

Social representations of fishermen with spinal cord injury: impacts and life trajectory

Representações sociais de pescadores com lesão medular: repercussões e trajetória de vida
Representaciones sociales de pescadores con lesión medular: repercusiones e historia de vida

Eliane Santos Cavalcante^I, João Mário Pessoa Júnior^{II}, Izaura Luzia Silvério Freire^I,
Cleonice Andréa Alves Cavalcante^I, Francisco Arnaldo Nunes de Miranda^{III}

^I Universidade Federal do Rio Grande do Norte, Health Science Center, Health School. Natal, Rio Grande do Norte, Brazil.

^{II} Universidade Federal do Rio de Janeiro, Nursing and Obstetrics School. Macaé, Rio de Janeiro, Brazil.

^{III} Universidade Federal do Rio Grande do Norte, Nursing Department,
Postgraduate Program in Nursing. Natal, Rio Grande do Norte, Brazil.

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ABSTRACT

Objective: analyze social representations in the life trajectory of artisanal fishermen with spinal cord injury caused by diving on the north coast of Rio Grande do Norte. **Method:** a descriptive, qualitative study was conducted with 31 fishermen between October 2013 and August 2014, using a semi-structured interview. A lexicographic analysis and descending hierarchical classification of texts were performed (with software ALCESTE), in the perspective of the social representations. **Results:** social representations of fishermen with spinal cord injury presented experiences with physical limitations and expectations regarding retirement, which appeared as a distant reality from the requirements in Brazilian labor laws. **Conclusion:** measures are required for the promotion, prevention and rehabilitation of the health of fishermen with spinal cord injury, as well as safe and decent fishing conditions, with the commitment of health authorities.

Descriptors: Diving; Spinal Cord Injuries; Mental Health; Men's Health; Nursing.

RESUMO

Objetivo: analisar as representações sociais da trajetória de vida dos pescadores artesanais com lesão medular vítimas de acidente por mergulho nas praias do litoral Norte do Rio Grande do Norte. **Método:** estudo descritivo, de natureza qualitativa, desenvolvido com 31 pescadores entre outubro de 2013 e agosto de 2014, mediante entrevista semiestruturada. Empregou-se a análise lexicográfica e classificação hierárquica descendente dos textos (software ALCESTE), sob a ótica das Representações Sociais. **Resultados:** as representações sociais dos pescadores com lesão medular apresentaram as experiências com as limitações físicas e expectativas de aposentadoria, estas últimas configurando-se como uma realidade distante das exigências impostas por nossas leis trabalhistas. **Conclusão:** exigem-se medidas de promoção, prevenção e reabilitação da saúde do pescador vítima de lesão medular, além de condições seguras e dignas de trabalho como compromisso das políticas de saúde.

Descritores: Mergulho; Traumatismos da Medula Espinhal; Saúde Mental; Saúde do Homem; Enfermagem.

RESUMEN

Objetivos: analizar las representaciones sociales de la historia de vida de pescadores artesanales con lesión medular víctimas de accidente de buceo en las playas del litoral Norte de Rio Grande do Norte. **Método:** estudio descriptivo, de naturaleza cuantitativa, desarrollado con 31 pescadores entre octubre de 2013 y agosto de 2014, mediante entrevista semiestruturada. Se empleó análisis lexicográfico y clasificación jerárquica descendente en los textos (software ALCESTE), en la visión de las Representaciones Sociales. **Resultados:** las representaciones sociales de los pescadores con lesión medular expresaron las experiencias de las limitaciones físicas y expectativas de jubilación, configurándose éstas como realidad distante de las exigencias impuestas por la legislación

laboral vigente. **Conclusión:** se requieren medidas de promoción, prevención y rehabilitación de la salud del pescador víctima de lesión medular, además de condiciones laborales seguras y dignas, con compromiso de las políticas de salud.

Descriptores: Buceo; Traumatismos de la Médula Espinal; Salud Mental; Salud del Hombre; Enfermería.

