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Depresión en cuidadores primarios informales de pacientes con limitación en la actividad

Depression in primary informal caregivers of patients with activity limitations

Depressão em cuidadores informais de pacientes com limitação atividade primária

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Resumen

La discapacidad producida por enfermedades neuromusculares afecta las funciones corporales, psicológicas y sociales de los pacientes. Por lo tanto, sus cuidados son complicados y requieren de un cuidador primario informal que les brinde apoyo físico y emocional. Esto hace que la calidad de vida del cuidador tienda a deteriorarse y a que surjan situaciones contraproducentes.

El objetivo principal de esta investigación fue determinar la relación existente entre el nivel de limitación en la actividad que presentan los pacientes con enfermedades neuromusculoesqueléticas y los índices de depresión en sus cuidadores primarios familiares, quienes acudieron a la Unidad Universitaria de Rehabilitación de la Universidad Autónoma de Yucatán de enero a mayo de 2016.

A los cuidadores primarios informales se les tomaron variables sociodemográficas y se les aplicaron los siguientes instrumentos: Cuestionario Sociodemográfico para Cuidadores Primarios Familiares Informales, Índice de Depresión de Beck, y Lista de Cotejo de la Clasificación Internacional del Funcionamiento, la Discapacidad y la Salud.

Los resultados muestran un perfil caracterizado por cuidadores primarios, en su mayoría mujeres (83.3 %), con una edad media de 46.6 ± 13.4 años, amas de casa, casadas y con una escolaridad de nivel licenciatura (50 %). Se encontró una correlación positiva y significativa (r=0.63, p=0.00488, coeficiente de correlación de Pearson) entre el nivel de depresión de los cuidadores primarios y el nivel de la limitación en la actividad de los pacientes a su cargo.

Los cuidadores primarios familiares de los pacientes con enfermedad neuromusculoesquelética y que acuden a la Unidad Universitaria de Rehabilitación de la Universidad Autónoma de Yucatán, son en su mayoría mujeres, amas de casa y con escolaridad de licenciatura. Los resultados indican que a mayor limitación en la actividad de los pacientes con enfermedad neuromusculoesquelética, mayor es el índice de depresión de su cuidador primario informal.

Palabras clave: depresión, limitación en la actividad, cuidadores primarios informales.

Abstract

The disability produced by disease neuromuscular affects the body, psychological and social functions of the patients. Therefore, their care are complicated and require an informal primary caregiver to provide them physical and emotional support. This makes the quality of life of the caregiver shop to deteriorate and to counterproductive situations from arising.

The main objective of this research was to determine the relationship between the level of limitation on activity presenting patients with neuromusculoesqueleticas diseases and the rates of depression in their primary family caregivers, those who attended the University Rehabilitation Unit of the Autonomous University of Yucatán from January to May 2016.

Informal primary caregivers socio-demographic variables were taken to them, and the following instruments were applied to them: socio-demographic for primary informal family caregivers questionnaire, Beck Depression Inventory, and Comparison List of the «International Classification of Functioning, Disability and Health (ICF)».

The results show a profile characterized by primary caregivers, mostly women (83.3%), with an average age of 46.6 ± 13.4 years, housewives, married and with a schooling level Bachelor's degree (50%). They found a positive and significant correlation (r=0.63, p=0.00488, Pearson correlation coefficient, PCC) between the level of depression of the primary caregivers and the level of the activity limitation of patients they take care of.

Primary family caregivers of patients with neuromusculoskeletal disease and that attend the University Rehabilitation Unit of the Autonomous University of Yucatán, they are mostly women, housewives that hold a Bachelor's degree. The results indicate that the greater limitation on the activity of the patients with neuromusculoskeletal disease, the greater is the index of its primary informal caregiver depression.

Key words: depression, activity limitations, informal primary caregivers.

