



## RESEARCH ARTICLE

### FAMILY CAREGIVER BURDEN THE PATIENT WITH DIABETIC FOOT IN THE NAVY SPECIALTY HOSPITAL OF VERACRUZ

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#### ARTICLE INFO

##### Article History:

Received 27<sup>th</sup> November, 2016  
Received in revised form  
05<sup>th</sup> December, 2016  
Accepted 06<sup>th</sup> January, 2017  
Published online 28<sup>th</sup> February, 2017

##### Keywords:

Family Burned,  
Primary Caregiver,  
Diabetic Foot.

#### ABSTRACT

**OBJECTIVE:** Determinate the family burden in the caregiver of the patient with diabetic foot in the Naval Specialty Hospital of Veracruz.

**METHODS:** The caregiver of a patient with a diabetic foot was observed attending to the wound clinic, monthly period of June to October 2016. The Self-Applied Family Load Scale-Questionnaire was applied to him, through three sections, the objective load, the level of attribution and the subjective load with a reliability of 0.85 No-random sampling and probabilistic sample. It was analyze with absolute and relatives frequencies, by confidence intervals and tendency measures, and probabilistic pack SPSS v22.0.

**RESULTS:** 70 interviews were made, observing an average of 160 days of evolution since the beginning of the injury, female relatives caregiver of the patient response were 69%, children of the patient 60%; according to Wagner classification a deep ulcer was found in 46%. Caregiver average age of  $48 \pm 14$  years old, 54% housewife, 50% with elementary or lower schooling. Attribution level showed 1.10 (IC 95% 0.98-1.23) correspond it to possible relation, objective load 0.69 (IC 95% 0.59-0.79) range 0-2.

**CONCLUSION:** In family burned was observed a possible relation in the attribution level of the caregiver of patient with diabetic foot.

#### INTRODUCTION

The patient with diabetic foot subjected to procedures of constant stress, acquires the centrality of de family, taking some of its members the image of caregiver influencing the family dynamics with greater demand for attention and initiating a family burden (Pinzón 2013). The Family Burden is defined as the set of physical, psychological, social and financial problems suffered by members of a family who must care for a physically and mentally disablechronic sufferer in a prolonged time.This overload affects diferent fields of life family, but fundamentally implies an important impact on the emotional functioning and work and family life of the informant or caregiver who is the member that represents the family burden, (Morales 2008),(Kovacs 2014).

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In patients with diabetic foot we can observe the limitattion of mobility, perceiving that one is a burden for the family, in turn, it generates a reduction in the quality of life and its family dynamics, (Vileikyte 2003), (Osorno 2005). Faced with the diagnosis of a disorder such as Diabetes, with its condition of chronicity, the family mobilizes its adaptation mechanisms until its recovers threatened homeostasis, (Valadez 2003). As the presence of diabetic foot is considered a disabling disease and demands more attention by the familiy and generates caregivers, (Mendoza 2005). Diabetic foot is defined as a complication of diabetes mellitus characterized by neuroischemal manifestation or foot deformity, (Brownlee 2004). The onset of clinical alteration of the diabetic foot lies in metabolic uncontrol, with consequent neuronal degeneration and delay in nerve conduction velocity and by sustained hyperglycemia causes alteration in the endoneural vasculature decreasing the flow and consequently causing neural hypoxia, (Valadez 1993). Family adaptation to chronic disease can generate two alternatives: family flexibility where family adaptation is effective and rigidity of roles whose

family flexibility is ineffective, (Ledón 2012). Assuming the role of caregiver is not innocuous, it is possible to develop a phenomenon called "overload", by the task assumed, combining various variables such as inattention to their own health, vital project and social life, family deterioration, related to guilty, manipulators; anxiety about lack of preparation in diabetic foot disease. The primary family caregiver is the person who takes care of the patient, a situation that seems highly functional, (Gil 2007). The family burden is multidimensional and for research purposes it focuses on three attempts that are the objective burden that refers to the events and activities associated with negative experiences by the caregiver, the subjective burden that refers to the feelings of the caregiver as responsible and care provider that has in the chronic patient and also the level of attribution that is the perception of the caregiver about the stress experienced on this experience, (Otero1990). To evaluate the Family Load, Otero and cols. (1990) adapted a questionnaire in Spain called "Self-Applied Family Load Scale", which can identify us in less than 10 minutes the objective load, the subjective load and the level of attribution applied to the caregivers who are the ones carry such a load. (Arboleya 2008). Therefore, the purpose of this study is to identify the family burden of caregivers and their families in patients with diabetic foot.