CORRESPONDING AUTHOR

Eliane Santos Cavalcante

E-mail: elianeufn@hotmail.com

INTRODUCTION

In the world, the annual incidence of spinal cord injury (SCI) varies; for example, in Portugal, high rates are reported (57.8/000), followed by Brazil, also with high rates (50/000). In China, a lower incidence is observed (8.4/000 inhabitants), without however considering people who have died of this cause⁽¹⁾. Acute and chronic health problems associated with SCI consequences usually involve multiple organic systems, such as the genitourinary, gastrointestinal, respiratory, epithelial, cardiovascular, autonomic nervous, neuromuscular, and psychosocial⁽²⁾. Given the considerations above, this study highlights the occurrence of temporary or permanent SCI in artisanal fishermen affecting predominantly male young adults worldwide^(1,3).

One strategy to support the male population exposed to different risks and other health issues and vulnerabilities was created by the Ministry of Health in 2008 – the National Policy for Men's Health – to promote healthcare actions that help understand sociocultural and political-economic contexts of the male population, aiming to extend their life expectancy and reduce morbimortality of preventable causes in this population⁽³⁾.

The state of Rio Grande do Norte has an important role in the scenario of fishing activities in Brazil. Artisanal fishing, characterized by the practice of diving, accounts for about 70% of the total production, showing the socioeconomic importance of this activity of food production and income, performed essentially by men^(4,5). Fishing activities, accidents and their consequences represent a challenge to public health on the coast.

These fishermen work in precarious and dangerous situations, with frequent risks of accidents and death, either due to diving-related diseases, such as drowning and shipwreck, or decompression illnesses⁽⁵⁾. The state of Rio Grande do Norte has fishing zones located on its south and north coasts, and the latter was selected for the development of this study.

Social representations show a portrait of the evolution of the empirical and practical reflexive investigation about representative phenomena analyzed according to several views: epistemological aspects, social life, analysis of social and cognitive processes, social relevance in understanding symbolic processes, application and examination of issues related to memory, urbanity, health, body, sex, and environment. In addition, it proposes themes for future investigations⁽⁶⁾.

In a recent study about which areas of knowledge use the theory of social representations in studies in Brazil, a bibliometric study showed five national journals with most published studies, of which three publish nursing articles, predominantly in the fields of collective health and public health⁽⁶⁾. In this sense, the contributions of the theory of social representations are highlighted for the production and dissemination of scientific knowledge.

Given the above, our questions were: What was the fisherman's life like before the spinal cord injury? How does he feel today after the accident? Based on these considerations, the aim of this study was to analyze the social representations of the life trajectory of artisanal fishermen with spinal cord injury caused by diving on the north coast of Rio Grande do Norte.

METHOD

Ethical aspects

In compliance with Resolution 466/12 of the National Research Ethics Commission of the National Health Council, this study was approved by the Research Ethics Committee of the Federal University of Rio Grande do Norte.

Study design

This is a descriptive qualitative study.

Theoretical and methodological framework

The theory of social representations (TSR)⁽⁷⁾ and the central core theory (CCT)⁽⁸⁾ were the theoretical and methodological framework used. The TSR is understood as "a particular type of knowledge whose function is to create behaviors and communication among individuals", in which behaviors are produced and determined, defining the nature of stimuli that surround us and provoke us, and the meaning of answers to be provided⁽⁶⁾.

The CCT, proposed by Jean Claude Abric⁽⁸⁾ in 1976, complementing the initial formulation of the TSR, is based on the concept of representational field, as a dimension proposed by Moscovici⁽⁷⁾. Every social representation is organized around a central core and a peripheral system. The central core is related to collective memory, ensuring signification, consistency and permanence to the representation; therefore, it is stable and resistant to changes. It includes the constitutive dimensions of a social representation, that is, information, representational field, and attitude towards an object, and represented phenomenon⁽⁸⁻⁹⁾.

Methodological procedures

Study setting

The study site was the north coast of the state of Rio Grande do Norte, which includes ten beaches: Caiçara do Norte, Rio do Fogo, Zumbi, Pitanguí, Touros, Maracajaú, Barra de Maxaranguape, São Miguel do Gostoso, Barra do Rio, and Pititinga.

