

# Knowledge and practices of Primary Care professionals on diabetic neuropathy: study of social representations

*Saberes e práticas de profissionais da Atenção Primária sobre neuropatia diabética: estudo de representações sociais*  
*Conocimientos y prácticas de los profesionales de Atención Primaria sobre la neuropatía diabética: estudio de las representaciones sociales*

**Erlon Gabriel Rego de Andrade<sup>I</sup>**

ORCID: 0000-0002-7109-6121

**Ivaneide Leal Ataíde Rodrigues<sup>II</sup>**

ORCID: 0000-0001-9968-9546

**Sidney de Assis da Serra Braga<sup>I</sup>**

ORCID: 0000-0002-0682-1286

**Laura Maria Vidal Nogueira<sup>III</sup>**

ORCID: 0000-0003-0065-4509

**Bruna Alessandra Costa e Silva Panarra<sup>III</sup>**

ORCID: 0000-0002-2469-7426

**Marcandra Nogueira de Almeida Santos<sup>IV</sup>**

ORCID: 0000-0002-0017-855X

**Alexandre Aguiar Pereira<sup>II</sup>**

ORCID: 0000-0003-0761-5836

<sup>I</sup>Centro Universitário do Estado do Pará. Belém, Pará, Brazil.

<sup>II</sup>Universidade do Estado do Pará. Belém, Pará, Brazil.

<sup>III</sup>Universidade da Amazônia. Belém, Pará, Brazil.

<sup>IV</sup>Conselho Regional de Enfermagem do Pará. Belém, Pará, Brazil.

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## Corresponding author:

Erlon Gabriel Rego de Andrade  
E-mail: [erlon.rego@hotmail.com](mailto:erlon.rego@hotmail.com)



EDITOR IN CHIEF: Antonio José de Almeida Filho

ASSOCIATE EDITOR: Rafael Silva

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## ABSTRACT

**Objectives:** to analyze the knowledge and practices of Primary Health Care professionals about diabetic neuropathy through their social representations. **Methods:** a qualitative, descriptive study, anchored in the procedural aspect of the Theory of Social Representations. It was carried out in four Family Health Units in Belém-Pará, with 31 professionals from four health teams. Data were produced by individual semi-structured interviews, and the corpus was submitted to content analysis. **Results:** two thematic categories were defined, showing the participants' understanding and imagination about neuropathy, as well as the biopsychosocial repercussions of this complication in patients' daily lives. The multidisciplinary practices developed in the context of disease treatment/prevention and the consequences of this performance were also shown. **Final Considerations:** professionals' representations are anchored in neuropathy occurrence due to the deficient standard of care for themselves by patients, which results in the team's surpassing care attitude as an alternative to illness' challenges.

**Descriptors:** Diabetic Neuropathies; Primary Health Care; Health Personnel; Patient Care Team; Psychology, Social.

## RESUMO

**Objetivos:** analisar os saberes e práticas de profissionais da Atenção Primária à Saúde sobre neuropatia diabética, mediante suas representações sociais. **Métodos:** estudo qualitativo, descritivo, ancorado na vertente processual da Teoria das Representações Sociais. Foi realizado em quatro Unidades de Saúde da Família de Belém-Pará, com 31 profissionais integrantes de quatro equipes de saúde. Produziram-se os dados por entrevistas semiestruturadas individuais, sendo o *corpus* submetido à técnica de análise de conteúdo. **Resultados:** definiram-se duas categorias temáticas, evidenciando a compreensão e imaginário dos participantes sobre a neuropatia, bem como as repercussões biopsicossociais dessa complicação no cotidiano dos doentes. Mostraram-se, também, as práticas multiprofissionais desenvolvidas no âmbito do tratamento/prevenção do agravo e os desdobramentos dessa atuação. **Considerações Finais:** as representações dos profissionais ancoram-se na ocorrência da neuropatia pelo padrão deficiente de cuidados consigo por parte dos doentes, o que resulta na atitude sobrepujante do cuidado pela equipe como alternativa aos desafios do adoecimento.

**Descritores:** Neuropatias Diabéticas; Atenção Primária à Saúde; Pessoal de Saúde; Equipe de Assistência ao Paciente; Psicologia Social.

## RESUMEN

**Objetivos:** analizar los conocimientos y prácticas de los profesionales de Atención Primaria de la Salud sobre la neuropatía diabética, a través de sus representaciones sociales. **Métodos:** estudio cualitativo, descriptivo, anclado en el aspecto procedimental de la Teoría de las Representaciones Sociales. Se llevó a cabo en cuatro Unidades de Salud de la Familia en Belém-Pará, con 31 profesionales de cuatro equipos de salud. Los datos se elaboraron mediante entrevistas individuales semiestructuradas y el corpus se sometió a la técnica de análisis de contenido. **Resultados:** se definieron dos categorías temáticas que muestran la comprensión y la imaginaria de los participantes sobre la neuropatía, así como las repercusiones biopsicosociales de esta complicación en la vida diaria de los pacientes. También se mostraron las prácticas multidisciplinares desarrolladas en el contexto del tratamiento/prevenición de la enfermedad y las consecuencias de esta acción. **Consideraciones Finales:** las representaciones de los profesionales están ancladas en la ocurrencia de neuropatía debido al deficiente estándar de atención de los pacientes a sí mismos, lo que se traduce en una actitud de atención superior del equipo como alternativa a los desafíos de la enfermedad.