The variables to be studied were: patient and caregiver age, gender of patient and caregiver, relationship to diabetic patient, evolution in diabetic foot days, evolution in years of diabetes mellitus, occupation, marital status and caregiver education, last quantity of glycemia, Wagner classification, family typology according to kinship and self-application of the questionnaire, "Self -Applied Family Load Scale", which comprised three sections: the first the Objective Load, which evaluated the alterations in the daily functioning of those people who are part of the patient's environment with a score of 0 to 2 (0=no load, 1=some load and 2= quite load); the second the Attribution Level where the informant considered if their problems were related to the patient and at what level with a score of 0 to 2 (0= no relation, 1= possible relation and 2 = clear relation); the third the Subjective Load, which evaluated the stress that occurs in the informant of the patient's behavior, their social role performance and the adverse effects in others with a score of 0 to 2 (0 =no stress, 1= moderate stress and 2= severe stress). Scores for each section were totaled and averaged; With a total of 42 items. Sampling was non-randomized, since all patients were included, therefore the sample size was non-probabilistic. The statistical analysis included the absolute and relative frequencies in categorical variables and the quantitative ones by the measures of central tendency and dispersion.

**Table 1. Socio-demographics data of the diabetic population studied**

Characteristics	Frecuencies n=70
Age in years	66± 10 (min 45 – max 86)
Evolution of diabetes in years	20± 9 (min 2 –max 48)
Time of illness in days	160± 10 (min 4—max 700)
Fasting glycemia in mg/dl	219 ± 95 (min 94 –max 500)
Sex	
Male	25 (36%)
Female	45 (64%)
Relationship to caregiver.	
Children	42 (60%)
Spouse	22 (31%)
Brother	3 (4%)
Daughter in law	2 (3%)
Nephew	1 (1%)
Wagner Grading System	
1.-Grade 1: Superficial Diabetic Ulcer.	10 (14%)
2.-Grade 2: Ulcer extension.	32 (46%)
3.-Grade 3: Deep ulcer with abscess or Osteomyelitis.	20 (28%)
4.-Grade 4: Gangrene to portion of forefoot.	6 (9%)
5.-Grade 5: Extensive gangrene of foot	2 (3%)

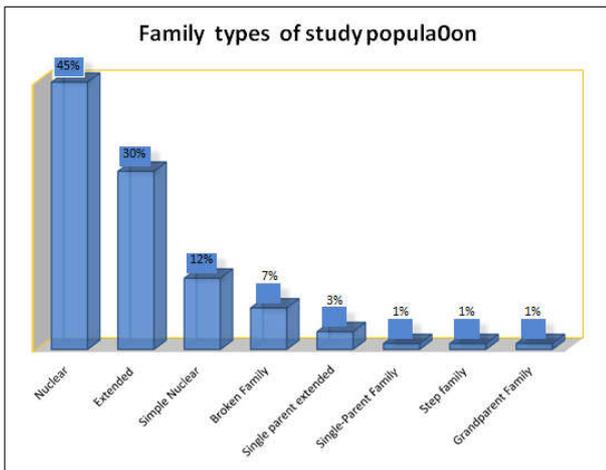
## METHODS

A descriptive, transverse and prolective study was performed by the caregiver of the patient with diabetic foot, who attended a wound clinic, attached to the Naval Specialty Hospital of Veracruz, in the months from June to October, 2016; was identified through a list of appointments that came to healing. At same time, the caregiver was identified, taking into account the criteria to be included in the study that were at least 3 months of living with the patient, living under a family nucleus and being older than age. The exclusion criteria considered were those with incomplete answers in the questionnaire. The importance of the study and the benefits to the caregiver and the Hospital were explained to the caregiver. Once the caregiver was accepted, the informed consent was signed.

The study was approved by the local committee of investigation of the Naval Specialty Hospital of Veracruz, with the number: 141

## RESULTS

Of a total of 100 patients, 30 were eliminated because they did not attend the appointment for their interview and did not meet the selection criteria of which they presented an average of 20 years of evolution of diabetes and 160 of the diabetic foot; the female sex corresponded to 48 (69%), children of the patient had 42 (60%) and within the Wagner classification the deep ulcer was observed in 32 (46%) patients, as detailed in table 1. From the data provided by the caregivers, the mean age was 48 ± 14 years old; 48 (69 %) were female, 38 (54%) were housewife, 17 were employed (24%) attended elementary



Source: HOSNAVESVER external Clinic Wound Clinic.

Graph 1.