Data source

Data were collected between October 2013 and August 2014 using semi-structured interviews. In total, 31 artisanal fishermen were selected through the following inclusion criteria: performing

fishing activities, being over 18 years old, male, having had a diving accident, and being diagnosed with spinal cord injury. In addition, data were obtained from the associations of fishermen belonging to several Municipal Health Departments linked to the North Sanitary District. The associations of fishermen, the state federations and the National Fishermen Confederation were recognized by Law no. 11.699 of 2008 as trade associations for artisanal fishing workers⁽⁵⁾.

Data collection and organization

The answers provided in the interviews were processed in the software *Analyse Lexicale par Contexte d'un Ensemble de Segment de Texte (ALCESTE)*, which is considered the first content analysis application, created in France in the 1970s⁽¹⁰⁾. After a lexical vocabulary analysis, ALCESTE cuts the text and generates elementary context units (ECU) and the descending and ascending hierarchical classification expressed in each class. The parameters for the standard analysis are predefined by ALCESTE, which consecutively performs two classifications to keep the most stable one and continue the analysis, while, regarding the classes, in a parametric analysis, the software defines its own parameters for the type of classification (ascending and descending), and one word is analyzed when present in at least 4 ECUs⁽¹⁰⁾.

Data analysis

Microsoft Excel 2007 was used in the analysis of sociodemographic data from fishermen. Data submitted to text analysis in ALCESTE, based on statistical crossings, generated seven classes, which were submitted to extenuating thorough reading of the entire corpus and separated for each class, supported by Bardin's thematic content analysis⁽¹¹⁾. After an exhaustive process of reading and reflection on the obtained material, seven analysis categories were developed: Category 1: Treatment – limitations and expectations; Category 2: Spinal cord injury – before and after; Category 3: Retirement – a very distant reality; Category 4: Deficiency – dependence, disability and vulnerability; Category 5: Faith: overcoming and autonomy; Category 6: Feelings of the self: physical losses and restart; and Category 7: Life and work – obstacles, plans and changes (Chart 1).

RESULTS

The demographic profile of fishermen was characterized predominantly by male workers, aged 41 to 50 years (53.6%), with a mean age of 50.2 years, who completed elementary school (68.2%), married (77.3%). After the spinal cord injury, most of them remained as self-employed workers in fishing activities or artisans (52.3%), with family income up to one minimum wage (70.5%). The highest injury level was the thoracic spine (41.8%), with paraplegia as the main outcome (50.0%).

The corpus processed and generated by ALCESTE obtained effective use of 95.1%, producing seven classes that are defined according to word occurrence and co-occurrence and textual function. Each class corresponds to a list of grammar categories according to its Khi^2 (chi square) and efficacy in the class, where: $\text{Khi}^2 > 0$ means relative presence in the class and category; $\text{Khi}^2 < 0$ means relative absence of one category; $\text{Khi}^2 = 0$ means the presence of a subclass in the class is not significant (Figure 1).

The correspondence factor analysis shows the creation of a representational field of fishermen with spinal cord injury caused by diving on the north coast of the state of Rio Grande do Norte. Comprising axes X and Y, horizontal and vertical, it generated four equal parts of the same image and a spatial distribution of categories in their respective quadrants: right upper quadrant and left upper quadrant (RUQ and LUQ), right lower quadrant and left lower quadrant (RLQ and LLQ), related to the changes in the life of these fishermen after the event (SCI) caused by a diving accident and frustrated healing, with physical dependence. Its semantic group is located in the ECUs (Figure 2).

The organization of one or more social representations presents a singular characteristic: it is organized around a central core, with two or more elements that ensure the meaning to social representation, in the perspective of the structural approach of the represented fact⁽⁸⁾. Chart 1 shows the composition of classes, the correspondence factor analysis, the creation of categories and the core, the peripheral elements and the intermediate elements of social representations for fishermen with spinal cord injury caused by a diving accident. The central core and the peripheral elements produce an "X" with the intermediate elements⁽¹²⁾. From the central core, the peripheral elements and two groups of intermediate elements were analyzed.

