Factors associated with help-seeking behaviors in Mexican older individuals with depressive symptoms: a cross-sectional study

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Objective: Depression in the older individuals is associated with multiple adverse outcomes, such as high health service utilization rates, low pharmacological compliance, and synergistic interactions with other comorbidities. Moreover, the help-seeking process, which usually starts with the feeling "that something is wrong" and ends with appropriate medical care, is influenced by several factors.

The aim of this study was to explore factors associated with the pathway of help seeking among older adults with depressive symptoms.

Methods: A cross-sectional study of 60-year or older community dwelling individuals belonging to the largest health and social security system in Mexico was carried out. A standardized interview explored the process of seeking health care in four dimensions: depressive symptoms, help seeking, help acquisition, and specialized mental health.

Results: A total of 2322 individuals were studied; from these, 67.14% ($n = 1559$) were women, and the mean age was 73.18 years (SD = 7.02); 57.9% had symptoms of depression; 337 (25.1%) participants sought help, and 271 (80.4%) received help; and 103 (38%) received specialized mental health care. In the stepwise model for not seeking help ($\chi^2 = 81.66$, $p < 0.0001$), significant variables were female gender (odds ratio (OR) = 0.7, 95% confidence interval (CI) 0.511–0.958, $p = 0.026$), health-care use (OR 3.26, CI 95% 1.64–6.488, $p = 0.001$). Number of years in school, difficulty in activities, Short Anxiety Screening Test score, and indication that depression is not a disease belief were also significant.

Conclusions: Appropriate mental health care is rather complex and is influenced by several factors. The main factors associated with help seeking were gender, education level, recent health service use, and the belief that depression is not a disease. Detection of subjects with these characteristics could improve care of the older individuals with depressive symptoms. Copyright © 2013 John Wiley & Sons, Ltd.

Introduction

Depression is one of the more prevalent geriatric syndromes. In a recent review, depressive symptoms were found in 1.6–46% of a geriatric population, mild depression in 1.2–4.7%, and moderate to severe depression in 0.86–9.4% of the population (Djernes, 2006). Our group has reported an estimated prevalence of

21.7% (95% CI, 20.4–23) of significant depressive symptoms, with higher proportions in women and the older individuals (García-Peña *et al.*, 2008). It is widely recognized that depression in the older individuals is independently associated with multiple adverse outcomes, such as high health services utilization rates, low pharmacological compliance, and synergistic interactions with other comorbidities (Luber *et al.*, 2001; Schoevers *et al.*, 2009; Wagner *et al.*, 2012). Moreover, disability-adjusted life years averted by pharmacotherapy (serotonin reuptake inhibitors) and mixed interventions (pharmacotherapy, psychotherapy, and proactive management) were found to be cost-effective among other non-communicable chronic diseases in Mexico; these findings have a potential global impact on health systems (Salomon *et al.*, 2012). Nevertheless, mental health care or appropriate primary care has been frequently reported to be underutilized in older populations (Unutzer, 2007).

To avoid these problems in the older individuals, the whole process that leads to optimal caregiving should be considered because of the complex nature of the process and the convergence of several factors, especially in the older individuals suffering from depressive symptoms (Evashwick *et al.*, 1984). This process is composed of help seeking and care; the first factor is imputable to the subject and the second to the health system (Mackenzie *et al.*, 2008). Several conceptual models have been proposed and tested from the early Andersen's model to the more recent ones, such as the common sense model (Crabb and Hunsley, 2006). Help seeking begins with the feeling that something is wrong and the correct interpretation of these perceptions. This interpretation is influenced by beliefs, which in turn are also influenced by other factors, including cognition. The group of beliefs then gives rise to attitudes (positive or negative), and the final part of the process is the execution of actions to receive care (Mackenzie *et al.*, 2006).

Studies about help seeking in older people with depressive symptoms agree on the associations of some positive factors with greater help-seeking behaviors: younger age, female sex, and higher education. Two main approaches have been used to assess these factors, the "hypothetical" approach and the "real-life" approach. Both approaches have produced similar results (Burns *et al.*, 2003; Barney *et al.*, 2006; Crabb and Hunsley, 2006; Mackenzie *et al.*, 2006; Mackenzie *et al.*, 2008; Simning *et al.*, 2010). The stigma associated with depression has been shown to impact negatively help-seeking behavior. Furthermore, there is some evidence that this stigma might be expressed differently among racial groups (Conner *et al.*, 2010a). Finally,

similar factors influencing the search for specialized or general care for depression (Simning *et al.*, 2010).

