Overload, Anxiety and Depression in Caregivers of Physically Dependent Patients

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Abstract:- Dependency is the inability, loss or absence of a person to perform their activities and in turn depend on a caregiver to perform daily activities, a person with a disability is defined as one who has physical, mental or intellectual impairment in which their biological and psychological ability to perform essential activities in life is restricted. The increase of chronic diseases, people with physical and intellectual disabilities, age, have caused an increase of patients with dependency and require constant care, with this study was evaluated, support, education and accompaniment was given to caregivers to avoid stress and pressure states. Objective: To determine overload, anxiety and depression in caregivers of patients with physical dependence in the city of Cuenca. Methodology: Non-experimental, quantitative, descriptive, correlational-comparative and cross-sectional research, where 169 caregivers of patients with inclusion criteria of physical dependence in the canton of Cuenca, province of Azuay, were analyzed using the questionnaire of anxiety, depression and workload evaluated by the STAI / IDER and Zarit scales, where the individuals included in the study were evaluated. Results: Caregivers with a primary education level and caregivers who have been working as caregivers for a range of 21 to 30 years presented a slight overload; in general, all caregivers presented mild to high levels of anxiety, and depression was only present in caregivers who have been working as caregivers for a range of 31 to 39 years; it was also determined that there is a slight significant correlation between anxiety and overload; on the other hand, there was no significant relationship between depression and overload.

Keywords:- Overload, Anxiety, Depression, Physical Dependence.

I. INTRODUCTION

Definition of the problem

Caring for people with physical dependence, who are people with physical, mental or intellectual limitations, which hinders their functionality in some areas, requires physical and mental effort from the caregiver, depending on the time they devote to the care of the caregiver, problems such as anxiety, depression, fatigue and thus their health is affected (1).

People who care for patients with temporary or permanent physical dependence, depending on the condition or physical autonomy of each of them, are predisposed to risk factors such as overload, fatigue, lack of sleep, anxiety, physical and psychological exhaustion and thus a deficit in their self-care and emotional risk, in relation to the workload of caregivers, there is a deterioration of health and quality of life in them, negatively influenced in social activities, People tend to have physical and psychological behaviors according to the conditions of the environment and these in turn are subject to change depending on the situation they are in. It should be emphasized that the people responsible for care are not paid and are the ones who attend to the physical and emotional needs of the patients, in addition to bearing all the legal responsibility (2).

Justification

According to the World Health Organization (2011), it is estimated that at least 15% of the world's population has some type of disability, more than one billion people with disabilities and approximately 200 million have limitations in their daily lives. Likewise, the Convention on the Rights of Persons with Disabilities defines a person as a person who has barriers due to the attitude of human beings and this in turn prevents their equal participation within society (UN, 2006: 2) (3).

The WHO defined caregivers as people who are within their environment and assume responsibilities and decisions for the good of the patient, i.e. the caregiver has total responsibility, the more time he/she invests in the care the more he/she sacrifices his/her own interests, in Ecuador it is usually the direct relatives who assume the role of caregivers and with this the caregiver experiences stages in which physical, psychological, mental, social, spiritual, financial health is involved and his/her quality of life changes (4).

Physical dependence is a situation that requires direct care from a family member or caregiver who provides comfort measures, food, medication administration and helps the patient to carry out daily activities, because the physical or psychological condition prevents him/her from doing them, the family group due to hours of dedication to a person with disability is affected in working less hours to be able to dedicate hours to care, together with household

chores alteration of the sleep period are indicators of the caregiver syndrome so it is manifested with anxiety, stress, depression, fatigue, among others (5).

General Objective:

To determine overload, anxiety and depression in caregivers of patients with physical dependency.

Specific Objectives:

- 1.To identify sociodemographic variables and dimensions of overload in the study population.
- 2.To assess the presence of anxiety and depression in caregivers of patients with physical dependence.
- 3. To analyze whether anxiety and depression in caregivers of patients with physical dependence are related to dimensions of overload according to educational level, age range, and sex.

Research questions

For what reason does overload, anxiety or depression occur in caregivers of patients with physical dependence?

Are anxiety and depression related to the care given to dependent persons?

Overload in the performance of the role of the caregiver of the family member with physical dependence

A physically dependent person is understood to be any patient who, due to age, illness, accident or disability, loses his or her physical, sensory, mental and intellectual autonomy and requires help and care from another person (7).

Patients who are physically dependent are people with some damage or injury to their nervous, muscular or articular system in which they depend on the care of another person; these people, although they have an important social contribution, do not receive due recognition and most of these caregivers are women (8).

The work-family conflict is that family pressures and work pressures are incompatible at some point and it is necessary to seek a harmonization between personal and work life with the help of other people (9).

A caregiver is defined as any person who is responsible for helping with the daily needs and activities of a person without autonomy, during the day with or without economic retribution, in addition to assuming responsibilities and modifying his or her lifestyle in a different way and making good decisions towards the care of a person (10).

The term caregiver can be considered from 2 profiles which are the formal caregivers who acquired knowledge after years of study to work in the health field and the informal caregivers who are part of the family up to the fifth degree of consanguinity (11).

Informal caregivers are usually people who have little training to provide adequate care, so little knowledge and several hours of care result in signs of burden, acute, chronic diseases and symptoms such as fatigue, lack of sleep among others, thus giving vital importance to health promotion and prevention of overload (12).