**Descriptor:** Neuropatías Diabéticas; Atención Primaria de Salud; Personal de Salud; Grupo de Atención al Paciente; Psicología Social.

## INTRODUCTION

Primary Health Care (PHC) leads promotion, protection, diagnosis, treatment and recovery actions in the first level of care. Biopsychosocial health needs need to be met from a multidisciplinary and interdisciplinary perspective, ratifying the joint participation of professionals from different categories and levels of education<sup>(1)</sup>. In this perspective, the Ministry of Health created the government policy Family Health Strategy (FHS), with the premise of developing actions to expand and consolidate Primary Care, strengthening and being guided by bonds, humanization, continuity of care and social participation<sup>(2-3)</sup>.

In the context of FHS, Chronic Noncommunicable Diseases (NCDs) represent an important group of diseases, demanding attention from the entire team, in view of their potential clinical repercussions, which affect individuals' and families' daily lives, in different spectra. The number of people living with NCDs has grown, especially in developing countries, posing a major challenge to health systems<sup>(4)</sup>.

As part of this group, diabetes mellitus stands out, endocrinopathy that generates acute and chronic complications, among which diabetic neuropathy is relevant. This neuropathy is a disorder of the autonomic and/or somatic peripheral nervous system, with the potential to affect all types of nerve fibers, from different regions of the body. With diabetes, the risk for the formation of ulcerative lesions in the feet, amputations, deformations and gait imbalance increases, in addition to cardiovascular changes, genitourinary and gastrointestinal systems, and sweating<sup>(5-7)</sup>.

Considering the pathophysiological process, which results in a wide spectrum of clinical manifestations and sequels, it is important to highlight the problem in the global and national scenario. According to data from the International Diabetes Federation (IDF), changes observed in the diabetic foot and other segments of the lower extremities, resulting from neuropathy, affect about 40 to 60 million individuals with diabetes worldwide. Conditions that evolve with chronic ulcers and amputations are decisive in reducing quality of life and increased risk of premature death<sup>(8)</sup>.

In Brazil, information that shows, on a population basis, the prevalence of disease complications is scarce<sup>(6)</sup>. However, in relation to neuropathy, it is known that it represents the major chronic and microvascular complication of diabetes, suggesting that more than 50% of those diagnosed will develop it during the clinical course<sup>(5-6)</sup>. Congruent with this evidence, a study showed that the World Health Organization (WHO) and the Strategic Action Plan for Coping NCDs in Brazil, 2011-2022, list diabetes among NCDs that require priority intervention<sup>(9)</sup>.

In addition to this scenario and the biological issues surrounding illness, it is imperative to think about the functional limitations that affect the quality of life and the ability to carry out daily activities, impacting patients' lives on different aspects. This can lead to personal frustrations due to the difficulty in achieving glycemic control goals, and a feeling of discrimination in the social environment, compromising their self-esteem, affecting them emotionally and psychologically<sup>(10)</sup>.

Considering the repercussions of neuropathy on the lives of those living with diabetes, it is essential that the health team understands the disease and its potential complications, not

only in the biological context, but especially in the psychosocial context, in a way that is sensitive to outline strategies for diabetic neuropathy prevention and treatment, in order to reduce its impact on patients' daily lives and those who deal with the disease process and share care – family members, caregivers and/or companions<sup>(5-7,11-12)</sup>.

PHC professionals can contribute to give a new meaning to the reality and the biopsychosocial impacts imbricated in it through feasible interventions/orientations based on the way of life and the real situation of the affected, so that they generate a palpable effect in the control of the disease and do not stay in the plan of ideas<sup>(13)</sup>. Given the involvement of these professionals in attending to individual and collective needs, it is important to know the symbolic perspective in which their thoughts and attitudes are socially constructed. Neuropathy is considered a phenomenon that promotes the production of subjectivities woven and shared in the daily life of team work. Thus, it is clear how this symbolism interferes with the way of acting towards patients, whether for preventive or therapeutic purposes.

Within the Theory of Social Representations (TSR), the relevance of a social phenomenon, in general, is identified through the conversations that originate, the knowledge that they mobilize and the practices that induce<sup>(14)</sup>. Thus, neuropathy is open to investigation as a phenomenon of social representations (SR) for PHC professionals. SR are constituted as practical knowledge, elaborated and restructured under certain circumstances at a given historical moment, before social practices, mobilizing the understanding and communication of the socio-material context from cognitive expression and conceptual and symbolic elements<sup>(13,15)</sup>.

The study of SR encompasses the understanding of phenomena before the social context of their production in order to understand the circulating communicative process, as well as its symbolic and ideological application<sup>(13,15)</sup>. The study allows us to infer that, in PHC, SR mobilize the circulation of knowledge and practices on topics related to the experience of those who work in it. In this context, research has already demonstrated the contextualization of SR in the investigation of NCDs and their implications, as occurs in diabetes<sup>(11-13,16)</sup>.

Therefore, understanding the knowledge and practices of these professionals regarding diabetic neuropathy is essential to obtain SR of this group. Thus, it will be possible to perceive how they understand the disease/complication, how they see patients and how their actions are conceived and performed in PHC, as it is a pathology that strongly interferes in the daily and social context of the affected people. Access and sharing of this information, through the understanding of their SR, enhance the theoretical context inherent to this field of research, in health as an area of expertise and production of knowledge, with emphasis on FHS and the professional categories that integrate it.

## OBJECTIVES

To analyze the knowledge and practices of Primary Health Care professionals about diabetic neuropathy through their social representations.