Therefore, the aim of this study was to explore factors associated with help-seeking behaviors in a group of older Mexican people with depressive symptoms using a real-life approach to explore the reasons given for not seeking help and to assess the proportion of those subjects actually receiving health care (specifically mental health care). In addition, we hypothesized that (1) previous associated factors observed in other studies, such as age, gender, education level, anxiety, and stigma, would have the same associations in our study; (2) comorbidities would influence the help-seeking process; and (3) having higher levels of activity and lower levels of dependence regarding activities of daily living would positively influence help-seeking behaviors.

Methods

Population

This was a cross-sectional study of the third wave from the cohort: "Integrated Study of Depression Among Elderly Insured by *Instituto Mexicano del Seguro Social* (IMSS) in Mexico City". A detailed description of methods and sampling are described elsewhere (García-Peña *et al.*, 2008). In brief, the population base consisted of all community dwelling subjects 60 years or older who lived in Mexico City and were affiliated to IMSS ($N = 384{,}000$; 48% of the whole 60-year or older population of Mexico City). A three-stage cluster sampling procedure, based on Family Medicine Units, drew a probabilistic sample of these affiliates.

Measures

Data were collected from February to September of 2007 using a standardized questionnaire, which was administered through face-to-face interviews at the participant's home by previously trained personnel and supervised by research assistants. All subjects signed an informed consent document.

The help-seeking process was assessed with two main questions with a time frame of 1 year: "Have you felt depressed, sad, nervous or worried?" and "Did you seek help?" were asked, with a dichotomous response (yes/no). Those participants who did not seek help were asked about the reasons with nine mutually exclusive questions (Table 3). From there, a sequence of questions were asked to investigate other aspects, including "Did you get help?" and "Did you receive

specialized mental health care?" Finally, for those participants who received help, questions about the health care received were asked, including main given diagnoses, type of health service, type of intervention, and adverse drug reactions.

The collected sociodemographic characteristics included age (in years), gender, marital status (married, single, divorced, or widowed), education (number of years of school attended), number of people living in the same home of the subject, if the older individual lived alone, and the availability of someone who could take the older individual to the doctor. Health self-perception (excellent, very good, good, fair, and poor) and the use of any health service in the last 6 months were also assessed. Regarding physical activity, two questions from the SF-36 were asked to assess the self-report of limitations to performing vigorous activity (running, lifting heavy objects, playing intense sports) and limitations to performing moderate activity (moving a table, playing moderate sports) with yes/no options. Additional questions on each activity of daily living (ADL) and instrumental activities of daily living (IADL) were assessed, and composite variables were created if the subject experienced any difficulty with the ADL or IADL.

Self-report of chronic diseases diagnosed by a doctor was listed for hypertension, diabetes, osteoarthritis, cancer, chronic obstructive pulmonary disease, osteoporosis, stroke, nephropathy, heart disease, hyperthyroidism, hypothyroidism, and chronic pain, and a sum of each condition was used as a comorbidity index. Depressive symptoms were evaluated with the 30-item Geriatric Depression Scale (GDS) (Yesavage *et al.*, 1982; Sanchez-Garcia *et al.*, 2008). Cognitive impairment was assessed with a previously validated version of the Mini Mental State Examination (MMSE) (Reyes de Beaman *et al.*, 2004) and was used as a continuous variable. Anxiety was assessed by means of the Short Anxiety Screening Test (SAST) (Sinoff *et al.*, 1999) as a continuous variable. Depression stigma was assessed with the question "Do you think depression is a disease?" as used in a recent report (Cook and Wang, 2010).

Data analysis

A descriptive analysis was performed to determine the relative and absolute frequencies or the means and standard deviations. A comparison was made between subjects reporting depressive symptoms and those without depressive symptoms using a *t*-test for continuous variables and the chi-square test for nominal/categorical variables. Absolute and relative frequencies were used to describe the process, including previous health-care use, help-seeking behavior, help acquisition, and the type of help acquired. Absolute and relative frequencies of each of the categories of reasons for not seeking help were also determined.

Help seeking was tested in bivariate analyses using the chi-square test for dichotomous or ordinal variables and the *t*-test for continuous variables. A first logistic regression was performed in which all explanatory variables were independently entered in the model, both unadjusted and adjusted, reporting odds ratio (OR; with 95% confidence intervals (CIs)) and *p*-values. A final model was performed with a stepwise logistic regression, to preserve only significant variables ($p < 0.05$). All calculations were performed with the STATA 12 software (StataCorp LP, College Station, TX, USA).