It is estimated that 6.5% of care for dependent persons is provided by professionals, the other part being informal caregivers, 74% of whom are middle-aged women who provide care for at least 5 hours a day and who, together with the support of rehabilitation centers, hospitals or relatives, are involved in the process of caring for and recovering the patient (13).

Factors associated with caregiver overload

The word overload refers to the effects on the personal and social life of the caregivers, who change their attitude, activities and their health is affected by various situations that cause emotional problems or negative physical and psychological disorders due to the new role adopted, it has been identified that the level of overload in the caregivers depends on the socioeconomic conditions of the families (14).

The overload and stress in which caregivers find themselves have been associated with comorbidity problems such as diabetes, mellitus, chronic pain, rheumatic and cardiovascular disorders. As the workload increases, the deterioration of the caregiver's health and quality of life increases, so it is important to visit a family physician to intervene in the correct process of leading an adequate lifestyle for both the caregiver and the person with disabilities (15).

It is identified that the level of caregiver overload depends on the socioeconomic conditions of the families (16).

Quality of life is the individual evaluation of the multiple aspects and factors that determine the health of each individual, most of the caregivers are mothers and this leads to an overload of activities and responsibilities that previously had by new care for their children with dependency and in turn cause isolation, anxiety and depression due to the change of lifestyle (17).

Management of anxiety in the control of the caregiver's overload

Depression is a common mental disorder in people who have tension and a high workload, the work environment, culture, interpersonal relationships where they are working, influences the onset of depression and work stress affecting the quality of life, as they neglect their own care, generating physical and emotional problems as part of work overload in which they are (18).

Anxiety and depression are originated by the response system that the body is experiencing by the new situation of care, causing problems such as stress, but our body also activates the sense of coherence which is defined as a feeling of confidence with stimuli from their environment to counteract the demands that were considered with challenges and necessary actions were performed to reach the satisfaction of the effort, accepting and giving solution

of problems with resources for the promotion of health helping to have quality of life in the population (19).

The social support of people with disabilities allows a better coping with new activities experiencing positive aspects in the quality of life of the caregiver, in addition to the current technological support is very favorable in the implementation of measures and care for their loved ones (20).

The satisfaction of care, social support is an important aspect for the solution of workload problems, another point in favor of the patient is to go to rehabilitation in which will help to improve their condition (21).

According to Urbina Camacho & Zapata Freire (2016), the phases in the adaptation process is a process that goes through several stages with different manifestations

Phase 1: Denial or lack of awareness of the problem Denial is a psychological reaction of self-protection, it is a mechanism that allows controlling fears and anxieties.

Phase 2: Search for information and appearance of negative feelings The caregivers gradually accept the reality of the patient's situation and how it affects them, gradually overcoming negative feelings such as anguish, anger, guilt and frustration.

Phase 3: Reorganization The caregiver will feel progressively more in control of the situation and will accept the changes that this situation brings. He/she will adapt his/her life

Phase 4: Resolution in this phase, caregivers of people with disabilities are usually more serene and calm, being abler to successfully handle the demands (22).

Caregiver overload syndrome

Caregiver overload syndrome is an inadequate response to stress with symptoms such as physical and psychological exhaustion, economic and social problems, with a negative impact due to accumulation of stressors and lack of control over the new situation (23).

The burden of caregiving is a resultant of that constantly threatens the caregiver's health, it is multidimensional with objective and subjective characteristics in various areas of life that give different emotional reactions, behaviors and attitudes (24).

Structural burden: is an objective burden in which there is a high degree of disturbances or changes in various aspects of the domestic environment and the life of caregivers, which are activities that are related to time, money invested in the patient's problems and limit these people to go out and no longer have leisure spaces and restriction to an economic income producing a burden of social type, The subjective are the attitudes and emotional reactions to the experience of caring, the individual burden is a subjective burden in which is characterized by how the caregiver emotionally perceives the demands of their care work and in turn that triggers physical and psychological health problems (25).

The informal caregiver of a dependent person is prone to multiple stressors both physical and psychological that involve negative feelings such as fear, confusion, guilt, anger, fatigue at the beginning of this activity, but as time goes by these feelings are annulled and feelings of satisfaction usually appear when caring for the patient who depends on them adapt to this new style and develop a process of adaptation (26).

Most caregivers do not receive financial remuneration, so families have resources and behaviors to cope with the situation, so it is important to establish adaptive coping strategies and that emotional ties are the key to ensure that the task of caregiving is not a workload (27).

Caregiver overload assessment scales

At present there are several scales with evaluative validity that give us the predictor with valid criteria about the physical and emotional health of the caregiver, thus identifying whether the caregivers present factors of overload or overexertion, since this has a direct impact on the person (28).

The Zarit scale evaluates several factors that influence the caregiver, such as the impact of caregiving, interpersonal relationships, aspects of overload, expectations of self-efficacy or abandonment of caregiving, medical, psychiatric and social morbidity and mortality of caregiving, irritability, fear of caregiving, and feelings of guilt for not doing what is necessary for the patient; consists of 22 questions in which the caregiver is classified as "no caregiver burden", "light caregiver burden" or "heavy caregiver burden" and is easy to apply and validated in several languages (29).