Resumo

A deficiência causada por doenças neuromusculares que afetam corporais, funções psicológicas e sociais dos pacientes. Portanto, seus cuidados são complicadas e exigem um cuidador primário informal que lhes dá apoio físico e emocional. Isso faz com que a qualidade de vida do cuidador tende a deteriorar-se e para contrariar surgir situações.

O principal objetivo desta pesquisa foi determinar a relação entre o nível de limitação de atividade experimentado por pacientes com doenças músculo-esqueléticos e as taxas de depressão em seus cuidadores primários família, que participaram Unidade de Reabilitação da Universidade da Universidade Autónoma de Yucatan janeiro-maio de 2016.

A cuidadores informais primários foram tomadas sociodemográfico e foram aplicados os seguintes instrumentos: Questionário sociodemográfico primária Família Cuidador Informal, Beck Índice de Depressão e Checklist da Classificação Internacional de Funcionalidade, Incapacidade e Saúde.

Os resultados mostram um perfil caracterizado por cuidadores primários, a maioria mulheres (83,3%) com idade média de 46,6 ± 13,4 anos, donas de casa, casados e um nível médio completo (50%). uma correlação positiva e significativa (r = 0,63, p = 0,00488, Pearson coeficiente de correlação) entre o nível de depressão em cuidadores primários e o nível de limitação de atividade em pacientes considerados responsáveis.

Os familiares cuidadores primários de pacientes com doença neuromusculoskeletal e freqüentando Unidade de Reabilitação da Universidade da Universidade Autónoma de Yucatán, são na sua maioria mulheres, donas de casa e grau de escolaridade. Os resultados indicam que a limitação actividade mais elevada em pacientes com doença esquelético, quanto maior a taxa de quebra de cuidador primário informal.

Palavras-chave: depressão, limitação de atividade, cuidadores primários informais.

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Introduction

Neuromusculoesqueleticas illnesses are neurological diseases of progressive nature, most of origin genetic and its main feature is the loss of the muscle strength. These chronic diseases generate a severe disability in the population who suffers it, with loss of personal autonomy and high psychosocial load (López-Pisón et al., 2005; Rodríguez-Blázquez et al., 2016).

In Mexico, the National Institute of Statistics and Geography (INEGI by its name in Spanish) reported for the year 2010 to 5.1% of the population suffers a disability. However, for the year 2014 reported an increase in its prevalence, which is 6%. In the case of Yucatan, the prevalence of the disability is greater to the reported to level national (6.5%).

According to the National Survey of Demographic Dynamics (Mexico) (Enadid, 2014), the most frequent disabilities nationwide corresponds to the disability (walking, go up or down using their legs) with a prevalence of 64.1%.

In this sense, patients who are limited in their activities require someone to take care of them, for support or to perform activities of daily living that they can not carry out of independently. Therefore, when a family suffers a family crisis by diseases or disabling accidents, for example, a neuromusculoskeletal disease, this produces difficulties in the adaptive response of the family (Alfaro-Ramírez del Castillo et al., 2008). In this sense, the World Report on Disability (World Health Organization [WHO], 2011) reports that most of the support required by people with disabilities is provided by family and/or social networks close to the person receiving care. However, recourse solely to the support of a family member may have counterproductive effects for these caregivers, such as the loss of opportunities socio-economic, the isolation, an increase in the stress, as well as a high psychological and emotional stress (Carod-Artal et al., 1999; Dueñas et al., 2006; Florez and Andeva, 1997; Garre-Olmo et al., 2000; López and Crespo, 2007; Orta et al., 2016; Pooyania et al., 2016).