Ethics statement

The study was reviewed and accepted by the Comisión Nacional de Investigación Científica de la Coordinación de Investigación en Salud, del Instituto Mexicano del Seguro Social (National Commission of Scientific Research of the Health Research Commission of the Mexican Social Security Institute), which includes the approval of the Ethics and Methodological subcommissions with the registry number 2001-785-015. All procedures in this research complied with the Helsinki Declaration, and all subjects signed informed consent. The informed consent procedure was performed by the interviewers and included a thorough explanation of the study, in the presence of the study subject and two independent witnesses, emphasizing the absolute freedom of decision in entering and that deciding not to enter would not affect any of the attention given to the subject. Once this was performed, and if the subject accepted, a copy of the explanation given was handed, and the study subject, the interviewer, and the witnesses signed an original and a copy. Additionally, if the subject during the interview felt that he or she did not want to continue, the interview was stopped with no additional questions and reassuring that all the care received will be exactly the same.

Results

A total of 2322 subjects were interviewed, 67.14% ($n = 1559$) were women, and the mean age was 73.18 years (SD 7.02). The mean GDS score was of 10.9 points (SD 7). A total of 52.8% of participants were married and had a mean time of attending school

of 2.2 years. Approximately one in 12 participants lived alone. The most prevalent health problem was hypertension (55.8%), followed by diabetes (30.7%), chronic pain (22.78%), and osteoarthritis (11.4%). The proportion of subjects who indicated that depression is not a disease was 36.04% ($n = 673$). The remaining characteristics of the whole sample are depicted in Table 1.

From the total sample, a total of 1345 (57.92%) reported depressive symptoms in the last year. Those who reported depressive symptoms and sought help had a mean age of 72.33 years (SD 7.05) compared with 73.38 years (SD 7.33) of those who did not seek help ($p < 0.05$). There was a statistically significant difference between the proportion of male subjects who sought help (21.3%) in comparison with those

Table 1 General characteristics

Variable	Depressive symptoms $N = 1345$		No Depressive symptoms $N = 977$		Total $N = 2322$	
	Mean	**(SD)**	**Mean**	**(SD)**	**Mean**	**(SD)**
Age in years	73.12	7.28	73.27	6.66	73.18	7.02
Gender	**n**	**(%)**	**n**	**(%)**	**n**	**(%)**
Male	347	25.8	416	42.5	763	32.9*
Female	998	74.2	561	57.4	1559	67.1*
Marital status						
Married	676	50.37	551	56.3	1227	52.8*
Single	74	5.5	52	5.3	126	5.4*
Divorced	76	5.65	43	4.4	119	5.1*
Widowed	519	38.59	331	33.8	850	36.6*
	Mean	**(SD)**	**Mean**	**(SD)**	**Mean**	**(SD)**
Number of years in school	2.2	1.0	2.2	1.1	2.2	1*
Number of cohabitants	3.5	3.1	3.4	3.0	3.4	3.1
	n	**(%)**	**n**	**(%)**	**n**	**(%)**
Living alone	109	8.1	67	6.8	176	7.5
Health self-perception						
Excellent	9	0.67	21	2.10	30	1.3*
Very good	16	1.19	32	3.20	48	2.1*
Good	200	14.87	316	32.30	516	22.2*
Fair	831	61.78	528	54.00	1359	58.5*
Poor	289	21.49	80	8.20	369	15.9*
Health-care use in the last 6 months for any reason	1243	92.56	857	87.70	2102	90.5*
Someone can take to the doctor	57	4.24	20	2.00	77	3.3*
Difficulty in performing vigorous activity	1181	87.81	752	76.90	1933	83.2*
Difficulty in performing moderate activity	902	67.06	479	49.00	1381	59.4*
Difficulty in performing at least one ADL	397	29.50	169	17.30	566	24.3*
Difficulty in performing at least one IADL	112	8.33	175	17.90	287	12.3*
	Mean	**(SD)**	**Mean**	**(SD)**	**Mean**	**(SD)**
GDS 30 score	14.2	6.51	6.3	4.72	10.9	7.0*
SAST score	21.4	5.39	15.9	3.50	19.1	5.4*
MMSE score	26.2	6.01	26.6	5.90	26.4	5.9
Sum of comorbidities	1.5	1.13	1.2	1.05	1.4	1.1*
	n	**(%)**	**n**	**(%)**	**n**	**(%)**
Hypertension	804	59.77	492	50.3	1296	55.8*
Diabetes	425	31.59	289	29.6	714	30.7*
Osteoarthritis	176	13.08	90	9.2	266	11.4*
Cancer	42	3.12	22	2.2	64	2.7
COPD	57	4.23	35	3.6	92	3.9
Osteoporosis	147	10.92	64	6.5	211	9.1*
Stroke	55	4.08	12	1.2	67	2.8*
Nephropathy	114	8.47	45	4.6	159	6.8*
Heart disease	223	16.65	109	11.1	333	14.3*
Hyperthyroidism	12	0.89	6	0.6	18	0.7
Hypothyroidism	19	1.41	15	3.4	34	1.4
Pain	192	14.28	337	34.5	529	22.8*
Indication that depression is not a disease	442	33.01	392	47.0	673	36.0*