The STAI scale, according to Fonseca-Pedrero et al. (2012) all evaluative process consists of measurement instruments with psychometric quality, the STAI is a questionnaire made up of 40 items, in which it evaluates two independent concepts with are anxiety in which it is defined as a transitory emotion in which it is divided as a state (at this moment with 20 items), or as a trait (in general with 20 items, each subscale is made up of a total of 20 items in a 4-point Likert response system according to the intensity (0= almost never/not at all; 1= somewhat/sometimes; 2= quite a lot/often; 3= very much/almost always). The total score in each of the subscales ranges from 0 to 60 points. In the Spanish population, internal consistency levels range, both for the total score and for each of the subscales, between 0.84 and 0.93 (30).

The IDER questionnaire is a brief and easy to apply tool that helps us to diagnose depression, considering the affective component as the most important characteristic to measure depression, therefore it includes the two dimensions: dysthymia and euthymia, the questionnaire includes two scales: Trait (the subject shows the affective components of depression) and State (the person shows the degree of affectation), where the frequency and intensity of negative and positive affectivity can be evaluated in a differentiated manner (31).

II. METHODOLOGY

Type of research

It is a non-experimental research with a quantitative, descriptive, correlational-comparative and cross-sectional approach.

Population

For the following study there was a population of 300 caregivers of patients with physical dependence in the Cuenca canton of the province of Azuay.

Sample

A simple random sampling was carried out. The sample consisted of 169 caregivers of physically dependent patients in Cuenca canton, according to the Sierra Bravo formula of 1988, the error (5%) that we make in estimating the sample size, based on a confidence level of 95% would follow the following formula, taking Z=1,96:

$$n = \frac{Z_{y}^{2} * p * q * N}{e^{2}(N-1) + Z_{y}^{2} p * q}$$

Formula 1. Sierra Bravo.

Inclusion and exclusion criteria

Caregivers of patients with physical dependence in the Cuenca canton of the province of Azuay, of legal age, residing in the Cuenca canton and who voluntarily accepted to participate in the research were included. Caregivers who present an intellectual disability or who are under the consumption of psychotropic substances will be excluded.

Instruments

Sociodemographic variables of the caregiver: age (WHO), residence (urban and rural), sex, level of education, time as caregiver (whole number of days - months), relationship (father, mother, aunts/uncles, -other-).

Sociodemographic variables of the patient with physical dependence: sex, time of physical dependence, age and causal diagnosis of dependence.

Zarit Scale: evaluates several factors that influence the caregiver such as the impact of caregiving, interpersonal relationships, aspects of overload, expectations of self-efficacy or abandonment to caregiving, medical, psychiatric and social morbimortality of caregiving, irritability, fear of caring for the patient and the feeling of guilt for not doing what is necessary for the patient; it consists of 22 questions in which the caregiver is classified in "absence of overload", "light overload" or "intense overload"; it is easy to apply and is validated in several languages (29).

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Procedure

The research was carried out first by carrying out the respective procedures for approval of the Ethics Committee to conduct the surveys in the canton of Cuenca, province of Azuay, accessing the sample of 169 caregivers of patients with physical dependence, a test was conducted through google drive with questions of sociodemographic variables and application of the scales of Zarit / Stai / Ider, which could be evaluated if these people presented overload, anxiety or depression in giving care to patients with physical dependence.

The data of each person will have a code which will be valued, but no names, surnames, or any data in which the individual can be identified will be recorded.

After data collection, the data were tabulated and analyzed.

Statistical analysis

A descriptive analysis was performed using absolute and relative frequencies and trend measures. Subsequently, a normality test was performed using Shapiro Wilk, with assumptions of normality. Therefore, a Pearson's r test will be applied with the aim of analyzing whether anxiety and depression in caregivers of patients with physical dependence are related to the dimensions of overload according to educational level, age range and sex. Statistical analyses will be performed using the infostat statistical program.

III. RESULTS

Description of the sample

The descriptive results of the caregiver are presented in Table 1. This describes the frequencies and percentages of the sociodemographic variables: gender, age, educational level, residence, relationship to the patient and time spent as a caregiver; of this sample formed by a total of 169 caregivers, most of the nursing professionals were women (N=150, 88.8%).

Table 1. Sociodemographic data of the sample corresponding to the caregiver N=169.

Table 1. Socio	demographic data of the san		
		Frequency (N)	Percentage (%)
Gender	Woman	150	88.8
	Male	19	11.2
	Total	169	100.0
Age (years)	25 – 40	101	59.8
	41 - 77	68	40.2
	Total	169	100.0
Level of Education	Primary	29	17.2
	High School	36	21.3
	High School	96	56.8
	Technology or course	8	4.7
	Total	169	100.0
Residence	Rural	53	31.4
	Urban	116	68.6
	Total	169	100.0
Relationship to patient	Mom	52	30.8
	Dad	10	5.9
	Caregiver	47	27.8
	Other	60	35.5
	Total	169	100.0
Time as caregiver	<= 10,0	108	63.9
(years)	11 - 20	25	14.8
	21 - 30	30	17.8
	31 – 39	6	3.6
	Total	169	100.0

Regarding the sociodemographic data of the patients being cared for, the statistics are presented in Table 2, the patients included from an age of less than 1-year-old to 99 years old, the most frequent age range was 66 - 99 years old.

Table 2. Sociodemographic data of the sample corresponding to patient N=169.