Based on the central core theory, the results obtained with axes X and Y were analyzed, with indication in the LUQ of the elements that comprise the central core of social representations, that is, class 6, such as: Category 1: treatment – limitations and expectations. It has the semantic roots related to experiences with spinal cord injury after the diving accident and memories from the past ("I used to", showing the current situation of paraplegia and dissatisfaction with the medical follow-up support received from the basic healthcare unit; the rehabilitation treatment, experiences, expectations and limitations, besides emphasizing self-care and self-medication as a strategic tool in the current treatment.

The RLQ includes classes 7 and 1, respectively named Category 7: life and work – obstacles, plans and changes and Category 3: retirement – a very distant reality. This quadrant refers to peripheral elements of social representations⁽¹³⁾, recording the way fishermen deal with the situation, observed in the following statements: "I can", "I know", "I do", "thank God"; or in situations that occurred, union and presence of family members in the treatment, observed in the emblematic statement: "we do".

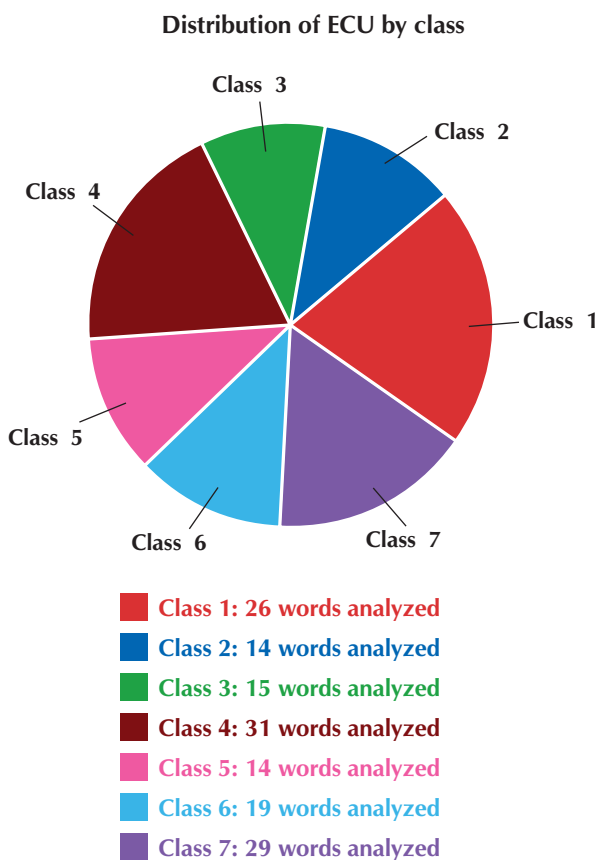
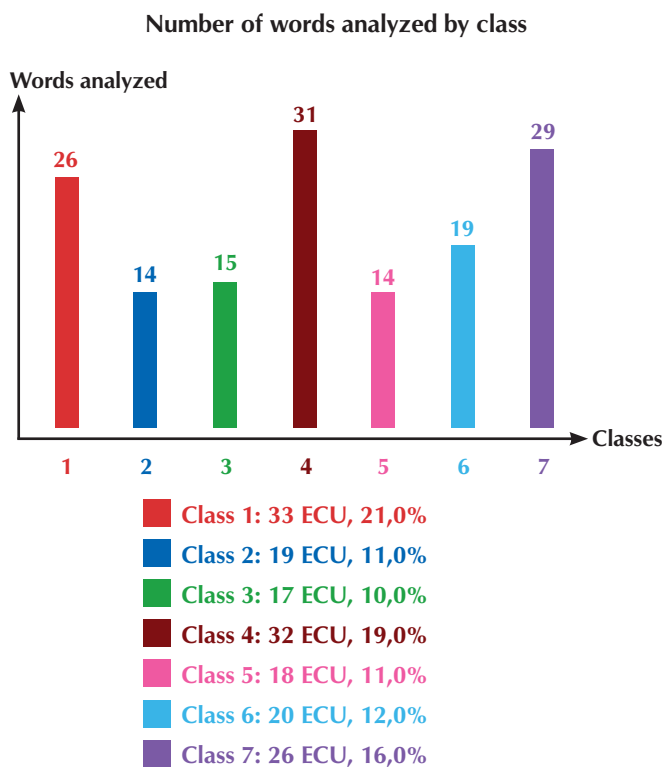
The RUQ includes classes 2 and 3, named Category 2: spinal cord injury – before and after and Category 4: deficiency – dependence, disability and vulnerability. This quadrant indicates intermediate elements and it comprises the most significant semantic units, distributed by ALCESTE.