SD, standard deviation; ADL, activities of daily living; IADL, instrumental activities of daily living; GDS, Geriatric Depression Scale; SAST, Short Anxiety Screening Test; MMSE, Mini Mental Status Examination; COPD, chronic obstructive pulmonary disease.
*$p < 0.05$.

who did not (27.2%). The mean number of years of school was 2.3 (1.13) for those who sought for help and 2.11 (SD 0.99) for those who did not ($p < 0.05$). Other variables significantly different between groups were use of any health service in the previous 6 months, means of the GDS 30 and SAST scores, presence of hypertension, and mean of comorbidities.

Details are presented in Table 2. Finally, 34.82% of non-help-seekers did not believe that depression was an illness, compared with 27% in the other group, and this difference was statistically significant (Table 2).

Table 3 presents the first reason given by subjects for not seeking help, with the most frequent being "I thought the problem would get better by itself"

Table 2 Differences between individuals seeking help versus those who did not seek help

	Did you seek help?					
	Yes $N = 337$		No $N = 1008$		Total $N = 1345$	
Variable						
	Mean	**(SD)**	**Mean**	**(SD)**	**Mean**	**(SD)**
Age in years	72.33	7.05	73.38	7.33	73.12	7.28*
	n	(%)	*n*	(%)	*n*	(%)
Gender						
Male	72	21.36	275	27.28	347	25.8*
Female	265	78.63	733	72.72	998	74.2
Marital status						
Married	174	26.11	502	75.67	676	50.37
Single	18	24.32	56	74.32	74	5.50
Divorced	18	25.00	58	75.00	76	5.65
Widowed	127	24.52	392	75.50	519	38.59
	Mean	**(SD)**	**Mean**	**(SD)**	**Mean**	**(SD)**
Number of years in school	2.3	1.13	2.1	0.99	2.15	1.03*
Number of cohabitants	3.2	2.72	3.6	3.25	3.48	3.12
	n	(%)	*n*	(%)	*n*	(%)
Living alone	32	9.5	77	7.64	109	8.1
Health self-perception						
Excellent	1	11.11	8	88.89	9	0.67
Very good	2	12.50	14	87.50	16	1.19
Good	48	24.00	152	76.00	200	14.87
Fair	202	24.30	629	75.70	831	61.78
Poor	84	29.06	205	70.94	289	21.49
Health-care use in the last 6 months for any reason	327	97.00	916	90.80	1243	92.56*
Someone can take to the doctor	16	28.07	41	71.93	57	4.24
Difficulty in performing vigorous activity	286	24.22	895	75.78	1181	87.81
Difficulty in performing moderate activity	237	26.27	665	73.73	902	67.06
Difficulty in performing at least one ADL	104	26.20	293	73.80	397	29.52
Difficulty in performing at least one IADL	32	28.57	80	71.43	112	8.33
	Mean	**(SD)**	**Mean**	**(SD)**	**Mean**	**(SD)**
GDS 30 score	15.35	6.40	13.86	6.50	14.22	6.51*
SAST score	22.64	5.72	21.01	5.21	21.41	5.39*
MMSE score	26.47	6.23	26.17	6.02	26.24	6.01
Sum of comorbidities	1.67	1.13	1.5	1.13	1.54	1.13*
	n	(%)	*n*	(%)	*n*	(%)
Hypertension	218	27.11	586	72.89	804	59.77*
Diabetes	106	24.94	319	75.06	425	31.59
Osteoarthritis	44	25.00	132	75.00	176	13.08
Cancer	14	33.33	28	66.66	42	3.12
COPD	17	29.82	40	70.18	57.00	4.23
Osteoporosis	45	30.61	102	69.39	147	10.92
Stroke	12	21.82	43	78.18	55	4.08
Nephropathy	32	28.08	82	71.92	114	8.47
Heart disease	65	29.15	158	70.85	223	16.65
Hyperthyroidism	5	41.67	7	58.33	12	0.89
Hypothyroidism	6	31.58	13	68.42	19	1.41
Pain	48	25.00	144	75.00	192	14.28
Indication that depression is not a disease	91	27.00	351	34.82	442	33.01*