Notably, very few studies have been conducted to measure the effect of the overhead of the care of patients in family dynamics and their quality of life. In this regard, studies on quality of life in primary caregivers of people with disabilities in Mexico are scarce. Some studies report that there are affectations in the quality of life of primary caregivers of patients with brain damage (Gabriel and Barroso, 2011), in caregivers of children with disabilities (Barrios-Muñoz et al., 2015), in caregivers of patients with (Nuno et al., 2008), in the treatment of patients with cancer, and chronic pain and terminal diseases (Alfaro-Ramírez del Castillo et al., 2008), in caregivers of people with cancer (De la Huerta et al. And in caregivers of patients with neurological problems (Bensaïdane et al., 2016, Paz-Rodríguez, 2010, Perlick et al., 2016). As a result, a "informal primary family caregiver" is frequently subjected to periods of stress and exhaustion that could eventually lead the caregiver to a state of "learned despair", which in turn can lead to different disorders, including the Depression (Alfaro-Ramírez del Castillo et al., 2008).

It is important to mention that to date no research was found to study the depression rates in the primary caregiver of patients with a neuromusculoskeletal disease in the State of Yucatan. In the literature, only one study was found that reports how the primary caregiver deals with patient care (Canché-May et al., 2015). Moreover, in the University Rehabilitation Unit of the Autonomous University of Yucatan, it is unknown whether the care of a patient with a neuromusculoskeletal disease compromises the primary caregivers to suffer from depressive episodes. Given the above, primary caregivers of patients with neuromusculoskeletal disease should be prevented from developing depression. For this, a treatment must be offered to those who have developed it. However, to examine this possibility, it is necessary to establish objectively whether there is a significant correlation between these two variables. Therefore, in this work we ask: what is the quantitative relationship between the level of limitation in the activity of the patients, with the index of depression presented by the primary family caregivers? Our hypothesis is that there is a significant correlation between both indices and that this relationship is direct, that is, to a higher level of limitation in the activity of patients, the greater the depressive index of their primary caregivers.

Material and Methods

Ethical Considerations

The research project of the present study was registered with the Evaluation and Bioethics Committees of the Autonomous University of Yucatan (SISTPROY FMED-2016-0001). The research was based on the Ethical Codes established in the Declaration of Helsinki (2003) and in compliance with the General Regulation of the General Health Law on Health Research in Mexico (RLGS, 1987). The candidates were selected according to the inclusion criteria, after authorization from the Research and Bioethics Committee of the Faculty of Medicine of the Autonomous University of Yucatan.

The primary caregivers of patients with activity limitation were given an Informed Consent Letter which specified what the study consisted of (purpose, benefits, procedures, risks and clarifications), as well as the possibility of deciding to participate in He or not. They were given a detailed letter and accessible language, which emphasized the absolute confidentiality of their data, which were exclusively used for purposes of the study; Anonymity was guaranteed at all times.

Participants

The present study was of an exploratory type, with a transversal, prospective and analytical design. The study population consisted of 18 of a total of 32 informal primary caregivers, relatives of patients who presented a neuromusculoskeletal disability and who attended the University Rehabilitation Unit of the Autonomous University of Yucatan in the period from January to May. 2016.

14 of the informal primary caregivers were excluded from the study because they were in charge of caring for two or more relatives. Also used as an exclusion criterion was to have suffered a stressful life event in the last year: separation or divorce, death of a family member or being diagnosed with a serious illness. Likewise, those informal primary caregivers of patients who did not meet the diagnostic criteria of a neuromusculoskeletal disability or who did not agree to be part of the study were excluded from the study.

Procedure

Initial contact with the informal primary caregivers was performed in person through an interview at the University Rehabilitation Unit during which they were invited to participate in the study. Once the process was explained and when the informal primary caregivers agreed to collaborate in the same, they were given the letter of informed consent for their authorization. Subsequently, the Sociodemographic Questionnaire for Informal Primary Caregivers was applied, through which the family member who acted as the primary informal caregiver was identified. The criterion was to locate the person who was in charge of the care of the patient with neuromusculoskeletal disability most of the time. In cases where two people shared the same time in care, the patient was transferred to the University Rehabilitation Unit. Once the figure of the informal primary caregiver was detected, the researcher explained in detail the instruments used in the study and solved any doubts at all times. The International Classification of Functioning, Disability and Health (CIF) Checklist was then applied to caregivers in order to identify the level of limitation in patient activity. And finally the informal primary caregivers of the Beck Depression Inventory were applied.