The LLQ has classes 5 and 4 named Category 6: feelings of the self – physical losses and restart and Category 5: faith: overcoming and autonomy. Like the prior quadrant, this one also refers to peripheral elements of social representations⁽⁸⁾. It predominantly shows the words said by the fishermen regarding their feelings and perceptions of new reality and about the self (physical losses), provided as repetitive venting their feelings, as observed in "I feel", showing a silent pain and a paradox of liking the fishing activity and planning to resume artisanal lobster fishing, supporting the ideal of getting better and coming back to work displayed in the RLQ.

Chart 1 – Correspondence factor analysis, quadrants, analysis categories and excerpts of the speech of fishermen with spinal cord injury, Natal, Rio Grande do Norte, 2014

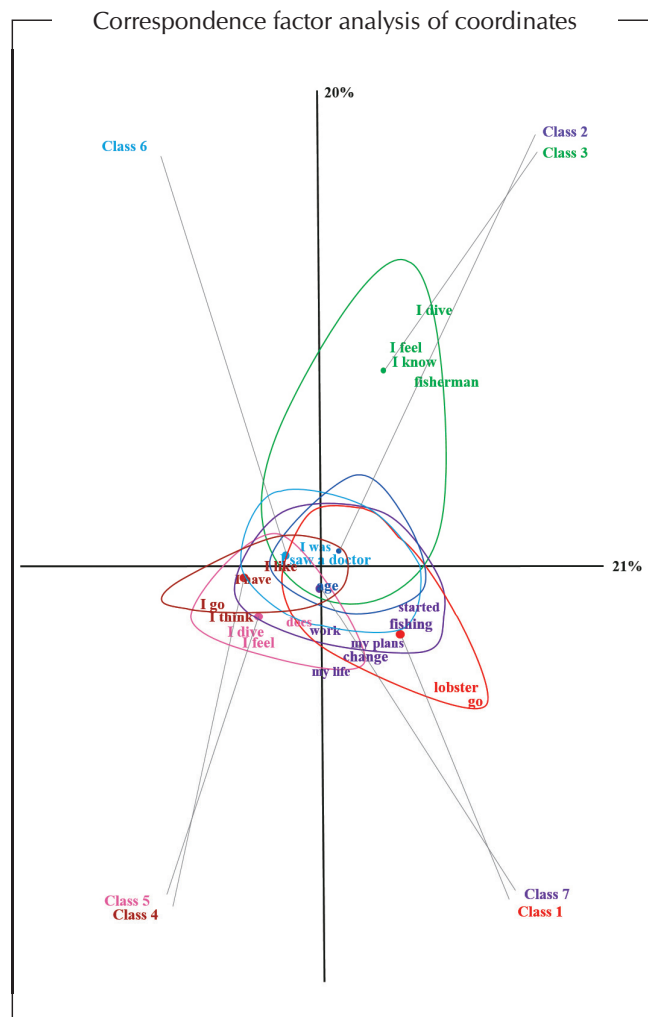
Correspondence factor analysis	Axis	Analysis category		Excerpts of the speech of fishermen identified in the lexical analysis by ALCESTE
Central core	LUQ	Category 1: treatment – limitations and expectations [...] today, the treatment is more difficult, because I can't have physical therapy sessions anymore because I have anemia, I'd like to have it, but I can't have my treatments like I used to. (Fisherman 9)		[...] I used to say to the doctor, "Look at me, see my situation [...] I can't work, I'm physically disabled" [...] I used to work with diving, it's a complicated job [...] I'm telling this story here, and sometimes I feel like crying, because I won [...] because I see other people, I see other people that did my work too, you know, they are in a wheelchair. (Fisherman 1)
Peripheral elements	RUQ	Category 2: spinal cord injury – before and after	Category 4: deficiency – dependence, disability and vulnerability	[...] see my situation, I don't feel my right leg and I feel "tingling" also in my arms, I can't work, I'm disabled, I used to work with diving [...] I can't be unemployed [...] I have to work twice as much. (Fisherman 4)
				[...] I used to work all the time, go fishing, take care of my girls, my wife, [...] then, go to work, come back home, go to the sea, come back home [...] that was my life, just work. (Fisherman 4)
				[...] I used to fish, I stopped fishing because I couldn't stand fishing [...] it was getting heavy for me, then I stopped fishing [...], and now I buy fish from different people and I resell, that's how I survive. (Fisherman 28)
Peripheral elements	LLQ	Category 6: feelings of the self – physical losses and restart	Category 5: faith: overcoming and autonomy	[...] I got sick and I kept fishing, do you understand? [...] but today I don't dive anymore, I only work with a net. (Fisherman 7) [...] you have to see to understand, it's a weak boat, people leave their home and go to an old and weak boat [...], old mattress [...] risking their life when it rains, isn't that true? (Fisherman 6)
				[...] today, thank God, I feel better than my period as a fisher [...] because I come home more often, I spend more time with my children and wife; in the past, I used to go to many places around the world, like a gypsy. A fisherman is like a gypsy, going to places [...] we fished from Recife to Fortaleza [...] we went everywhere in this area. (Fisherman 30)
				[...] thank God, I can survive... we don't live very well... but I can survive. (Fisherman 28)
Intermediate elements	RLQ	Category 7: life and work – obstacles, plans and changes	Category 3: retirement – a very distant reality	[...] I stopped fishing, now I sell crafted items, thank God, I suffer a little, but that's normal. (Fisherman 6)
				[...] I feel good, thank God, although I have a disability, I can't lift weight, there are some things I can't do, you know. (Fisherman 10)
				[...] when I got sick I started walking and diving again [...] I went diving for a while, but I had felt it was difficult for me, but anyway I produced a lot, even after I got sick, I caught many lobsters, but I felt my legs, they didn't have that vigor anymore like before, but I need to work while I wait for my retirement. (Fisherman 10)