SD, standard deviation; ADL, activities of daily living; IADL, instrumental activities of daily living; GDS, Geriatric Depression Scale; SAST, Short Anxiety Screening Test; MMSE, Mini Mental Status Examination; COPD, chronic obstructive pulmonary disease.
*$p < 0.05$.

Table 3 First reasons given for not seeking help (mutually exclusive)

	Number (1008)	(%)
I thought the problem would get better by itself	248	24.60
I wanted to handle the problem on my own	171	16.96
I didn't trust the health professionals	67	6.64
I had transportation problems	67	6.64
I didn't know where to go	49	4.86
I was worried about health care cost	47	4.66
I didn't have time to go	43	4.26
I didn't think treatment would work	19	1.88
I was worried about people's opinion about me	9	0.89
Other reasons	273	27.08
No reason	15	1.48

(24.6%) and followed by "I wanted to handle the problem on my own" (16.96%).

Regarding the path (Figure 1)—that begins with the depressive symptomatology and ends when receiving specialized mental health care—only 337 (25.06%) subjects sought help in the first step (help seeking). Following the pathway, 80.41% of the participants obtained help ($n = 271$), and 38% (n = 103) obtained specialized mental health. For the total sample of subjects with depressive symptoms (of either help-seeking status), only 20.15% received help and 7.65% received specialized mental health care.
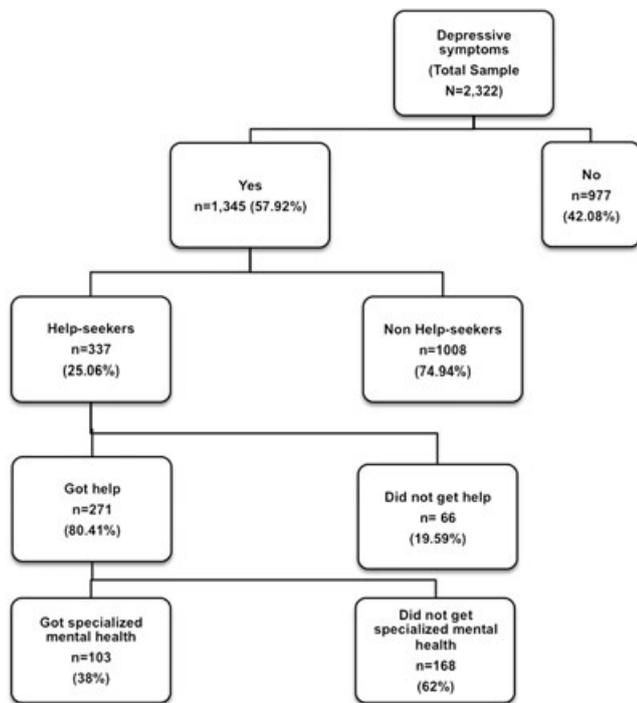
Figure 1 Help-seeking process.

In the first model, which included all the variables, the unadjusted OR for age was 0.978 (CI 95% 0.96–0.99, $p = 0.016$) and changed to 0.98 (CI 95% CI 0.961–1, $p = 0.094$) when adjusted. Regarding female gender, adjusted OR was of 0.713 (CI 95% 0.51–1.002, $p = 0.052$), and for numbers of years in school in the fully adjusted model OR was 1.06 (CI 95%, 1.03–1.1, $p < 0.0001$) (Table 4). Marital status, as well as those variables related to social support (number of cohabitants, living alone, and having someone that can take the older individual to the doctor), were not significant. Health-care use in the previous 6 months had an OR of 2.77 (CI 95%, 1.34–5.74, $p = 0.006$) in the fully adjusted model. Difficulties in performing moderate activity and in at least one IADL had an OR of 1.5 and 1.67, respectively, a significant association in the fully adjusted model. On the other hand, difficulty in performing vigorous activity and believing that depression is not an illness were inversely associated with help seeking, with an OR of 0.5 and 0.7, respectively. Comorbidities were statistically significant in the unadjusted model, nevertheless lost significance in the fully adjusted model. In the stepwise model ($\chi^2 = 81.66$, $p < 0.0001$), female gender improved significance ($p = 0.026$) with OR 0.7 (95% CI 0.511–0.958); health-care use also had higher OR 3.26 (CI 95% 1.64–6.488, $p = 0.001$). Number of years in school, difficulty in activities, SAST score, and depression as a disease belief remained unchanged (Table 5).

