ABSTRACT. Objectives: To determine the level of knowledge of the main caregiver of diabetic patients about foot complications in a Lima-Peru Level III-1 Hospital. Methodology: Descriptive study of non-experimental design and cross section. Sample consists of 65 primary caregivers who accompanied the care of the diabetic patient treated in the Plastic Surgery service in a Hospital Level III-1 Lima-Peru, during a certain month of 2016. The technique used for data collection was The survey and the applied instrument was a valid and reliable questionnaire, consisting of 23 questions. Results: Knowledge of the main caregiver of diabetic patients about foot complications in a Hospital of Lima, Peru Conclusions: Most of the main caregivers have an average knowledge about foot complications.

Keywords: Diabetic foot, Diabetes Mellitus, caregivers, knowledge.
INTRODUCTION

Diabetes mellitus (DM) more often involves total dependence on short-acting crystalline insulin and NPH with long-term action over a period of time or for life. It is considered, rather than a common disease, a pathology systemic, chronic whose common denominator is hyperglycemia, which in turn produces microvascular diseases (retinopathy, blindness, neuropathy, renal failure) as complications. The alteration of motor and autonomic sensory nerve fibers reduces sensitivity and affects the muscles of the body, the lower extremities, so that complications such as ulcers, gangrene and amputation of the foot, cause partial or definitive disability.

Consequently, the most frequent complication that represents the person affected by this disease is diabetic foot, which often results in the amputation of lower limbs.

Worldwide, it is estimated that 4 to 10% of patients with diabetes will have lower limb involvement and approximately 5 to 24% will present with diabetic foot ulcers with irremediable amputation between 6 and 18 months. In the United States, 24.1% of diabetics (68000 patients) have been amputated from the foot, while in Spain there are 3,249,500 of diabetics (7.2% of the population), 500,000 have diabetic foot and of these between 25,000 and 120,000 end in amputation of the lower extremities.

According to epidemiological surveillance of diabetes in Peru, only in the first semester of 2013 there were 5001 cases, the majority in Lima; and it is estimated that by 2020 they will increase 80%. There is then concern about the high incidence of diabetic foot in users suffering from the disease (predominance of 50%), which constitutes the increase in limb amputation.

Researchers link these data with the fact that caregivers of diabetic patients have to know the risks and complications of this disease, as well as the correct way to prevent them. However, according to the review of primary sources, several studies conducted in Ecuador, Nicaragua, Mexico and Guatemala show that more than 50% of primary caregivers have poor knowledge about diabetes, diabetic foot and foot prevention.

In Peru, the situation is similar. The studies reviewed, although they mostly belong to caregivers of patients living in the capital, indicate little or very little knowledge about diabetes complications, care and prevention of diabetic foot in figures around 70%.

Therefore, the nursing professional should not only focus on classifying the diabetic foot with existing scales such as the Wagner scale to perform secondary care, but the main objective of nursing care is to prevent complications. This requires working on primary prevention with the patient and their caregivers, educating on actions to prevent foot injuries such as daily review, use of appropriate footwear, weight control, among others comprehensive care according to the evolution of ulcers and promoting healthy lifestyles, supplying their needs with the consumption of dried fruits, fresh vegetables, pure water consumption and with exercises at least 30 minutes a day.

Considering the importance of prevention and the need to document the educational needs of primary caregivers in a health institution where this type of patients with foot complications frequently attend; The present study was carried out in order to determine the level of knowledge of the main caregiver of diabetic patients about foot complications in a Level III-1 Hospital in Lima-Peru.

MATERIALS AND METHODS

The study was a quantitative approach, non-experimental design, cross-section, descriptive level. The population consisted of 65 main caregivers of users diagnosed with diabetes mellitus, treated at a Level III-1 Hospital in the city of Lima during a certain month of 2016, which met certain inclusion criteria.

The technique used for data collection was the survey and the instrument applied was the questionnaire, consisting of 23 questions, divided into 3 dimensions, 9 questions of generalities, 7 of risk factors and 7 of preventive care. The instrument was validated by expert judgment obtaining an average validity of 86.94% and to determine the reliability a pilot test was carried out; then with the analysis of Cronbach’s alpha, 0.787 was obtained.

The analysis of results was carried out with the statistical package SPSS version 24, after having calculated the scores as estimated, establishing the levels of knowledge as low, medium and high. The data were analyzed with descriptive statistics to present the results in tables and graphs of frequencies and percentages.
RESULTS

In the dimension generalities, when asking the caregiver about the concept of diabetes, types of diabetes, signs and symptoms, acute and chronic complications; concept, signs and symptoms of the diabetic foot, it is shown that only 15.4% have adequate knowledge (high), the average level followed by the low.