## METHODS

### Ethical aspects

This research was developed in accordance with Resolution CNS (*Conselho Nacional de Saúde* – Brazilian National Health Council) 466/2012. The project was approved by the Research Ethics Committee of *Centro Universitário do Estado do Pará* (CESUPA), obtaining institutional authorization from the Municipal Health Department of Belém (SESMA). Participants were identified using an alphanumeric code, using letter P, for “Professional”, followed by the sequential numbering of all interviews.

### Theoretical-methodological framework

TSR refers to the understanding of a particular form of knowledge that fulfills the function of guiding behaviors and understandings between people. As social phenomena, SR are equipped with symbolic and practical values. Symbolic values guide the construction of individual and collective thinking about the object of investigation, and practical ones, how to act in front of that object, in a reciprocal movement of constant feedback, which makes SR almost tangible, through gesture, of speech and daily encounter<sup>(17)</sup>. They are, then, a way of understanding the consensual universe, a set of common sense knowledge, distinguishable from technical knowledge formulated in science, called reified knowledge<sup>(18)</sup>.

In order to understand social knowledge and practices, TSR uses the concepts of anchoring and objectification, basic processes of constitution of SR. The first has the purpose of making a given object, a priori, seen as strange and distinct from reality, familiar and tangible to the experience of individuals and their collectivity, enabling their (re) naming and establishment of value based on norms and precepts from the social group. The second materializes the representation by means of an image or symbol, transferring to the physical reality what was built in the psychic world, allowing object materialization and its possible naturalization<sup>(17)</sup>.

When understanding PHC-FHS as a fertile scenario for social interaction, materialized in the relationship between health teams and target populations, the TSR theoretical-methodological framework is used in this study. We seek to understand the individual-society relationship by exploring how one interacts with the other and vice versa in the complex movement of construction of reality. In this context, care for people with diabetic neuropathy and their families is inserted, characterized by the multidimensionality of care, as it occurs in different spaces, whether in the Health Unit, home or community environments, and under different modalities, through consultations, multidisciplinary visits, health education activities, among others. This allows the proximity between service and community, with potential for closer ties and the establishment of dialogue relations, knowledge sharing and mutual collaboration.

### Type of study

We opted for a descriptive study, with a qualitative approach, anchored in the procedural aspect of TSR. Qualitative research focuses on phenomena conception and deepening, explored from participants’ perspectives, in a natural context and environment,

seeking subjectivities of individuals or groups about their reality<sup>(19)</sup>. In line with this approach, the procedural aspect makes it possible to understand SR’s content and the elements that constitute it, such as beliefs, ideologies, values, and attitudes, through research methods that allow their expression and proper registration<sup>(15)</sup>. In order to guide the preparation of this study, the COREQ recommendations for qualitative studies were adopted<sup>(20)</sup>.

### Study setting and data source

The research was carried out in four Family Health Units (FHU) in the city of Belém (PA), practice fields and supervised internship of undergraduate students in the health areas. Thus, 31 professionals participated, 22 Community Health Workers (CHW), four nurses, two physicians and three nursing technicians. These comprised a team for each selected FHU, thus totaling four teams. The number of professionals working in these teams, during the data collection period, totaled 34, with this study reaching a participation percentage of 91.2% (31/34).

Professionals who had worked in FHS for at least one year, whether permanent or contracted, were included. Professionals who were away from their activities, due to vacations or leave of any nature were excluded. However, the same did not apply to the total number of participants, since all were in full development of their activities, and three did not participate due to the impossibility of scheduling the interviews, after three attempts in the period provided for data collection.

### Data collection and organization

For data production, individual semi-structured interviews were conducted using a script prepared by the researchers, containing open-ended and closed-ended questions, distributed in two axes: the first, related to the social and professional data of participants, and the second, to the exploration of the object of study, with questions regarding knowledge and practices on diabetic neuropathy and implications for multidisciplinary exercise in FHS.

They explored the concepts of the disease/complication; possible interference in patients’ functional and social-family life, as well as in their self-image, self-care and affective dimension; individual and collective practices for diabetic neuropathy prevention and treatment; facilities and limitations of multidisciplinary activities in the context of this service. Production took place from April to July 2019, conducted by the main researcher.

In order to get to know the reality of the services, prior to data collection, the units were visited, in order to establish contact with the respective managements and present the study proposal to them. The approach to the professionals took place on the premises of FHU in which they worked, where the interviews were also conducted, in a room provided by management, aiming at ensuring full privacy to participants. The interviews were recorded using digital media, with formal consent.

### Data analysis

The interviews’ content was transcribed, composing the corpus, analyzed through careful reading. Analysis was carried out using

the content analysis technique<sup>(21)</sup>, considering its three stages: pre-analysis, material exploration, and treatment of results. Thus, data were classified according to themes presented in participants' responses to the questions in the script. Initially, the testimonies were analyzed internally by interview, in order to identify the context units from which the themes (record units) were highlighted, which occurred more frequently. Subsequently, a global analysis of all responses was performed, verifying expressions, symbols and metaphors that made sense for the understanding of the professionals' knowledge and practices. Thus, 425 context units were identified, from which 22 themes were extracted that comprised two units of meaning, which aggregated the themes related to the knowledge and practices of professionals.

From the units of meaning, two thematic categories emerged, entitled "Meanings of neuropathy and the biopsychosocial repercussions in patients' daily lives" and "Multidisciplinary performance: therapeutic and prophylactic aspects of diabetic neuropathy". To support their analysis, we opted for using TSR's structural concepts, which are: symbolic values, practical values, consensual universe, reified knowledge, anchoring and objectification, according to their respective definitions, presented in the theoretical-methodological framework description.