Instruments

Sociodemographic Questionnaire for Informal Primary Family Caregivers, consisting of 12 items designed to collect sociodemographic information. The scale provides information on the informal primary caregiver: gender, age, religion, marital status, maximum level of education, income, time spent caring for family member, and so on. As well as 13 items from which data were obtained from patients with a neuromusculoskeletal disability, such as their age, gender, and so on.

Checklist of the International Classification of Functioning, Disability and Health (CIF) version 2.1a, consisting of a selection of 125 questions that allows to obtain a profile of patient functioning in the most relevant areas of life . For this research, Part 2 was used: Activity limitations and participation restrictions (WHO-DAS II; Ayuso et al., 2006; Vázquez-Barquero et al., 2006). This instrument allows quantifying the degree of limitation or restriction that a person possesses based on the magnitude of problems (measured in percentage), that can have in his capacity to perform in diverse activities and tasks, by what is defined: from 0 to 4% does not have a limitation in activity, 5% to 24% constitutes a limitation in light activity, 25% to 49% represents a limitation in moderate activity, 50-95% a limitation in severe activity, and 96% 100% a limitation on the full activity.

The Beck Depression Inventory is one of the most used scales in the world to measure the severity of depression in both inpatient and outpatient samples. The instrument consists of 21 items of symptoms and attitudes, each reflecting an increasing degree of depth of depressive symptomatology that implies a quantitative gradation of the intensity of the same, Of these, 14 items correspond to symptoms of cognitive and affective nature and 7 to somatic and behavioral symptoms. The scale has Cronbach's alpha = 0.87 (Jurado et al., 1998). According to this Inventory, Depression Scores were taken as follows: 0-9 represent mood upsets that are considered normal, 10-16 mild depression states, 17-29 with moderate depression states, 30- 63 represent a severe depression (Jurado et al., 1998).

Statistic analysis

For the analysis of results, a descriptive analysis of the data of the applied instruments was carried out: Sociodemographic Questionnaire of the Primary Family Informal Caregiver, Checklist of the International Classification of Functioning, Disability and Health (CIF) and Inventory Of Beck Depression, for which the arithmetic mean and the standard error are reported.

Subsequently, a Pearson Correlation was performed to know the relationship between the data obtained with the Beck Depression Inventory and the data obtained from the CIF Checklist. A confidence level of 95% and a significance of $p<0.05$.

Results

In the present study, 18 informal primary caregivers of patients who attended the University Rehabilitation Unit of the Autonomous University of Yucatán from January to May 2016 were included. Statistical analysis was performed with the GraphPad Prism version 5 (GraphPad Software, Inc., La Jolla, USA), in which the descriptive analysis was carried out. Data are expressed as percentages and frequencies of each of the variables studied.

The most important sociodemographic data of the informal primary caregiver of patients with neuromusculoskeletal disease are described below. In the study population (informal primary caregivers) and through the instrument "Sociodemographic Questionnaire for Primary Informal Primary Caregivers", a prevalence of female caregivers was found with 83.3%, while the number of men was 16.7%. Regarding the marital status of the caregivers, it was found that the majority is married (77.8%) and the group of singles represents 22.2% (table 1).

Regarding the relationship of the informal primary caregivers with the patients, it was identified that the person who cares for the patient most frequently is the mother (50%), followed by the children (22%), grandparents (11.1%), , Spouses (11.1%) and siblings (5.6%) (Table 1). Of these, 66.66% profess the Catholic religion. With respect to employment status, the majority of informal primary caregivers reported being housewife

(33.33%), followed by retirees (27.78%), with own business (22.22%) and employees of some institution (16.67 %).