Note: LUQ = Left upper quadrant; RUQ = Right upper quadrant; LLQ = Left lower quadrant; RLQ = Right lower quadrant.



Source: ALCESTE report.

Figure 1 – Distribution of elementary context units (ECU) and words analyzed that created each class generated by ALCESTE



Source: ALCESTE report.

Note: Semantic and lexical root of the word defined by Khi2: eu_mergulh = eu mergulho (I dive); aposent = aposentadoria, aposenta, aposentado (retire/retirement/retired), among others.

Figure 2 – Correspondence factor analysis that generated the quadrants of social representations for fishermen with spinal injury caused by diving

DISCUSSION

Based on this analysis, the fishermen structure their social representation according to their need and hope to have changes in their rehabilitation treatment to recover their autonomy and return to the fishing activities they performed before the accident. The presence of family members and friends is constantly mentioned, observed in their position and behavior full of hope, faith in God and in the future, mixed with some moments of hopelessness and sadness, translated into facies of suffering/pain and easy crying.

They also recognize it is necessary to “change”, “fight” and “mobilize” options and actions for the continuity of fishing activities and overcoming limitations and obstacles detected, for example, ensure continuity in related activities, acting like self-employed workers in fishing or artisanal activities to remain

inserted in the labor market and generating income to support their families. They show a desire for political adjustments in services of medium complexity offered in these municipalities besides the prevention, with stronger therapeutic activities that can mobilize these users (fishermen), family members, technicians and the community. These changes aim to highlight and promote stable improvements in the life and health conditions currently experienced through the treatment⁽²⁾.