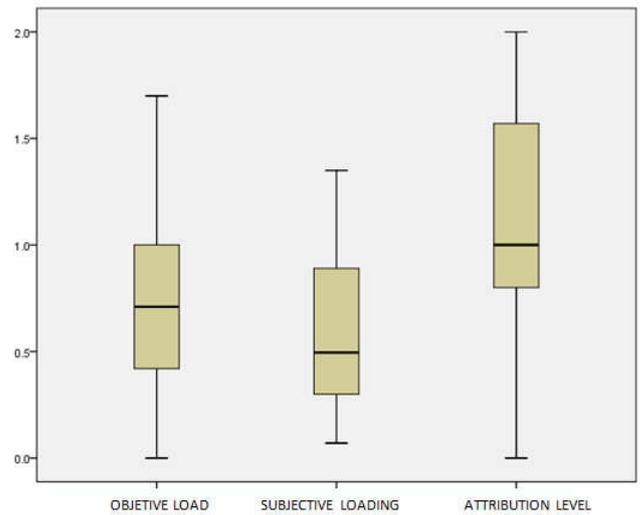
Table 2. Socio-demographics data of caregivers

Characteristics	Frequencies n=70
Age in years	48± 14 (min 15 –max 75)
Sex	
Male	22 (31%)
Female	48 (69%)
Occupation	
Home	38 (54%)
Employee	17( 24%)
Retired	5 (7.1%)
Student	4 (6%)
Worker	2 (3%)
Professional	2(3%)
Scholarship	
Illiterate	5 (7%)
Elementary	25(36%)
High school	16(23%)
Technical level	15(21%)
Professional degree	6( 9%)
Postgraduate	3(4%)
Civil Status	
Married	39 (56%)
Single	11(16%)
Free Union	10(14%)
Widower	7(10%)
Divorced	3(4%)

school or less 50%, civil status married was 39 (56%). The details in table 2. It corresponded to 45% of nuclear family, 30% extended of the patient with diabetic foot. As shown in graph 1. The average load at the attribution level was 1.10 (CI 95% 0.98- 1.23), objective load 0.69 (CI 95% 0.59.0.79), subjective loading 0.57 (CI 95% 0.49-0.64); as detailed in figure 1.

**DISCUSSION**

We reviewed a list of 100 patients who went to the Curing Module al 70 with diabetic foot;Observing that 6% of the diabetics of this Hospital have some degree of foot



Objective load .....0.69 (CI 95% 0.59.0.79), subjective loading ...0.57 (CI 95% 0.49-0.64), attribution level.....1.10 ( IC 95% 0.98-1.23)  
Source: HOSNAVESVER external Clinic Wound Clinic.

Figure 1. Average family burden in caregivers of patients with diabetic foot

injury;predominating the deep ulcer in almost half; But these prevalence figures are lower compared to other studies that mention 10% of their patients are treated in a special module; and are typically similar to those of Arboleya (2008) of a total of 1253 diabetics 7% had diabetic foot.(Brownlee 2004), (Cerquera 2012). The glycemia in these patients presented average numbers of 219, affecting in more than half the female sex,where the caregiver corresponded to the children with 61%; that were dedicated to the home ,24% employed and were students 6%;so that only the level of attribution that is the degree to wich the caregiver relates his problems to the patient is affected, according to Cequera (2012) he mentions that the high level of schooling, the high socioeconomic status and the kinship are realated to it does not overload (Moreno 2005). The family of this group were more often the nuclear that corresponded to the care of the son; in addition the extended family , according to Moreno (2011) that mentions the caregiver ia a person close to the patient , mostly relatives such as parents, siblings children or spouse (Martínez 2006); in our study corresponded to the daughter. The attribution level was the most affected in this group, with an average of 1.10 wich means possible relation and represented in proportions of 63% of caregivers; which means that he objectiely relates his problem to the patients; and as Martinez Piedrola (2006) mention’s, the close relationship that is presented with the stage of the disease; as in our study where almost half presented deep ulcer in diabetic foot (Sanchez 2007). The lowest observed loads were in the objetive load in 30% with some relation, in the subjective load that represent 15% with moderate stress; Similar to studies carried out by E. Sánchez (2007) in Spain where he mentions that the level of atribution is the most affected.

**Conclusion**

The level of attribution presented a moderate burden, wich is frecuently present in these patients, should continue the line of research based on results at the intervention level to improve the well- being of the caregivers since insuficient levels of knowledge of the disease and lack of skills in caring are reflected.

It is recommend to build care modules for caregivers advised by specialist (doctors, psychologist, nurses and social workers) and integrate them into self-help groups including programs to develop care skills, increasing their coping capacity, meeting the needs of the sick person, responding to family problems, maintaining their own health and fostering a good relationship with the person they care for.

### Gratitude

Thanks to the staff of the Naval Specialty Hospital of Veracruz for having contributed to the realization of this study.

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