Table 1. Socio-demographic data of informal primary caregivers

Género	Femenino	83.3 (%)
	Masculino	16.7 (%)
Estado civil	Soltera(o)	22.22 (%)
	Casada(o)	77.78 (%)
Religión	Católica	66.66 (%)
	Cristiana	11.11 (%)
	Mormona	5.56 (%)
	Adventista	5.56 (%)
	Ninguna	11.11 (%)
Parentesco con el paciente	Padre/Madre	50.0 (%)
	Abuelo(a)	11.11 (%)
	Cónyuge	11.11 (%)
	Hijo(a)	22.22 (%)
	Hermano(a)	5.56 (%)
Ocupación	Empleado	16.67 (%)
	Ama de casa	33.33 (%)
	Trabaja por cuenta propia	22.22 (%)
	Jubilado/Pensionado	27.78 (%)

Source: Database study index of depression in primary caregivers. UUR, Faculty of Medicine, UADY.

The level of schooling of primary caregivers can be seen in table 2. The highest frequency reported for the level of studies was a bachelor's degree (50%), followed by primary education (16.6%) and secondary and high school studies (5.6% respectively). Regarding the socioeconomic level of the caregivers, we found that the monthly family income of the majority of participants reported was $ 2,700 to $ 6,799 (33.33%), followed by $ 6,800 and $ 11,800 Mexican pesos (Table 2).

Table 2. Schooling and income of informal primary caregivers

Grado máximo de estudios	Primaria	16.66 (%)
	Secundaria	5.56 (%)
	Estudios técnicos o comerciales con secundaria terminada	5.56 (%)
	Estudios técnicos o comerciales con preparatoria terminada	5.56 (%)
	Preparatoria/bachillerato	5.56 (%)
	Normal de licenciatura	5.56 (%)
	Licenciatura profesional	50.0 (%)
	Maestría	5.56 (%)
Ingreso familiar mensual	Menos de $2 699	16.66 (%)
	Entre $2 700 y $6 799	33.33 (%)
	Entre $6 800 y $11 599	27.8 (%)
	Entre $11 600 y $34 999	16.66 (%)
	Entre $35 000 y $84 99	5.56 (%)

Source: Database study index of depression in primary caregivers. UUR, Faculty of Medicine, UADY.

Regarding the age of the informal primary caregivers who participated in this study, an age range between 30 and 70 years was found, with a mean of 46.6 ± 13.4. Half (50%) of the participants stated that they had been carrying out their caregiver role for over 5 years; In addition, they referred to the activities of patient care from 5 to 7 days a week, with a mean of 6.83 ± 0.51 days, and the time periods of care ranged from 7 to 24 hours a day, with a mean of 19.22 ± 5.56 hours (Table 3).

Table 3. Informal primary caregiver's age and patient care time.

Edad del cuidador primario informal	46.6 ± 13.4 años
Tiempo semanal dedicado al cuidado del paciente	6.83 ± 0.51 días
Horas al día dedicadas al cuidado del paciente	19.2 ± 5.56 horas

Source: Database study index of depression in primary caregivers. UUR, Faculty of Medicine, UADY

In order to determine the limitation in the activity of patients with neuromusculoskeletal disease, Part 2: Limitations of activity and restrictions on participation in the International Classification of Functioning, Disability and Health (CIF) .

Regarding the level of limitation in the activity of patients with neuromusculoskeletal disease, it was found that 44.44% of the patients had a limitation in light activity, 27.78% was in the limitation category in moderate activity, while 27.78% Had a limitation on severe or severe activity. There were no patients with a limitation on complete activity (Table 4).