Regarding the representational field expressed, the following is suggested: an expectation of improvement and success in the medical treatment, concrete hope for the future, better life and health conditions with their suffering and coping towards "total" rehabilitation. In general speeches of fishermen that cannot dive due to physical limitations, cuts of their speeches illustrate the functions established by the representational system⁽⁸⁾. Understanding and explanation of the reality are observed in these excerpts of interviews.

This theory could provide an understanding of social representation of fishermen with innumerable biopsychosocial losses after the spinal cord injury. In this sense, they may provide support for reflection and guidance for the practice of health professionals, especially nursing professionals working in basic healthcare units, which are considered the front door of these fishermen after the accident⁽¹⁴⁾.

The social representation produced by fishermen who had a diving accident gathers different experiences, vocabularies, concepts and cuts of their lives, illustrating the experience with their disorder, the contact with their spouses and family members, lifestyle and decisions affected, treatment requirements, dealing with being disabled – before and after the spinal cord injury with deformed perceptions of the self, self-medication experienced and diffused as critical for the life of these men and hope that there is still much to be done, changed, improved in the activities proposed by the Brazilian Unified Health System⁽¹⁵⁾.

The fishermen who participated in this study reported a process of personal, social and economic-financial transformation they experienced due to physical changes in body and psychic disorder, with friends becoming distant, and direct reliance on family members for survival. The social process is characterized by a process of familiarization through which the objects and psychosocial subject are understood and distinguished on the basis of prior models. The predominance of past over present, answer over stimulus, image over reality, with the only purpose to provide nothing new under the sun. Familiarity is, at the same time, a state of group relations and a judgment standard for everything that happens^(3,5).

In turn, the LLQ intermediates the representational field through more flexible semantic contents that interact with the central and peripheral systems, originating the intermediate elements. The social representations, used to think and interpret the daily reality, allowed the fishermen of this study, who had a diving accident, to recreate their understanding of life and themselves, adapting to their new biopsychosocial context⁽⁷⁾.

The social and individual representation of disability becomes a lens through which individuals are seen and see their world. These perceptions may be full of stereotypes and prejudices of both sides, considering an individual is a social being who participates in the construction and maintenance of concepts, statuses and values of the society⁽¹⁶⁾.

Returning to reality after a SCI shows other feelings related to the fragility and emotional shock, along the days experienced with the loss of motor, sensory and autonomic functions, configuring the reaction of denial to these impairments^(3,5,14). These factors interfere in the identity and self-esteem of people, as they did not have a chance to gradually prepare to the changes, leading to gloomy feelings. These negative emotional answers, when uncontrolled, may lead these people to depression.

Study limitations

The main study limitations refer to its operational and logistic aspects, considering the distance between the coast and the state capital, weather conditions and technical problems for handling the recorder, which had an impact of excessive wind and successive recording, requiring successive visits to perform the interviews again, as well as difficult access and new approaches to the fishermen.

Contributions to nursing, public health and public policies

Nursing, acting in the political scenario of healthcare, when recognizing the social representations and trajectories of fishermen with spinal cord injury, provides important contributions, clarifications and information to improve the quality of life of this specific group. The interrelation of specialties in the nosographic group of fishermen, among them, traumatology-orthopedics, neurology, clinical and mental health, provides a significant amount of information and situations/problems in which nursing can act and provide answers to users, aiming to ensure access to the principles of the Brazilian Unified Health System.

CONCLUSION

The social representations originated from the speeches reported in this study present the experiences from physical limitations and retirement expectations, the latter constituted a distant reality from the labor law requirements. The debate on spinal cord injury among artisanal fishermen, based on life experiences of this group, is in the current agenda of national public policies, indicating the implementation and strengthening of health promotion strategies for men working in fishing activities.

An urgent need for changes is observed in healthcare to fishermen for the prevention of sequelae, rehabilitation follow-up and psychosocial support, as well as high investments in basic training and qualification to health professionals in this field, aiming to ensure reinsertion in the labor market after a spinal cord injury with remaining potentials.

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