## RESULTS

### Participants' profile

The female gender figured prominently, with 83.9% (26/31), and variable age between 24 and 58 years old, with the age group of 34 to 43 years old, with 41.9% (13/31). As for training time, among the higher education categories, there was a variation from 1 to 13 years for nurses, from 1 to 11 years for physicians and from 2 to 17 years for nursing technicians; 27.3% (6/22) of CHW reported higher education and 31.8% (7/22) technical training in different fields of knowledge, whether or not they belong to the health field. Therefore, considering academic degrees, 38.7% (12/31) had an undergraduate degree, of which 41.7% (5/12) were specialists and 8.3% (1/12) were masters in their respective areas of training.

Work length in FHS varied from 1 to 19 years, with a predominance of six years (32.3%, 10/31). Regarding religion, 58.1% (18/31) declared themselves Catholic. Regarding marital status, there was a predominance of singles, with 64.5% (20/31), and 51.6% (16/31) had children.

### Meanings of neuropathy and the biopsychosocial repercussions in patients' daily lives

In this category, the participants' understanding and imagination about diabetes mellitus and diabetic neuropathy is presented, as well as the biopsychosocial repercussions of this complication in patients' daily lives, which are strongly presented as inherent to the illness process, contributing to explain the object.

In order to gain an understanding of neuropathy, the concepts regarding the underlying pathology were previously investigated. It was observed that, for 61.3% (19/31) of the professionals, diabetes mellitus results from an inadequate lifestyle, with the influence of behavioral factors repeatedly observed in individuals' daily

lives. Adding to this understanding, 54.8% (17/31) characterized the disease as a set of bodily changes that induce an increase in blood glucose, a process that identifies someone who lives or is developing it. Thus, they face the diagnosis with seriousness, from which continuous care is required, in view of the imminent possibility of complications, or even risk of death:

*Particularly, the first impression I have, when I hear about the diabetes disease, is that the person does not take care in relation to food, habits in general. When it is already an advanced diabetes, [...] I think that the person really does not want to take care of himself, because, I have an acquaintance who, wow, it seems that he asks to die, but not due to the lack of professional guidance, that the person does not take care. (P15)*

*Look, I understand diabetes as a very thankless disease, because it will [...], if the person is not careful, killing slowly, silently, a silent disease that the person, sometimes, doesn't even know they have diabetes, [...] sometimes, people think they don't have it and when they end up they have diabetes, with high glucose. And if you're not careful, it can lead to death, it can lead to the person being maimed, a series of problems. (P23)*

An interesting fact was that, despite all being health professionals, with previous and/or current experience in caring for people with this complication, in many statements, the knowledge of the consensual universe related to neuropathy stood out.

The manifest contents, with greater approximation to reified knowledge, were present in the statements of nurses, physicians, a CHW and a nursing technician. For most of them, diabetic neuropathy is a neurological complication or worsening that especially affects the nerves. The understanding prevails that its progress is closely related to the uncontrolled disease, due to the patients' lack of commitment to treatment in its different spectra, with the possibility of symptoms and clinical evolution, with paresthesia, reduction or loss of sensitivity, injuries and amputations, depending on the severity of each case:

*For me, it is a complication of diabetes, especially when the patient is not compensated, and it causes a lot of discomfort, because he has paresthesia [...]. They are very resistant to accepting that they have diabetes, and for them, it only affects with sugar. Lack of adherence to treatment, not performing physical activities also help in the evolution of the disease. There, it is a daily struggle [referring to assistance]. (P8)*

*These are changes in the sensitivity levels of this patient, mainly in the lower limbs, in the feet, [...] among diabetics who cannot control it, and they come with this complaint, of falling asleep, of not feeling, so the nerves are affected. [...] I always tell our patients, when they don't follow our guidelines, they end up coming to us with this complaint that their feet are asleep, that they have pierced their feet, that they have cut and that they have no sense, because that's how I always say, [...] if you have an engine and put that oil there, damaged, it will ruin the entire engine. So, if this blood is there, with this glucose above normal, it will ruin your whole body. (P20)*

In order to explain the complication and its multiple effects, participants exposed different repercussions on patients' daily lives, which emphasize the meanings of diabetic neuropathy in

the imagination of this group. For them, complication proves to be potentially impacting on biological, social and psycho-affective dimensions.

In the biological dimension, the body changes related to the structure and functional capacity of the organism stand out, mostly manifested by participants. In this regard, the complication creates limitations in relation to carrying out Activities of Daily Living, organic and aesthetic deficits, with consequent dependence on third parties. The body will follow the path of the pathology until it reaches conditions that will make it possibly stereotyped and stigmatized by visible signs of its disease, such as dejection, excessive thinness and the total loss of limbs or part of them:

*[...] at least of the diabetic people I know, several have already been affected in their daily lives. There are people who have been amputated, who have gone blind, people who live very badly. First, that the person is dependent on medicine, and I already think it shouldn't be pleasant to be dependent on medicine. Then, when people lose limbs, it is difficult to get around, they have to depend on others, depend on a wheelchair, it is complicated. It greatly affects the person's experience, I believe. (P1)*

*[...] he lost that finger, this other one was necrotic, I think he will lose [he showed in his own body]. The angiologist said that, from here to here [pointed out again], there was no more circulation. He is thin, toothless [...]. (P15)*

Professionals mentioned that changes in self-care can occur as an effect of illness; however, there are different patterns in the manifestation of this phenomenon, depending on individuals' willingness to take care of themselves, the guidance and support they receive from health professionals and family members. Another relevant aspect, mentioned by them, is the compulsory and inevitable dependence on treatment, in its different modalities (pharmacotherapy, diet therapy, physical exercises, among others), forcing patients to submit to it. This sometimes includes abstaining from certain practices, considered harmful or inappropriate, to achieve quality of life.