Table 1.
Knowledge about the generalities of diabetic foot that has the main caregiver of the patient treated in a Hospital Level III-1 Lima

<table>
<thead>
<tr>
<th>General Knowledge</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low</td>
<td>12</td>
<td>18.5%</td>
</tr>
<tr>
<td>Medium</td>
<td>43</td>
<td>66.2%</td>
</tr>
<tr>
<td>High</td>
<td>10</td>
<td>15.4%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>65</strong></td>
<td><strong>100.0%</strong></td>
</tr>
</tbody>
</table>

Similarly, only 18.5% of caregivers have high knowledge about hyperglycemia, infection, age, overweight, smoking, HBP and neuropathy as risk factors for diabetic foot; being that the percentage of the difference is distributed almost equally between the average and low knowledge.

Table 2.
Knowledge about risk factors of diabetic foot that has the main caregiver of the patient treated in a Hospital Level III-1 Lima

<table>
<thead>
<tr>
<th>Risk factors knowledge</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low</td>
<td>26</td>
<td>40.0%</td>
</tr>
<tr>
<td>Medium</td>
<td>27</td>
<td>41.5%</td>
</tr>
<tr>
<td>High</td>
<td>12</td>
<td>18.5%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>65</strong></td>
<td><strong>100.0%</strong></td>
</tr>
</tbody>
</table>

When consulting the main caregiver on aspects related to preventive care for diabetic foot as a healthy lifestyle, physical activity, footwear, foot washing, nail cutting and socks; It was found that only 18.5% have high knowledge about these issues, maintaining almost equal distribution between medium to low knowledge.

Table 3.
Knowledge about preventive care of diabetic foot that has the main caregiver of the patient treated in a Hospital Level III-1 Lima

<table>
<thead>
<tr>
<th>Preventive care knowledge</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low</td>
<td>26</td>
<td>40.0%</td>
</tr>
<tr>
<td>Medium</td>
<td>27</td>
<td>41.5%</td>
</tr>
<tr>
<td>High</td>
<td>12</td>
<td>18.5%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>65</strong></td>
<td><strong>100.0%</strong></td>
</tr>
</tbody>
</table>

Finally, when qualifying the global knowledge of diabetic foot that has the main caregiver, it is evidenced that only 16.9% have adequate knowledge of the subject (high level); however, the low knowledge figures are similar, with the average level prevailing.

Table 4.
Knowledge about diabetic foot that has the main caregiver of the patient treated in a Hospital Level III-1 Lima

<table>
<thead>
<tr>
<th>Total knowledge</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low</td>
<td>10</td>
<td>15.4%</td>
</tr>
<tr>
<td>Medium</td>
<td>44</td>
<td>67.7%</td>
</tr>
<tr>
<td>High</td>
<td>11</td>
<td>16.9%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>65</strong></td>
<td><strong>100.0%</strong></td>
</tr>
</tbody>
</table>
DISCUSSION

In the present study it was found that the level of knowledge predominant in caregivers of diabetic patients is the means and that high knowledge is possessed by few caregivers, both at the level of diabetic foot in general (16.9% high), and knowledge of the generalities of the topic (15.4% high), risk factors for diabetic foot (18.5% high) and preventive care (18.5% high). When contrasting these results with the antecedents, it is evident that the studies carried out in Peru and Guatemala found higher figures of ignorance of the subject, so Mamani, Mandamiento and Meneses found 72% of bad knowledge, Castro 41% of low knowledge and Hernández 40% of ignorance of risk factors.

From here, it follows the need for the main caregiver to know, in a simple way, the implications of diabetes that explain the appearance of complications and the elements that precipitate them; so that you can understand the severity of complications and the importance of prevention. It will then be necessary to train them with key messages such as that diabetes is caused by disorders in the action of insulin, which causes the change of basal metabolism in carbohydrates, fats, proteins, triggering hyperglycemia. At the same time, it must be clear that it is a chronic and progressive disease without cure, whose accumulation of sugar in the bloodstream over time severely affects different organs and systems, mainly nerves, tissues and blood vessels, giving rise to the appearance of chronic conditions vascular level, myocardial infarction, retinopathy, nephropathy and neuropathy that produces alteration of the sensory nerve fibers, decrease in sensitivity to a painful defect, reduction of the muscles of the lower extremities with limitation of the feet culminated in the high risk of presenting diabetic foot, which in most cases has as its outcome the amputation of the lower limbs.

Therefore, considering the results found; it is a priority that the nursing professional take conscience and strengthen the work he does with caregivers of diabetic patients through educational programs, informative material and above all appropriate strategies that address the circle of the disease, enriching the knowledge of family members with the object of protecting the integrity of users. It is concluded that the main caregivers of patients treated in a hospital for diabetes, have knowledge about diabetic foot so the nurse must assume the challenge of working so that they have more conscious precaution of the care of these patients to avoid risks long-term.

It is recommended to relate the knowledge of the caregivers with the condition of their patient and its complications; as well as analyze and apply different strategies that from the work of the nurse improve the knowledge and care provided by the caregiver.

Conflicts of interest: The author declares that there are no conflicts of interest.

BIBLIOGRAPHIC REFERENCES


Knowledge of the main caregiver of diabetic patients on the complications of the cake in a Hospital of Lima, Peru