Table 4. Level in the limitation of the activity presented by patients with neuromusculoskeletal disease

Nivel de limitación en la actividad	**Número de pacientes**	**Frecuencia en (%)**
Limitación ligera	8	44.44
Limitación moderada	5	27.78
Limitación grave o intensa	5	27.78
Limitación completa	0	0

Source: Database study index of depression in primary caregivers. UUR, Faculty of Medicine, UADY

Later, the impact of the care activity on the informal primary caregiver's mood was analyzed through the Beck Depression Inventory, considering that the higher the score, the greater the impact. It was found that 61.1% of the primary caregivers had normal ups and downs, 11.1% presented mild depression, while 16.7% of the primary caregivers presented moderate depression and 11.11% had severe depression (Table 5).

Table 5. Informal primary caregiver depression indices

Índice de Depresión de Beck	Porcentaje de pacientes (%)
Altibajos en el estado del ánimo	61.1 (%)
Estados de depresión leves	11.1 (%)
Depresión moderada	16.7 (%)
Depresión grave	11.1 (%)

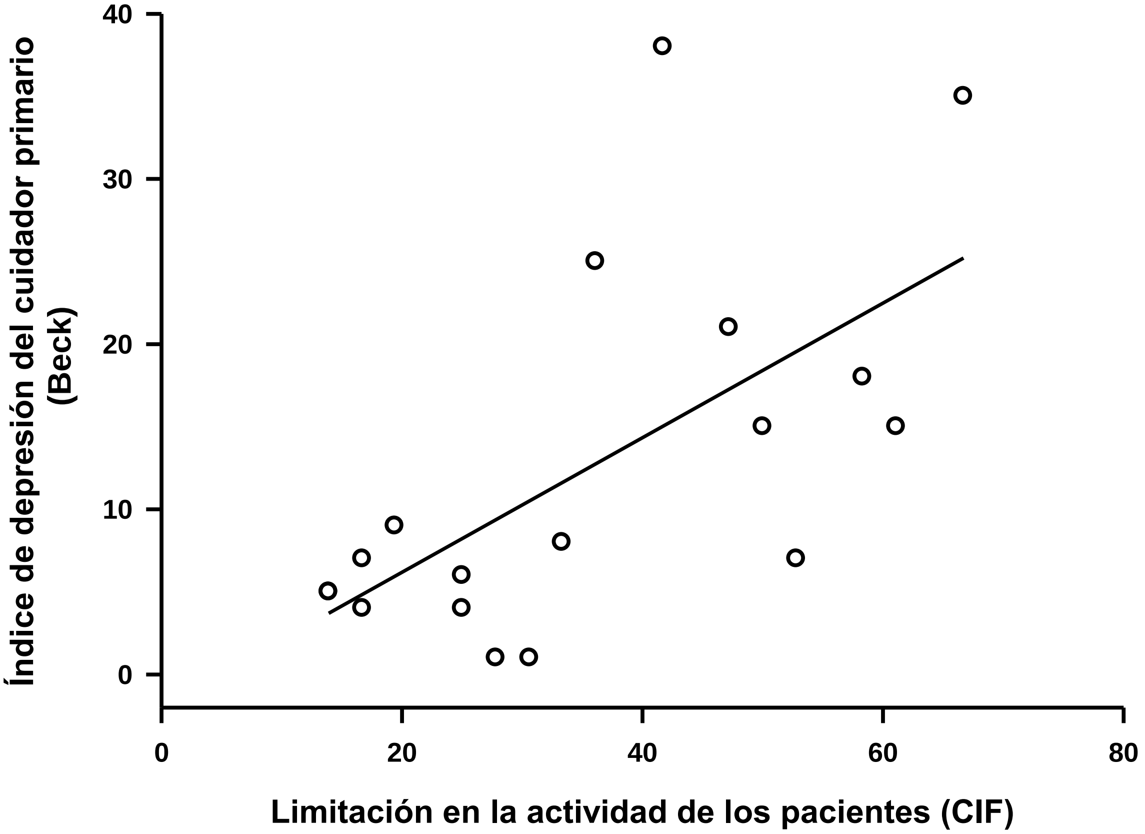
Source: Database study index of depression in primary caregivers. UUR, Faculty of Medicine, UADY

In a qualitative analysis of the 21 items of the Beck Depression Inventory, informal primary caregivers reported irritability (55.6%), sleep disturbances (66.6%), loss of pleasure from activities performed (50%); 61.1% of caregivers reported having affectations in the work or in the development of their daily activities; 50% of caregivers reported feeling fatigued and 38.8% reported affections in libido. It is also important to mention that 27.78% of caregivers reported crying more frequently.