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		Frequency (N)	Percentage (%)
Gender	Woman	83	49.1
Genaer			
	Male	86	50.9
	Total	169	100.0
Age (years)	<= 1	7	4.1
	2 - 10	9	5.3
	11 - 20	6	3.6
	21 - 40	38	22.5
	41 - 65	35	20.7
	66 - 99	74	43.8
	Total	169	100.0
Time dependent on a caregiver	<= 10,0	129	76.3
(years)	11 - 20	9	5.3
	21 - 30	26	15.4
	31 - 38	5	3.0
	Total	169	100.0

Table 3 below shows the diseases for which patients are physically dependent on a caregiver, with intellectual disability being one of the most common diseases at 14.2%.

Table 3. Diseases of the patients N=169

Table 3. Diseases of t	1	D (0/)
T . 11 1 1' 1'1'.	Frequency (N)	Percentage (%)
Intellectual disability	24	14.2
Cerebral vascular accident (CVA)	10	5.9
Trauma	10	5.9
Covid	8	4.7
Cardiovascular disease (CVD)	8	4.7
Cancer	7	4.1
Cerebral infantile paralysis (ICP)	7	4.1
Paraplegia	6	3.6
Advanced age	5	3.0
Respiratory insufficiency	5	3.0
Alzheimer's	4	2.4
Dementia	4	2.4
Depression	4	2.4
ETS	4	2.4
Pneumonia	4	2.4
Cerebral palsy	4	2.4
Arthritis	3	1.8
Epilepsy	3	1.8
Down syndrome	3	1.8
Ulcers	3	1.8
Cardiopathy	2	1.2
Cirrhosis	2	1.2
Epoc	2	1.2
Physical	2	1.2
Hypertension	2	1.2
Osteoarthritis	2	1.2
Parkinson's	2	1.2
Down Syndrome	2	1.2
Tech	2	1.2
Anxiety	1	.6
Cardiac	1	.6
Cardiopathy	1	0.6
Coarctation	1	.6
Stroke	1	.6
Disability	1	.6
Sclerosis	1	0.6
Geriatric	1	.6
Glomus	1	.6
Disability	1	.6
Infarction	1	.6
Heart failure	1	.6
Renal failure	1	0.6
Ipoxia	1	0.6
Leukemia	1	0.6
Megacolon	1	0.6
Pneumonia	1	0.6
Neurysm	1	.6
Neuropathy	1	.6
Diabetic neuropathy	1	.6
Child	1	0.6
Polyradiculitis	1	0.6
Polytrauma	1	.6
Mental retardation	1	0.6
Various	1	0.6
Total	169	100.0
1 Otal	109	100.0

Anxiety, depression and caregiver burden

The relationship between sociodemographic variables with anxiety, depression and caregiver overload is presented below.

Regarding the relationship between anxiety, the means corresponding to the total score of the STAI questionnaire items for each sociodemographic variable are presented in Table 4. The anxiety means presented in Table 7 range from 23 to 30. The variables with higher anxiety scores compared to the other sociodemographic variables have been highlighted in bold.

Table 4. Relationship between anxiety and sociodemographic characteristics of caregivers

	-	Anxiety
		Media
Gender	Mujer	25
	Hombre	23
Age (years)	25 - 40	25
	41 - 77	25
Level of education	Primaria	27
	Bachiller	25
	Superior	25
	Tecnología o curso	25
Residence	Rural	24
	Urbano	26
Relationship to patient	Mamá	26
	Papá	26
	Cuidador	25
	Otro	25
Time as caregiver (years)	<= 10,0	25
	11 - 20	24
	21 - 30	26
	31 - 39	30

Regarding the relationship between depression, Table 5 presents the means corresponding to the total score of the IDER questionnaire items for each sociodemographic variable. The means of fear presented in Table 5 range from 22 to 29. Similarly, the variables with higher fear scores compared to the other sociodemographic variables have been highlighted.

Table 5. Relationship between depression and the sociodemographic characteristics of caregivers

		Depression Status	Trait Depression	Depression
		Mean	Mean	Mean
Gender	Woman	13	11	24
	Male	11	11	22
Age (years)	25 - 40	13	11	24
	41 - 77	12	11	23
Level of Education	Primary	11	11	22
	High School	12	11	24
	High School	13	11	24
	Technology or course	13	10	23
Residence	Rural	12	10	22
	Urban	13	11	24
Relationship to patient	Mom	12	12	24
	Dad	12	11	22
	Caregiver	13	11	24
	Other	12	11	23
Time as caregiver	<= 10,0	13	11	24
(years)	11 - 20	12	11	23
	21 - 30	12	11	22
	31 - 3	14	15	29

Finally, regarding the relationship between overload, Table 6 presents the means corresponding to the total score of the ZARIT questionnaire items for each sociodemographic variable. The means of overload range from 33 to 53.

Table 6. Relationship between overload and sociodemographic characteristics of caregivers

,	6	Overload Overload
		Mean
Gender	Woman	37
	Male	41
Age (years)	25 - 40	35
	41 - 77	42
Level of Education	Primary	53
	High School	36
	High School	34
	Technology or course	33
Residence	Rural	37
	Urban	38
Relationship to patient	Mom	44
	Dad	44
	Caregiver	34
	Other	34
Time as caregiver	<= 10,0	35
(years)	11 - 20	37
	21 - 30	49
	31 - 39	40

The Pearson correlation coefficient was applied between the scores of the anxiety, depression and overload items, Table 7. The correlations found between anxiety and overload were slight and significant, with Pearson r values of 0.214. On the other hand, the correlations found between depression and overload were negative.