As for the social dimension, there was a predominance of evidence of the repercussion of the illness on the family structure and dynamics. For participants, this phenomenon is due to the necessary involvement of the family in different contexts of treatment. These contexts demand adaptations in daily life, not only for patients, but for everyone who shares care with them, and, in certain circumstances, can generate illness processes for caregivers. Moreover, the relationships of individuals with other actors in their social life, such as friends and co-workers, may also change, due to the need for behavior change, retraction, fear and frustration on the part of patients and the social exclusion, as highlighted in most statements:

*In the relationship with the family, [...] there is [interference], even if the son says he doesn't have it, that he is there to take care of what happened, [...] the son has to dedicate more time. Yes, it affects the son's life, because he also stops doing the things he has to do, to take care of the father and mother. (P2)*

*In social life, I will pull the food line right away, [...]. So, let's go out with a group of friends, I'm sick, my friends are not. [...] they will do*

*what I cannot: they will be able to have a beer, I will not be able, they will eat sweets, pizza, more elaborate food, and I will not be able to. So, I, with diabetic neuropathy, will close myself off. Since I cannot do what they do, I cannot eat, I cannot drink, I will not, I will be more at home, more depressed, taking my medication, my diet. I imagine, well, I would lock myself up and escape this situation. (P3)*

Dealing with the psycho-affective dimension, participants mentioned, according to their conceptions, that diabetic neuropathy potentially interferes with self-image, triggering emotional changes. People start to see themselves as different, different from their social group, sick, weak and limited by painful reactions inherent to the pathophysiological process, dependent on care, powerless to no longer take care of themselves effectively. Non-acceptance of the disease and discontent with themselves, for having neglected treatment, can also occur. Faced with stress and pressures of this scenario, there are different emotional changes, characterized by manifestations such as low self-esteem, depression, tearful periods, aggression, disgust for life and, in parallel, fear of death before a new reality:

*The person starts to see himself in another way, [...] dependent on someone, but who was not before, he managed to do everything on his own. (P5)*

*[...] it changes the way he sees himself, the way he feels. Weak, because he got to that point, because he got sick, maybe he couldn't do it, because he neglected something. He can question himself. (P20)*

*I have a patient who fights too much, he was very stressed. He changed his behavior, became withdrawn, ashamed, very sick, and now depends on diapers. Many patients went into depression at the loss of a limb. [...] we have a man who has not lost any members yet, but he is bad, his diabetes does not go down, and he is very depressed. When we go there, he starts talking, he cries. (P1)*

*You are used to looking at you with five fingers, in a little while, you have four, it affects self-esteem, because, behind a patient, there are several fears, [...] sometimes, there is a patient who does not accept the disease and has a life as if that disease did not exist. I have heard that "oh, nurse, I will not take this medication, because I will die anyway". So, imagine, you are already diabetic, and discovering that you have neuropathy, sometimes you will not accept. (P11)*

### **Multidisciplinary performance: therapeutic and prophylactic aspects of diabetic neuropathy**

Here, the multidisciplinary practices developed within the scope of neuropathy treatment and prevention are presented, as well as the ideas about the consequences of this performance. When talking about their practices, participants emphasized that technical interventions, associated with individual and collective health education, constitute the main set of measures, employed by them in caring for people with diabetic neuropathy and those who live with the underlying disease, but still did not develop the complication.

Each professional, using their skills and abilities, has contributed, to some degree, by carrying out procedures/guidelines

and facilitating the team's educational practices, directing them to individuals, family members and the community, in environments such as churches, community spaces, in addition to the residence itself, through home visits, and Health Unit, through daily care in the office, waiting room and other environments:

*Diagnosed with neuropathy, we will guide this patient, clarify, clear all doubts, and work on prevention, work on treatment. Our practice is to promote health, [...].* (P11)

*[...] we attend once a week [about the HiperDia Program], where consultations are made, order the exams, I explain the medications, I give the guidelines.* (P24)

Considering health education as fundamental to mobilize changes in behavior and lifestyle, participants discussed themes that indicate the content of their guidelines. Mostly, nutritional recommendations stood out, for 93.6% (29/31), encouragement for physical exercise, mentioned by 58.1% (18/31), and adequate use of medicines, by 74.2% (23/31). The reports confirm that users' compliance with these guidelines is a determining factor for the global control of the disease/condition and, therefore, for good prognosis:

*[...] our activities, our guidelines are geared towards patients, [...] our discourse is always talking about food, physical activity, having a physical activity program, [...] then, being attentive in consultations, on medication, if the person takes.* (P19)

*[...] in addition to people visiting and guiding and asking if the patient is taking medicine on time, is following a diet, is controlling weight, [...].* (P22)

In addition to these conducts, professionals highlighted dialogue and sensitive listening to users and the offer of human and emotional support as relevant parts of their practices. Such attitudes play a fundamental role in coping with the disease/condition, corroborating positive results in the care trajectory. In view of this, the possibility of more effective bonds between staff and users is expanded, bringing out a feeling of security and trust in professional conduct, with consequent encouragement to follow prescriptions and recommendations, whether therapeutic or prophylactic:

*It means keeping a constant visit at these people's homes, talking to them, knowing what they need. So, we have to be in these homes, with these people who are diabetic, for us to spend a little bit, so it is not comfort, it is a strength, to give strength. Our home visitation work has no other secret. Just visit, know what people have, be interested in them, bring them here and help, in the sense of what they need. If we are not interested in the person, we have no reason to be here.* (P4)

It was observed that CHW, the predominant category, explained important contributions regarding therapeutic support and the prevention of neuropathy. This support is materialized through activities strongly engendered to the daily lives of these professionals, in close contact with the community, namely: intermediation of scheduling consultations and exams, transport of medicines

and prescriptions to users' homes, especially those with greater access limitations, and conducting the multidisciplinary team to home consultation, among others:

*[...] the CHW is the bridge. I go to the house, I check that Mr. João [pseudonym] needs medication, consultation, examination. It's time to change the recipe, get it and come to the physician. If the physician thinks he has to come for an appointment, he comes, schedule [...]. If she thinks, for good, that the recipe has to be renewed, I'll take it and take it to him. There is also a specialized consultation, I take it, take it to him. When it's August 1<sup>st</sup>, I'll go there and say "Mr. João, look, August 5<sup>th</sup>, your appointment!".* (P23)

Concerning participants' understanding on multidisciplinary performance, this is considered fundamental for population care, since it provides the global monitoring of individual and collective health needs and the sharing of knowledge, practices, and experiences. In the words of a portion of participants, a feeling of pride, satisfaction and affection is generated, despite the fact that working conditions are largely challenging. However, to effectively fulfill its purposes, the committed performance of its members is raised as a conditional factor, where co-responsibilities must be established:

*It is essential. This team is made up of people who have knowledge. Each one in his area, joining this knowledge, form a team, form a body. And we, each one adding their knowledge, is of great benefit to our client that we visit. We share the responsibilities, it is very important.* (P4)

## DISCUSSION

It was possible to realize that participants' understanding of diabetic neuropathy, as well as the basic pathological process that results from it, is based not only on the clinical aspects of the illness, but also on the psychosocial determinants, directly associated with the repercussions of the disease/aggravation on the lives of patients and those with whom they live, preceding significant challenges to multidisciplinary work in PHC.

Weaving their ideas, they do so by evoking thoughts, beliefs, values and attitudes through expressions that denote knowledge of the reified universe, such as the description of pathophysiology, clinical manifestations, injuries and sequels resulting from illness, circulating in their social environment; however, in particular, they demonstrate a set of common sense knowledge, built from the relationships they engender in the daily work process, whether in the relationships they establish and (re) elaborate among themselves, as members of a team, or in those that nurture individuals and their community, target elements of their care. The expression of this knowledge appears as a vital piece for SR identification regarding the object, not being covered by hierarchies<sup>(17-18,22)</sup>, as both allow to understand how health professionals anchor and objectify it.

Studies on SR, in the scenario of coping with chronic diseases, provide support for understanding the perspectives not only of users, but also of the professionals who care for these people. This occurs in the face of a given object of subjective importance, i.e., that causes the elaboration of meanings based on social values

attributed to it, and that needs to be treated as a biopsychosocial phenomenon. Thus, it allows them to enter the imagination of these individuals and investigate what knowledge, thoughts and attitudes they have about and towards those they care for, and what motivates them to continue their professional conduct<sup>(23-24)</sup>.

As for becoming ill with diabetes mellitus, the study on SR gains importance. Psychosocial determinant appreciation represents a fundamental part of the care provided to people with this diagnosis, in order to understand the aspects that imply on the monitoring and metabolic control, highlighting TSR as an approach that observes individuals in the set of their needs. That is, how to be biopsychosocial, reiterating the broad possibility of applying the theory in the field of health and in the investigation of chronic diseases, even non-communicable diseases<sup>(11-12)</sup>.

In this perspective, it appears that participants, in an attempt to explain the pathology, manifested a strong association of its occurrence with behaviors that reflect users' lack of care for themselves. This occurred through practices that progressively change their organism and lead them to a state of illness, characterized, clinically, by uncontrolled blood glucose, a trait that contributes to its labeling.

The silent and thankless characteristic of the disease was also raised, since in most cases it does not show significant alarm signs, generating a feeling of surprise at the time of diagnosis, an aspect that was also mentioned in a study of SR on diabetes<sup>(12)</sup>. In view of its anchoring to the deficient standard of care and due to the clinical evolution with worsening, it was also evident the representation of the disease linked to the idea of self-inflicted death through the expression "it seems that he asks to die". The entire responsibility for their condition was transferred to the patients as a result of their careless conduct, a similar reflection brought in the investigative field of certain transmissible diseases, as occurs in Human Immunodeficiency Virus (HIV) infection<sup>(25)</sup>.

In a dialogue with this anchorage, a research carried out with 30 diabetics, between 41 and 83 years old, most of them male and married, identified that SR regarding treatment, for a portion of them, especially elderly people, focused on explanations that revealed the belief that the correct use of medicines and periodic examinations would be sufficient, minimizing nutritional readjustments and the practice of physical exercises, which are known to be necessary and of equal importance<sup>(12)</sup>. In the case of FHS, this emerges as a challenge to multidisciplinary teams, in the sense of creating emancipatory strategies for users to sensitize them to the equal observance of the therapeutic modalities.