Relationship between the limitation in the patient's activity with the depression index in the informal primary caregiver

Regarding the index of depression in the informal primary caregivers, several reports show that the greater the physical dependence of the patient, the longer the care of the patient and the greater the mental deterioration of the informal primary caregiver. Therefore, the present study calculated the relationship between the level of depression of the primary family caregivers (taking their rating on the Beck Inventory index) and the level of limitation in the activity of patients with neuromusculoskeletal disease (quantified with The Checklist of the International Classification of Functioning, Disability and Health). A positive correlation was found (r2 = 0.63, p = 0.0048, Pearson correlation coefficient) (figure 1). These results suggest that the greatest limitation in the activity of the elderly patient is the depression index in the informal primary caregiver.

Figure 1. Correlation between the limitation in the patient's activity and the depression index in the informal primary caregivers. It is observed that the greater the limitation in the patient's activity, the greater the depression index of the informal primary caregiver.



Fuente: Base de datos estudio índice de depresión en cuidadores primarios. UUR, Facultad de Medicina, UADY.

Finally, a correlation analysis was performed between the limitation of the activities of the patients with the symptoms that showed the greatest affectation in the informal primary caregiver (sleep disturbances, irritability, loss of pleasure or discontent, lack of libido, among others); A positive correlation was found between the variables sleep disorders in the caregiver and the limitation in the activity of the patients (r2 = 0.584, p = 0.011); For crying a positive correlation was found (r2 = 0.53, p = 0.0242); For affectation at work or in daily activities a positive correlation of r2 = 0.521, p = 0.0267 was found. For the irritability symptom, no correlation was found with the degree of activity limitation (r2 = 0.192, p = 0.445), as well as for fatigue (r2 = 0.15, p = 0.553), while in the item Loss of pleasure there was a tendency of association, since the correlation was r2 = 0.461, p = 0.0539, as well as in the item of libido (r2 = 0.46, p = 0.0550).

Discussion

In this study, we found that the sociodemographic profile of the informal family primary caregiver of patients with activity limitation is mostly female (83.3%), similar to that reported by Palacios-Espinoza and Jiménez-Solanilla, 2008. These reports That care work in patients with neurological problems is performed mostly by women (70%). This is also consistent with other studies (Andrade et al., 2002, Devi and Almazán, 2002a, b, Islas-Salas et al., 2006, Martínez et al. , Waelde et al., 2004). On the other hand, the age distribution of the informal primary caregivers was 46 years, similar to that obtained by Islas-Salas et al. (2006) (50 years). However, unlike our study, some studies report an average age of caregivers aged 40.3 years (Brehaut et al., 2004), or 30.4 years (Canché-May et al., 2015).

The majority of primary caregivers reported being a housewife (33.3% of caregivers). In agreement with our study, Islas-Salas et al. (2006) report that 52.2% of caregivers perform at home. In our study we found that the informal primary caregivers are mostly married (77.8%) and have a level of undergraduate studies (50%). We attribute this finding to the place where the research was conducted. The latter aspect differs from that reported in the literature; For example, Martínez et al., 2008 report in their research that most informal primary caregivers have a basic level of studies.