Table 7. Pearson's r correlation for the anxiety, depression and overload scales.

Correlations					
		Anxiety	Depression	Overload	
Anxiety	Pearson correlation	1	,578**	,214**	
	Sig. (bilateral)		.000	.005	
	N	169	169	169	
Depression	Pearson correlation	,578**	1	063	
	Sig. (bilateral)	.000		.418	
	N	169	169	169	
Overload	Pearson correlation	,214**	063	1	
	Sig. (bilateral)	.005	.418		
	N	169	169	169	
**.]	**. The correlation is significant at the 0.01 level (bilateral).				

IV. DISCUSSION

The main objective of the present study was to determine overload, anxiety and depression in caregivers of patients with physical dependence.

The sample, formed by 169 caregivers, was characterized by being composed mostly by women with 88.8% compared to 11.2% belonging to men; the mean age

of the participants was 39.95 years, with a minimum age of 25 years and a maximum age of 77 years. Another important characteristic to mention is that the caregivers include relatives of the patients such as mothers (30.8%), fathers (5.9%), professional caregivers (27.8%) and others (35.5%), of whom 68.5% reside in the urban area. As for the time they have been caregivers, or have dedicated to caring for a patient with physical dependence, 63.9% of them have done so in a period of less than 10 years.

The fact that the vast majority of caregivers are women is consistent with the traditional image of women as caregivers, while men, who have not usually performed this role, seek more social support mechanisms (32). Studies place this preponderance of women as caregivers between 60% and 87.4% (33). The mean age of the caregiver profile in this study is below that reported by Gonzalez et al (34) (55 years), Rubio et al (35) (57 years) and Moral and his team (36) (58.7 years).

To evaluate the level of overload, Álvarez et al. (37) determined that the author of the ZARIT questionnaire did not establish or propose any cut-off point. However, in Spain it is customary to consider that with a score ≤ 46 "no overload", with 47-55 there is "mild overload" and ≥ 56 implies "intense overload". In this context, those with mild overload correspond to caregivers with a primary education level and caregivers who have been exercising as caregivers in the range of 21 to 30 years, with mean values M=53 and M=49 respectively. For the other sociodemographic variables, it is established that there is no overload.

Regarding the relationship between anxiety, with mean STAI scores between 23 and 30, and according to (30), caregivers presented mild to high levels of anxiety. For each sociodemographic variable, those who presented higher levels of anxiety were women (M=25) more than men (M=23); caregivers with only primary education (M=27) compared to caregivers with higher levels of education (M=25); those residing in urban areas (M=26) more than those residing in rural areas (M=24); also presented higher levels of anxiety for fathers and mothers who fulfill the role of caregiver (M=26) compared to caregivers and others (M=25); and with regard to the time they have been caregivers, those who have been caregivers for more years presented greater anxiety, specifically in the range of 31-39 years (M=30). Regarding age, all presented equal levels of anxiety (M=25).

As for the relationship of depression, the mean scores of the IDER questionnaire varied between 22 and 29. According to (31), scores below the 75th percentile (P75) are considered normal, while scores above P75 indicate the presence of depression, in this sense the P75 of the sample is 27; therefore, only caregivers who have been exercising this activity for a range of 31 to 39 years indicate the presence of depression.

Finally, it was determined that there is a slight significant correlation between anxiety and overload with a Pearson's r of 0.214; on the other hand, there was no significant relationship between depression and overload.

According to Domínguez et al. (38) the presence of a statistically significant relationship between anxiety and caregiver overload, so that there is more anxiety in caregivers who share responsibility with others, this greater anxiety may be due to the source of stress involved in coordinating care and responsibility with others who may or may not be family members. Dominguez defines that, based

on other data reviewed, caregivers of dependent patients have more anxiety than the general population.

The direct relationship between high levels of anxiety and mild overload occurs in caregivers who have been caregivers for more than 20 years, as established by Alfaro-Ramírez et al. (39) have identified that caregivers with more than 11 years in the area indicate a higher degree of stress and overload, this due to the "caregiver syndrome", where the caregiver is overloaded due to the time and amount of personal and economic resources invested; in addition, caregivers who remain with the patient most of the day present greater overload and greater crises within the family nucleus (40,41). He also describes that the characteristics of caregiving have a direct impact on caregiver overload and mood (39).

V. CONCLUSIONS

As conclusions, the present study indicates the close relationship between affective disorders such as anxiety in relation to the people who assume the burden of care of a dependent patient.

As caregivers are very vulnerable, since they are at risk of becoming chronic patients as time goes by, intervention programs can be created aimed at preventing health problems in caregivers. These interventions should be aimed at preventing family claudication, a phenomenon that interferes with medical treatment and hinders the work of the team. Prolonged hospitalizations and family crises that completely obstruct the course of the patient's recovery or treatment can be avoided.