Diabetic neuropathy appears, in this context, as a result of the worsening, expressing itself as a demonstration of the therapeutic failure, leading to different possibilities of symptoms and clinical evolution, which culminate in bodily changes, whether aesthetic/structural or functional, a situation which, corroborating participants' perspectives, finds support in the literature, in different studies<sup>(5,7,26-27)</sup>.

Talking about neuropathy, metaphors were identified that objectify the patient from the symbol of body-machine, a term used in a study about body image and physical disabilities among people who lived with leprosy<sup>(28)</sup>. Patients are conceived as entities formed by gears, establishing analogies between "body", receptacle of disease, and "motor", object of physical reality; "blood",

biological component altered due to hyperglycemia, and "spoiled oil", constituting evidence, at times, of the predominance of the consensual universe.

As a result of its anchors, increasing the understanding about neuropathy, professionals attributed different meanings to it, highlighting it as a potential condition for repercussions on the biological, social and psycho-affective dimensions, which decisively impact the human constitution, and sometimes stigmatize the affected individuals. In order to access the SR of a given social group, the valuation of these dimensions is baseline, as they ratify TSR as a reference that guides individuals in their entirety<sup>(23-24)</sup>.

In the biological dimension, limitations and bodily changes were discussed, aiming at patients through expressions that refer to the idea of dejection and physical disability, supporting their stereotypy, which is reinforced by the condition of dependence at this stage of the disease. These results are in line with the findings of a survey conducted in the city of Belém (PA), which sought to know nurses' SR about the tuberculosis patient<sup>(29)</sup>. A relationship was observed between these data and individuals' anchoring to the obligation of chronic treatment in all its modalities, as evidenced in the literature<sup>(30)</sup>, under penalty of aggravation or even death otherwise.

Therefore, self-care, an aspect inherent to this discussion, needs to be encouraged by the health team, highlighting users as co-responsible for their health and quality of life<sup>(28)</sup>, which is a feasible intervention in PHC, but not making them exclusively responsible possible worsening of their condition. This reveals the constant need to provide humanized assistance, marked by its ethical, resolute, holistic, dialogic and transformative nature<sup>(31)</sup>, considering the different community contexts of care for this public, in order to give a new meaning to the blame attributed to patients by professionals.

As for the social dimension, the effects of neuropathy on the daily life of individuals' social web are evident, especially those closest to their belonging, such as the family, especially caregivers and friends. Considering the complex adjustment to the lifestyle demanded by treatment, patients need family support to follow the care and cope with the pathology, and the family needs to adapt and give a new meaning to this reality.

This process takes on a different pattern, depending on the clinical evolution, the individual's support network and the place he occupies in his social group. That is, if the condition reaches the key elements for family maintenance (e.g., father or mother), it is understood that the global repercussions for the family will be potentially more significant<sup>(30,32)</sup>. A study carried out in six European countries, with people who were diagnosed with diabetes, showed that, in health conditions that require long-term monitoring, the closer and more diversified the support network, the better the offer/mobilization of support for meaningful management is likely to be<sup>(33)</sup>.

When constructing their SR, the explanation emerges from the professionals that, once diagnosed with neuropathy, patients will be marked by a limiting condition. This will result in their segregation, sometimes subtle, of the environments/practices once attended/performed, and thoughts and attitudes of self-prejudice, self-discrimination, seclusion and social distance both for fear of the prejudice and discrimination of others and for the frustration

in not being able to enjoy the same possibilities of food consumption and leisure as people they see as “normal” and “healthy”. These inferences are congruent with findings from a study of SR on leprosy, showing that the characteristics of a non-communicable disease, due to the psychosocial damage it generates, can gain the status of a communicable disease for those affected by it<sup>(34)</sup>.

The psycho-affective dimension, by revealing the meanings attributed to the altered body and the nuances potentially noticed in the emotional domain, allows us to infer that, in the view of professionals, this dimension is a determinant available to patients to take care of themselves. The way they see themselves and their self-esteem are fundamental elements for self-care development and in the meanings attributed to them. Thus, the feelings that refer to strangeness, social distortion, impotence, uselessness, and weakness, recurring in the testimonies, need to be valued in care scenarios by multidisciplinary teams, in order to create possibilities of resignification and empower users as active subjects in the care process<sup>(28,35)</sup>.

Being a strong field of interest in social psychology, centered on the domain of science, TSR fulfills a behavioral functionality, based on the understanding of individuals on topics that affect their daily lives<sup>(17-18)</sup>. In view of this, SR have a practical objective that implies actions, as evidenced in different researches<sup>(23-25,29)</sup>, developed, also, in the international scope<sup>(36-37)</sup>.

In this study, it is observed that such a premise manifests in the health professionals the collective understanding that, due to the complexity of the illness and the possible repercussions on the lives of the affected, vehemently impacting the dimensions of being, there is a continuous need to care. This leads them to choose this path, under the view that, through the care they provide, such repercussions will be potentially minimized and those affected will have greater possibilities for quality of life or even survival.

This imagination is ratified by testimonials that enhance the affection for the multidisciplinary performance, reiterating them despite the working conditions. Health care emerges as a symbol of approximation between professionals and the individual-family-society triad, object of their actions, for which their representational acts and interventions, whether therapeutic or prophylactic, are intended. It is emphasized, therefore, that such actions are engendered and operationalized through the particular way in which professionals and teams anchor and aim neuropathy in PHC, directly reflecting on the care they provide.