Finally, the variables associated with receiving specialized mental health care were education (OR = 1.065, CI 95% 1.04–1.104, $p = < 0.001$) and having a limitation in performing vigorous physical activity (OR = 2.48, 95% 1.14–5.36, $p = 0.021$); these variables remained constant in the logistic regression model (data not shown in a table).

For those who received help (data not shown in a table), 68.5% ($n = 227$) had received a depression diagnosis; other given diagnoses were anxiety (14.91%), bereavement (5.61%), insomnia, and nervousness (both 6.7%). Pharmacotherapy was initiated for 78.15% of those who received help, and benzodiazepines (diazepam and clonazepam) and imipramine were the drugs most frequently prescribed; the frequency of side effects was over 60% (i.e., sleepiness, insomnia, nausea). Other interventions included psychotherapy (24%), alternative medicine (9.05%), and multivitamin supplements (10.23%). Approximately 104 subjects consulted a private practitioner (30.32%).

Discussion

The main factors associated with help seeking in this population were gender, education level, recent health

Table 4 Regression models for not seeking help among subjects with significant depressive symptoms

	Not adjusted			Fully adjusted		
	OR (CI 95%)		p	OR (CI 95%)		p
Age in years	0.978	(0.960–0.990)	0.016	0.980	(0.961–1.00)	0.094
Gender						
Male	1.000	(Ref.)		1.000	(Ref.)	
Female	0.724	(0.540–0.972)	0.032	0.713	(0.510–1.002)	0.052
Marital Status						
Married	1.00	(Ref.)	——	1.000	(Ref.)	——
Single	1.010	(0.583–1.750)	0.971	0.773	(0.427–1.390)	0.396
Divorced	0.974	(0.563–1.680)	0.927	0.803	(0.452–1.420)	0.456
Widowed	0.945	(0.725–1.230)	0.675	0.912	(0.676–1.230)	0.550
Number of years in school	1.050	(1.025–1.080)	<0.0001	1.060	(1.034–1.1)	<0.0001
Number of cohabitants	0.959	(0.919–1.000)	0.055	0.969	(0.925–1.010)	0.184
Living alone	0.985	(0.722–1.34)	0.925	1.164	(0.698–1.942)	0.560
Health self-perception						
Excellent	1.000	(Ref.)	—	1.000	(Ref.)	—
Very good	1.142	(0.080–14.67)	0.918	1.263	(0.090–17.730)	0.862
Good	2.526	(0.308–20.7)	0.388	2.273	(0.256–20.160)	0.461
Fair	2.560	(0.319–20.6)	0.375	2.290	(0.262–20.140)	0.452
Poor	3.270	(0.403–26.6)	0.267	2.383	(0.266–21.320)	0.437
Health care in the last 6 months for any reason	3.200	(1.640–6.230)	0.001	2.770	(1.340–5.740)	0.006
Someone can take to the doctor	1.175	(0.650–2.123)	0.592	0.993	(0.526–1.870)	0.985
Difficulty in performing vigorous activity	0.708	(0.495–1.01)	0.058	0.505	(0.321–0.793)	0.003
Difficulty in performing moderate activity	1.222	(0.935–1.590)	0.141	1.500	(1.045–2.150)	0.028
Difficulty in performing at least one ADL	1.08	(0.833–1.420)	0.532	1.170	(0.860–1.610)	0.304
Difficulty in performing at least one IADL	1.217	(0.791–1.870)	0.370	1.670	(1.030–2.690)	0.035
GDS 30 score	1.036	(1.016–1.050)	<0.001	1.020	(0.991–1.040)	0.171
SAST score	1.057	(1.033–1.080)	<0.001	1.055	(1.019–1.091)	0.002
MMSE score	1.000	(0.988–1.020)	0.427	1.004	(0.982–1.020)	0.709
Sum of comorbidities	1.137	(1.022–1.260)	0.018	1.300	(0.987–1.710)	0.750
Hypertension	1.297	(1.004–1.670)	0.046	1.180	(0.900–1.540)	0.213
Diabetes	0.905	(0.835–0.098)	0.015	1.172	(0.880–1.550)	0.271
Osteoarthritis	0.893	(0.819–0.970)	0.01	1.283	(0.871–1.880)	0.207
Cancer	0.876	(0.790–0.961)	0.005	0.831	(0.436–1.580)	0.573
COPD	0.887	(0.810–0.970)	0.010	1.040	(0.672–1.600)	0.858
Osteoporosis	0.882	(0.808–0.960)	0.005	0.905	(0.645–1.270)	0.567
Stroke	0.886	(0.807–0.960)	0.008	1.141	(0.694–1.870)	0.602
Nephropathy	0.882	(0.807–0.964)	0.006	1.043	(0.664–1.630)	0.852
Heart disease	0.880	(0.807–0.960)	0.004	0.934	(0.662–1.310)	0.662
Hyperthyroidism	0.876	(0.799–0.960)	0.006	0.887	(0.337–2.32)	0.337
Hypothyroidism	0.875	(0.798–0.960)	0.005	0.809	(0.413–1.580)	0.538
Pain	0.968	(0.753–1.24)	0.803	1.365	(0.918–2.02)	0.124
Indication that depression is not a disease	0.701	(0.533–0.922)	0.011	0.719	(0.414–0.959)	0.025