REFERENCES

- [1]. Torres-Avendaño B, Agudelo-Cifuentes MC, Pulgarin-Torres M, Berbesi-Fernández DY. Factors associated with overload in the primary caregiver. Medellín, 2017. Univ Health. 2018 [cited: August 04, 2020]; 20(3):261-26. Available from: http://www.scielo.org.co/pdf/reus/v20n3/2389-7066-reus-20-03-00261.pdf. DOI: http://dx.doi.org/10.22267/rus.182003.130
- [2]. Aranda-Paniora Franklin. Depression and anxiety in primary caregivers at the National Institute of Child Health. An. Fac. med. 2017 [cited: Jan. 10, 2021]; 78(3): 277-280. Available from: http://www.scielo.org.pe/scielo.php?script=sci arttext &pid=\$1025-55832017000300004.

 DOI: https://doi.org/10.15381/anales.v78i3.13758
- [3]. Amezquita-Torres F, Moreno-Cano A. Perception of caregiving burden in informal caregivers of people with mental illness in Bogotá. Spanish Journal of Disability. 2019 [cited: January 17, 2021]; 7 (2): 55-77. Available from: https://www.cedd.net/redis/index.php/redis/article/view/509 DOI: https://doi.org/10.5569/2340-5104.07.02.04

- [4]. Gualpa-Lema MC, Yambay-Bautista XR, Ramírez-Coronel AA, Vázquez-Cárdenas, Workload and anxiety in caregivers of severely disabled staff. 2019 [cited: January 9, 2021]; 23(95):33-9. Available from: https://www.uctunexpo.autanabooks.com/index.php/uct/article/view/243
- [5]. Gómez-Galindo Ana M, Peñas-Felizzola Olga L, Parra-Esquivel Eliana I. Characterization and conditions of caregivers of people with severe disabilities in Bogotá. Rev Public Health 2016 [cited: 09 Jan 2021]; 18(3): 367-378. Available from: https://dx.doi.org/10.15446/rsap.v18n3.53048
- [6]. Alfaro O. Overload, anxiety and depression in primary caregivers of chronic and terminal pain patients. Medical Journal of the Mexican Institute of Social Security. 2008 [cited: March 03, 2018]; 46(5):485-494; Available from.: https://www.medigraphic.com/pdfs/imss/im-2008/im085e.pdf
- [7]. Palacios E, Pinzón D. Overload, anxiety and depression in the caregiver of a patient with cerebrovascular disease. Repertory of Medicine and Surgery. 2017 [cited: 12/06/2019]; 26(2): 118-120. Available from: https://revistas.fucsalud.edu.co/index.php/repertorio/article/view/33. DOI: https://doi.org/10.1016/j.reper.2017.04.003
- [8]. Díaz M, Estévez A, Momeñe J, Ozerinjauregi N. Social support in the relationship between perceived informal caregiver burden and general health of female caregivers. Anxiety and Stress [Internet]. 2019 [cited: June 12, 2019]; 25(1): 20-27. Available from https://doi.org/10.1016/j.anyes.2019.04.001
- [9]. Cardona D, Segura A, Berberí D, Agudelo M. Prevalence and factors associated with primary caregiver overload syndrome in the elderly. Rev Fac Nac Public Health. 2013 [cited: January 17, 2021]; 31(1):31-39. Available from: http://www.scielo.org.co/pdf/rfnsp/v31n1/v31n1a04.pd
- [10]. Pucciarelli G, Ausili D, Galbussera AA, Rebora P, Savini S, Simeone S, et al. Quality of life, anxiety, depression and burden among stroke caregivers: A longitudinal, observational multicentre study. Journal of Advanced Nursing. 2018 [cited: June 12, 2019]; 74(8): 1875-1887. Available from: https://pubmed.ncbi.nlm.nih.gov/29700840/ DOI: https://doi.org/10.1111/jan.13695
- [11]. Arias-Reyes C, Muñoz-Quezada M. Quality of life and overload in caregivers of schoolchildren with intellectual disabilities. Interdisciplinaria: Journal of Psychology and Related Sciences. 2019 [cited: October 27, 2021]; 36(1). Available from: https://www.redalyc.org/jatsRepo/180/18060087017/html/index.html

