reveals that depressive symptoms with Hansen's disease had more effect in educated patients belonging to a higher socioeconomic group than in the less fortunate (15), in the present study no relationship was found.

The results of this study highlight a serious problem that implies a public health challenge because historically, exclusion and isolation have characterized the management of the disease, affecting the quality of life of patients. It has also been related from the spiritual component as sin or punishment, which may represent for the patient susceptibility to suffer some impact at a psychological level (16).

A study carried out in the municipalities of Cundinamarca and Santander evaluated through interviews in which leprosy patients and healthy people participated, the stigmatization process, behaviors and strategies of the patients to face or hide their stigma in social interaction. The problem of social stigma represents an additional burden to the disease that is still present, which negatively influences the quality of life of this population (17).

We recognize the limitations of the present study due to the small sample size so it is not possible to generalize to a larger context.

Conclusion

In the population evaluated, the presence of some degree of depressive symptoms could be established in 45% of the population evaluated and this condition was significantly associated with gender and having been diagnosed with Hansen's disease for more than one year. The results provide information that shows the need to implement strategies for mental health care and follow-up during the comprehensive care of patients with Hansen's disease.

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E-mail correspondence: soraya.salas@curnvirtual.edu.co

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