However, to be effective, they need to be based on the logic of the other, valuing their sociocultural background<sup>(22)</sup>. Demarcating this understanding, the testimonies emphasized care, in its different ways of acting, as a key in assisting those who live with diabetic neuropathy, as well as diabetics not diagnosed with such complication, in order to prevent it.

Thus, professionals, in line with their knowledge, know-how and experiences, are equipped with different levels of governance, expressing feasible interventions to their skills and abilities, highlighting technical interventions (screening, consultations, prescriptions, referrals, production of clinical-epidemiological data, home visits, among others), as attributes of the FHS work process<sup>(2,38)</sup>; human/emotional support and sensitive dialogue/listening, already demonstrated as strengthening bonds, trust and communication, contributing to therapeutic and prophylactic

efficiency, with a view to better user receptivity<sup>(39)</sup>; and health education practices, strongly represented in the guidelines for care.

It is known that the educational process aims to expand the knowledge of individuals about disease management, awakening them to self-care and independence in the fulfillment of therapeutic modalities. The literature has reported positive impacts on the patient's better acceptance and receptivity to nutritional guidelines, physical activity, foot care, regular measurement of capillary blood glucose, prevention of hypoglycemia and chronic complications, themes described here as content of professional guidance, culminating in better metabolic control and quality of life<sup>(40-42)</sup>. In this context, empowerment for positive behavior changes requires critical awareness, and must address the individual and social groups, so that collaborative networks are formed, expanding the possibilities for a healthier life, as reflected in a study carried out in Faridpur, Bangladesh<sup>(43)</sup>.

CHW, being closer to the community on a daily basis, stood out in the set of knowledge. Most of them explained the object in a narrative form from their experiences in user support, allowing to infer that, without their relevant contributions, the service would not flow. The importance of the work of this group of professionals was also emphasized in other studies in Brazil, which demonstrated its leading role in the service operationalization, in the bond they maintain with peers and the public, as well as in problem identification and resolution<sup>(38,44)</sup>. In their testimonies, many sayings were strongly marked in the consensual universe to the detriment of reified knowledge, despite being professionals. It is possible to infer that, in their view, this better represents the object, as experiences attribute values and meanings to everyday phenomena, constituting common sense.

Due to its proximity to different human groups, PHC plays a substantial role in providing primary care to people living with diabetes and its complications<sup>(10)</sup>, as well as in the dialogue and agreements signed between the service and the community, enabling better adherence by part of this to health actions. In FHS, such actions are enhanced in close contact with the population, in which strategies that promote health, prevention and diagnosis/treatment/recovery are at the heart of the processes developed there, as recommended by the Ministry of Health<sup>(1-2)</sup>. They are fundamental for the clinical management of diabetes and neuropathy, as they effectively affect metabolic control<sup>(10)</sup>. These particularities are considered to have influenced SR elaboration revealed here, given the health care so strongly reiterated by the collective imagination, ratifying FHS' purposes as a component of PHC.

It is important to build knowledge based on SR of professionals about health phenomena. For the purposes of FHS to be achieved, it is essential that teamwork takes place in a fluid, harmonious, organized and endowed with clearly defined objectives and goals, requiring the collective participation of its members. It is essential to consolidate the team. To this end, the union between participants and construction of bonding, respect, trust and communication relationships are vital elements, extrapolating the limiting understanding of the actions of several professionals in the same environment, disconnected from the cooperative interaction between them, culminating, potentially, improving user care quality<sup>(38)</sup>.

## Study limitations

It is understood that part of the conceptions and inferences reported here may not be subject to generalization, due to the study conduct in a region of the country and in selected Health Units, where imagination and professional practices are influenced by socio-cultural, political, economic and operational conditions. However, it is understood that it can add subsidies to the reflection of the theme in similar realities.

## Contributions to nursing, health, and public policies

This study contributes to understanding professionals' ideas who work in FHS in relation to diabetic neuropathy and the way in which they articulate and proceed multidisciplinary practices for its prevention and treatment, considering the biopsychosocial context. When accessing the SR of this group, it is understood how it is perceived in the care process and how it sees the patient-family-society triad, potentially contributing to science, the formation of human resources in the scope of higher education and the performance in the multidisciplinary sphere.

## FINAL CONSIDERATIONS

This research allowed to describe the knowledge and practices of PHC professionals on diabetic neuropathy, elucidating their

social representations. The view of guilt attributed to patients was evident, anchoring the occurrence of the complication and the underlying pathology to the deficient standard of care for themselves, sometimes shading the reified knowledge and demarcating the consensual universe that engenders common sense.

Despite diabetes mellitus being a chronic condition historically the target of health care actions, and the evolution of technical and scientific knowledge around its treatment and prevention, different expressions and analogies are still used to symbolize those affected, stereotyping them and even giving little value to the fact that, when well conducted in the therapeutic and prophylactic process, they may give a new meaning to illness and adjust to the condition, without chronically experiencing biopsychosocial repercussions. However, this understanding results in the team's overcoming attitude of care as an alternative to the challenges of illness, culminating in the strengthening of bonds.

Considering that the consensual universe's knowledge stood out from the reified knowledge, as evidenced in a good part of the statements of middle-level professionals and CHW, it appears that permanent education actions are opportune, in order to strengthen professional conduct, with repercussions positively on the trajectory of care. It is also proposed, considering the results presented here, to carry out new studies on the subject, aiming to expand and disseminate knowledge around it.

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