- [12]. Aires M, Fuhrmann AC, Mocellin D, Dal Pizzol FLF, Sponchiado LF, Marchezan CR, Bierhals CCBK, Day CB, Santos NO, Paskulin LMG. Burden of informal caregivers of dependent elderlies in the community in small cities. Rev Gaúcha Enferm. 2020 [cited: January 16, 2021]; 41 (spe): e20190156. Available from: https://www.scielo.br/pdf/rgenf/v41nspe/1983-1447-rgenf-41-spe-e20190156.pdf. DOI: https://doi.org/10.1590/1983-1447.2020.20190156
- [13]. Peña-Ibáñez F, Álvarez-Ramírez M, Melero-Martín J. Informal caregiver overload of immobilized patients in an urban health area. Enferm. glob. 2016 [cited: January 10, 2021]; 15(43): 100-111. Available from: http://scielo.isciii.es/scielo.php?script=sci arttext&pid = \$1695-1412016000300004&lng=es.
- [14]. Campos MS, Durán EY, Rivera R, Páez N, Carrillo G. Overload and supports in the family caregiver of patients with chronic disease. Rev Cuid. 2019 [cited: January 17, 2021]; 10(3). Available from: https://revistacuidarte.udes.edu.co/index.php/cuidarte/article/view/649
- [15]. Asencios-Ortiz R, Pereyra-Zaldívar H. Caregiver workload according to the level of functionality of the person with disability in a district of Lima. An. Fac. med. 2019 [cited: Jan 09, 2021]; 80(4): 451-456. Available from: http://dx.doi.org/10.15381/anales.v80i4.16441
- [16]. González-Fraile, E., Bastida-Loinaz, M. T., Martín-Carrasco M., Domínguez-Panchón A, Iruin-Sanz, A. Effectiveness of a psychoeducational intervention in reducing the overload of the informal caregiver of the patient schizophrenia with (EDUCA-III-OSA). Psychosocial Intervention. 2018 [cited: January 17, 2021]; 27(3): 113-121. Available from: http://scielo.isciii.es/scielo.php?script=sci_arttext&pid =S1132-05592018000300001. DOI: https://doi.org/10.5093/pi2018a20.
- [17]. Macedo E, Da silva L, Santos M., Pereira M., Overload and quality of life of mothers of children and adolescents with chronic disease: integrative review, Rev. Latino-Am.Enfermagem.2015, [cited: March 21, 2019]; 23(4)769-77. Available from: https://www.scielo.br/pdf/rlae/v23n4/es 0104-1169-1169-0196.2613.
- [18]. Navarro C, Uriostegui L, Edna E, Delgado G, Sahagún M, Depresión y sobrecarga en cuidadores primarios de pacientes geriátricos con dependencia física de la UMF 17, Rev Med Inst Mex Seguro Soc. 2017; [citado:21 de Marzo de 2018]; 55(1):25-31. Disponible en: https://www.medigraphic.com/cgibin/new/resumen.cgi?IDARTICULO=71837
- [19]. López C, Frías A, Del-Pino R, Sense of coherence and subjective overload, anxiety and depression in caregivers of elderly relatives, Gac Sanit. 2019 [cited: 2020 Jun 25]; 33(2):185-190. Available from: https://www.sciencedirect.com/science/article/pii/S0213911117302601 DOI: https://doi.org/10.1016/j.gaceta.2017.09.005

- [20]. Arias-Reyes C, Muñoz-Quezada M, Quality of life and overload in caregivers of schoolchildren with intellectual disabilities. Interdisciplinaria. 2019 [cited: 2020 Oct 27th]; 36 (1): 257-272. Available from: https://www.redalyc.org/articulo.oa?id=18060087017
- [21]. González-Fraile Eduardo, Bastida-Loinaz María Teresa, Martín-Carrasco Manuel, Domínguez-Panchón Ana I., Iruin-Sanz Álvaro. Effectiveness of a psychoeducational intervention in the reduction of informal caregiver overload of the patient with schizophrenia (EDUCA-III-OSA). Psychosocial Intervention. 2018 [cited: January 10, 2021]; 27(3): 113-121. Available from: http://scielo.isciii.es/scielo.php?script=sci_arttext&pid =S1132-05592018000300001&lng=es. DOI: http://dx.doi.org/10.5093/pi2018a20.
- [22]. Urbina Camacho & Zapata Freire (2016) Caregiver overload syndrome and its relationship with caregiving in people with severe and very severe disabilities registered in the Health Center N°2 "Las Casas" and belonging to district 17D05 in the city of Quito, 2016. Scielo. [cited: January 17, 2021]; 1-106. Available from:

http://dspace.ueb.edu.ec/bitstream/123456789/3099/1/PROYECTO%20FINAL.pdf

- [23]. Hernández-Cantú EI, Reyes-Silva AKS, Villegas-García VE, Pérez-Camacho J. Anxiety, depression and overload in primary caregivers of patients hospitalized in a general area hospital in Nuevo León, Mexico. Rev Enferm Inst Mex Seguro Soc. 2017; [cited: January 17, 2021]; 25(3):213-20. Available from: https://www.medigraphic.com/pdfs/enfermeriaimss/eim-2017/eim173h.pdf
- [24]. Alfaro-Ramírez del Castillo Olga Isabel, Morales-Vigil Tania, Vázquez-Pineda Fernando, Sánchez-Román Sofía, Ramos-del Río Bertha, Guevara Uriah. Overload, anxiety and depression in primary caregivers of chronic and terminal pain patients. Rev Med Inst Mex Seguro Soc. 2008; [cited: March 29, 2018]; 46 (5): 485-94. Available from: https://www.redalyc.org/pdf/4577/457745523005
- [25]. Carrión-García MÁ, López-Barón F, Gutiérrez AM. Influence of negative factors of the work context on psychic wear of workers in Colombia. Hacia promoc. salud. 2015; [cited: January 16, 2021]; 20(1): 111-125 Available from: http://www.scielo.org.co/pdf/hpsal/v20n1/v20n1a08.p df. . DOI: 10.17151/ hpsal.2015.20.1.8
- [26]. Linares Cánovas LP, Lemus Fajardo NM, Linares Cánovas LB, González Corrales SC, Soto Álvarez EM. Behavior of overload in primary informal caregivers of older adults with stroke. Rev Medical Sciences. 2019 [cited: January 16, 2021]; 23(6): 884-898. Available from:
 http://www.revcmpinar.sld.cu/index.php/publicaciones.
 - http://www.revcmpinar.sld.cu/index.php/publicaciones/article/view/4174/html
- [27]. Martínez Martínez L, Sirvent Muñoz N. Effectiveness of an educational intervention in informal caregivers in two health centers with caregiver role fatigue. Scientific journal of nursing. 2016 [cited: January 17,