On the other hand, several studies report that being an informal primary caregiver has an impact on health and quality of life. Some factors identified in primary caregivers that have been evaluated are alterations in family dynamics, caregiver's syndrome (burnout syndrome), cholera, affective ambivalence, social isolation, pathological grief, depression, anxiety, among others (Flores-Lozano (1998), which is based on the results obtained by Perlick et al. Since caring for someone with an illness and / or disability could be a threat to the well-being of the caregiver, in this study we focused on the relationship that keeps the level of limitation in the activity of patients with depression in the primary caregiver informal. It was found that about 39% of the informal primary caregivers present mood alterations, of which 27.78% obtained levels of depression ranging from the mild to severe level. In fact, our results show a positive and moderate correlation ($r2 = 0.63$, $p = 0.0048$) between primary caregiver depression and the level of activity limitation in patients with neuromusculoskeletal disease. These results suggest that the greater limitation in the activity of the patient will be the degree of affectation in the mood of the informal primary caregiver. However, it is noteworthy that despite the fact that many caregivers do not manifest depression, others do present it, an issue that is worrying because some caregivers may present alterations in mood that can affect their quality of life and health And, therefore, can affect the treatment of patients with a limitation in activity. In the same way, it is important to highlight the high and significant correlations found between the presence of depression in the informal primary caregivers and the level in the limitation of the patients' activity, despite the low number of subjects that made up our sample, Which reinforces the hypothesis presented in this study. Another important point to note is that in this exploratory study, although it lacks a control group, the results show changes in the mood of the primary caregiver of patients with activity limitation, which is consistent with what was reported in the (Eg, Nipp et al., 2016; Perlick et al., 2016), although the various studies focus on other conditions (eg, autism, chronic pain, neurological disorders, among others). This result is similar to that reported by Alfaro-Ramírez del Castillo et al. (2008) in primary caregivers of patients with chronic pain. Likewise, the results obtained by Baker et al. (2011) show that family caregivers of children with autism presented with depression. In addition, Bitsika and Sharpley (2004) showed that 33% of parents caring for autistic children presented with depression. In the same way and with the same tendency, Singer et al. (2007) report in a review of meta-analysis, high levels of depression in mothers of children with developmental disabilities. On the other hand, the results of the present research are in contrast to those obtained by Rubira Do Espíritu Santo (2010) in caregivers of children with cancer, where an absence of depression was reported.

In addition, our study established that depression was associated with a good level of knowledge and a high educational background of informal primary caregivers. The latter suggests that informal primary caregivers may be able to carry out educational interventions more effectively.

On the other hand, in our study we observed some indicators that are mainly affected in the informal primary caregiver: crying, sleep disorders, loss of pleasure, alterations in libido, among others. In this sense, we believe that informal primary caregivers neglect their physical and emotional health, as they are very concerned and, at the same time, are obliged to provide care to patients. In fact, we also found that most informal primary caregivers provide their care services most of the day (19.5 hours a day). This affects their work, interactions with close family and friends, sleep-wake cycle, and so on.

Given this, it is convenient to ask: why do informal primary caregivers perceive their caregiver role as stressful? One possible explanation is that they assume their role of caretaker by obligation, by way of gratitude or simply why no other member of the family can do it, however, in this aspect requires further studies that allow us to tackle this situation in depth.

Finally, this is the first research work on depression indices in informal primary caregivers of patients with limited activity in the UUR, Faculty of Medicine, Autonomous University of Yucatan, and the results are a contribution to scientific knowledge For the multidisciplinary team in the area of rehabilitation that cares for the patient and their families and that, in short, will contribute to the commitment to provide comprehensive care to the needs of people with disabilities and their families. In this sense, actions aimed at the creation and implementation of educational and family care programs could be highly beneficial and counteract the enormous repercussions of this task on the psychological well-being and quality of life of informal primary caregivers. This can be achieved through strategies whose purpose is to provide tools that help in the difficult task of the caregiver and in the management of stressful situations that derive from the care of patients with activity limitation (Molina et al., 2005; Nigenda et al., 2007).

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