GDS, Geriatric Depression Scale; SAST, Short Anxiety Screening Test.

Table 5 Final logistic regression (stepwise) model for not seeking help among subjects with significant depressive symptoms

Variable	OR (CI 95%)		p
Gender			
Male	1.000	(Ref.)	
Female	0.700	(0.511–0.958)	0.026
Number of years in school	1.065	(1.040–1.104)	< 0.0001
Health care in the last 6 months for any reason	3.260	(1.640–6.488)	0.001
Difficulty in performing vigorous activity	0.484	(0.311–0.753)	0.001
Difficulty in performing moderate activity	1.458	(1.040–2.043)	0.028
Difficulty in performing at least one IADL	1.600	(1.004–2.563)	0.048
SAST score	1.072	(1.045–1.100)	<0.001
Indication that depression is not a disease	0.715	(0.539–0.948)	0.020

service use, and the belief that depression is not a disease; all of these factors have been reported previously (Crabb and Hunsley, 2006; Conner *et al.*, 2010b). In addition, difficulty in performing activities and IADL were also associated with help-seeking behavior, which agrees with the previous factors reported by Evashwick and colleagues in the context of the Andersen's model of health services utilization (Evashwick *et al.*, 1984). There were associations between comorbidities and help seeking, but the associations were no longer significant in the fully adjusted model for either individual diseases or the sum of them. This result may be due in part to the adjustment for recent health-care use, which is more common in those subjects who receive constant care because of a particular disease or diseases.

Only a small proportion of subjects with depressive symptoms obtained appropriate mental health care, as shown by 7.65% of those who responded affirmatively to the depression question either because they did not seek help, did not receive help, or did not have specialized mental health treatment. The factors associated with each of these filters were different, pointing to the fact that different strategies should be used during these steps to develop an appropriate and targeted intervention for older individuals with depressive symptoms. The main reasons for not seeking help were similar to those reported by Garrido *et al.* in non-Hispanics, particularly the thoughts indicating low health literacy, such as believing that depressive symptoms would get better by themselves, that problems are easy to handle, and thinking that treatment would not work (Garrido *et al.*, 2011). One of the main reasons for not seeking help in our study was "I thought the problem would get better by itself," which was reported in 24.6% of participants; this finding was already reported in the general population in which depression stigma leads the individual to consider this state as normal or as transitory (Wittkampf *et al.*, 2008). This result can also point to the lack of recognition of one's own symptoms, something that has a close relationship with health literacy. The same behavior was reported by Lexis, in which a group of workers were screened for depressive symptoms and help-seeking behavior (Lexis *et al.*, 2010). It is also relevant to note the scarce proportion of subjects with depressive symptoms that received help given that depression has been shown to be the cause of lost healthy life years in Mexico (>10%) (Gómez Dantés *et al.*, 2011).