- 2021] (12). Available from: http://www.index-f.com/comunitaria/1revista/r1_articulo_12-17.php
- [28]. López Alonso SR, Moral Serrano MS. Validation of the caregiver strain index in the Spanish population. Enferm Comun. 2005; [cited: 2 January 2018]; 1: 12-7. Available from: http://www.index-f.com/comunitaria/1revista/1_articulo_12-17.php
- [29]. Vélez J, Fernández D, Cardona D, Segura A, Ordoñez J. Validation of abbreviated Zarit scales for the measurement of primary caregiver syndrome in the elderly in Medellín. Aten Primaria. 2012 [cited: September 10, 2019]; 44(7):411-41. Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7025946/
- [30]. Fonseca-Pedrero E, Paino M, Sierra-Baigrie S, Lemos-Giráldez S, Muñiz J. Psychometric properties of the "State-Trait Andiety Questionnaire" (STAI) at the University of Oviedo. Behavioral Psychology / Psicología Conductual, 2012 [cited: 23 January 2021]; 20 (3): 547-561. Available from: http://www.p3-info.es/PDF/PropiedadespsicomeetricasdelSTAI.pdf
- [31]. Agudelo-Vélez M, Gómez-Maquet Y, López P. Psychometric properties of the Trait State Depression Inventory (IDER) with a Colombian general population sample. Advances in Latin American Psychology, 2014 [cited: 23 January 2021]; vol. 32(1), pp. 71-84. Available from: http://www.scielo.org.co/pdf/apl/v32n1/v32n1a06.pdf DOI: dx.doi. org/10.12804/apl32.1.2014.05
- [32]. Corbalán Carrillo María Gloria, Hernández Vian Óscar, Carré Catases Montserrat, Paul Galcerán Georgina, Hernández Vian Blanca, Marzo Duque Corpus. Overload, anxiety and depression in caregivers of patients included in the home care program. Gerokomos. 2013 [cited: March 31, 2021]; 24(3): 120-123. Available from: http://scielo.isciii.es/scielo.php?script=sci arttext&pid = \$1134-928X2013000300005&lng=es. DOI: http://dx.doi.org/10.4321/S1134-928X2013000300005.
- [33]. Lara P.G., González P., Blanco L. Caregiver profile: overload and family and institutional support of the primary caregiver in the first level of care. Rev Esp Med Quir. 2008 [cited: March 31, 2021]; 13 (4): 159-66. Available from: https://www.redalyc.org/articulo.oa?id=47326420003
- [34]. González O.M., Terán T.M., Ponce R., Sánchez E. Caregiver health and their support networks in a family medicine clinic in Mexico City. Arch Med Fam. 2003 [cited: March 31, 2021];5(2):47-52. Rubio M., Sánchez I.A. Perfil medico social del cuidador crucial ¿se trata de un paciente oculto? Unidad docente de medicina familiar y comunitaria de Tervel. Rev Esp Gerona. 1999 [cited: March 31, 2021];26(1):13. Available from: https://dialnet.unirioja.es/servlet/articulo?codigo=7562
- [35]. Moral S., Juan O.J., Lopez M., Pellicer M.P. Profile and risk of mental illness in caregivers for home care patients. Aten Primaria. 2003 [cited: March 31, 2021];32(2):77-83. Available from:

- https://www.elsevier.es/es-revista-atencion-primaria-27-articulo-profile-risk-mental-illness-in-13049639
- [36]. Álvarez Lourdes, González Ana María, Muñoz Pedro. The Zarit caregiver overload questionnaire: How to administer and interpret it. Gac Sanit. 2008 [cited: March 31, 2021]; 22(6):618-619. Available from: http://scielo.isciii.es/scielo.php?script=sci_arttext&pid=s0213-91112008000600020&lng=es.
- [37]. Domínguez J.A., Ruíz M., Gómez I., Gallego E., Valero J., Izquierdo M.T. Anxiety and depression in caregivers of dependent patients. Medicina de Familia SEMERGEN. 2012 [cited: March 31, 2021];38(1):16-23. Available from: https://www.sciencedirect.com/science/article/abs/pii/S1138359311002486. DOI: doi:10.1016/j.semerg.2011.05.013
- [38]. Alfaro-Ramírez del Castillo, Olga Isabel, Morales-Vigil, Tania, Vázquez-Pineda, Fernando, Sánchez-Román, Sofía, Ramos-del Río, Bertha, Guevara-López, Uriah, Overload, anxiety and depression in primary caregivers of chronic and terminal pain patients. Medical Journal of the Mexican Institute of Social Security. 2008 [cited: March 31, 2021];46(5):485-494. Available from: https://www.redalyc.org/articulo.oa?id=457745523005
- [39]. McClendon M.J, Smyth K.A, Neundorfer M.M. Survival of persons with Alzheimer's disease: caregiver coping matters. Gerontologist. 2004 2008 [cited: March 31, 2021];44:508-519. Available from: https://academic.oup.com/gerontologist/article/44/4/508/564813
- [40]. Hudson PL, Aranda S, Kristjanson LJ. Meeting the supportive needs of family caregivers in palliative care: challenges for health professionals. J Palliat Med. 2004 [cited: March 31, 2021];7:19-24. Available from: https://pubmed.ncbi.nlm.nih.gov/15008126/