There is evidence of a higher use of somatic services (Garcia-Pena *et al.*, 2008) and both a lower referral to a suitable specialty (i.e., psychiatry or geriatrics) (Beekman *et al.*, 2002; Roelands *et al.*, 2003) and an underutilization of mental services in the older individuals with depressive symptoms. These findings are similar to the data presented in this report (low use of mental health services and high use of benzodiazepines) (Jorm *et al.*, 2000; Valenstein *et al.*, 2004). Moreover, we found that depressed older individuals who were functionally impaired (who experienced difficulties in performing physical activity) were less likely to receive help.

To reduce disease burden, comprehensive interventional strategies including primary and secondary prevention, diagnosis, and treatment are needed (Alexopoulos and Bruce, 2009). However, subjects with depression are reluctant to seek professional help, with estimates indicating that over half of those with major depression in the community do not seek help. In the present study, approximately 75% of the participants did not seek help. This reluctance is enhanced when seeking care from a specialized mental health professional (Burns *et al.*, 2003). One of the main recognized reasons is the stigma associated with mental illness, which may negatively affect individuals' willingness to seek help (Barney *et al.*, 2006). Although this stigma was not studied in these subjects, it may account for the proportion of older people who did not seek help and may be reflected in some of the responses regarding the reasons for not seeking help (i.e., "I was worried about people's opinion about me"). Wang and Lai in 2008 reported gender as a significant factor associated with depression stigma. This finding was consistent with previous research indicating that men had held higher stigmatizing attitudes and most likely sought help less frequently than women (Wang and Lai, 2008). There was a significant independent association between genders in our study, favoring positive help-seeking behavior in men; this result differs from other reports and it may reflect a cultural influence toward protecting men. However, this association was only observed in the stepwise model, which could reflect a type I error. Stigma has been described in those groups with lower educational levels because years in school were associated independently with seeking help (Cook and Wang, 2010); this finding was confirmed in the present study. However, our sample was biased regarding scholarship because clients of our health system are reported to have lower scholarship in comparison with the general population.

Another important issue is the lack of training for the first level of care for treating mental health diseases. Family doctors must be capable of treating mild and moderate symptoms of depression in the older individuals, and pharmacological resources must be available (Wang *et al.*, 2009). Additionally, nurses who are well trained in mental health can manage group therapies, as demonstrated by Muñoz *et al.* (Munoz and Mendelson, 2005). Unfortunately, only a small fraction

in our sample received care. The vast majority were prescribed benzodiazepines (diazepam and clonazepam), and the antidepressant that was reported as most prescribed is well recognized for its anticholinergic side effects (Fick et al., 2003).

One of the strengths of our study is the demonstration that the so-called filter pathway is a useful approach to assess the help-seeking process. The health-care use filter was particularly helpful, as shown by a two times greater probability of seeking help if any health service was used in the previous 6 months.

Limitations of the study included a possible effect of memory bias as the older individual or their caregiver transmitted the data orally; however, this method is the typical way to collect information in this type of study. Although depressive symptoms were assessed with a sole question, a single question for assessing depression in older individuals has been reported to have a sensitivity of 50% to 100% and a specificity of 82.9% to 98.6% compared with structured interviews or other screening tools (Ayalon et al., 2010). In addition, our sample subjects belong to a specific health system in Mexico, which could not reflect the whole population. Finally, some other factors were not tested in this study such as those related to the surrounding environment, which could influence the seeking process.

Future research should consider other characteristics of subjects with depressive symptoms who do not seek help or do not receive help, particularly regarding the outcomes. In addition, the health-care and social services utilization of older people with mental disorders, especially depressive symptoms, has not been sufficiently studied. Greater knowledge in this area could provide direction for preventive and curative interventions. We agree with Conner and colleagues that strategies should be implemented and tested to avoid the barriers preventing help-seeking behaviors and to allow for appropriate care to be administered.

Key points

- Help-seeking behaviors in the older individuals are complex and multifactorial.
- Depressive symptoms make this process more difficult.
- There are cultural differences regarding help-seeking process.
- Knowing the factors that impact help-seeking process in the older individuals with depressive symptoms could aid in an appropriate mental health care.

Conflict of interest

None declared.

Author contributions

C. G. P. designed the study and the original question and contributed to the analysis. M. U. P. Z. assisted with the design and the analysis and prepared the draft. V. E. A. L. contributed to the conception of the study and conducted the analysis, interpreted the data, and reviewed the manuscript. F. W. and J. J. G. were involved in the design of the study, the interpretation of the data, and the revision of the manuscript. All authors gave final approval of the submitted version.

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