

Federal University of Rio de Janeiro State



# Journal of Research Fundamental Care Online

ISSN 2175-5361  
DOI: 10.9789/2175-5361

## RESEARCH

### Indicação de alcoolismo em pescadores vítimas de lesão medular por mergulho

Indication of alcoholism in fishermen victims of spinal cord injury by diving

Indicación del alcoholismo en pescadores víctimas de lesión en la médula espinal por submarinismo

Eliane Santos Cavalcante <sup>1</sup>, Izaura Luzia Silvério Freire <sup>2</sup>, Andréa Tayse de Lima Gomes <sup>3</sup>,  
Francisco Arnoldo Nunes de Miranda <sup>4</sup>

#### ABSTRACT

**Objective:** Examine indication of alcoholism in artisanal fisher folk victims of Spinal Cord Injury (SCI) by diving through the application of the CAGE questionnaire. **Method:** Sectional study and analytical, with a quantitative approach, carried out between October 2013 and August 2014. The sample was composed of 44 fishermen who suffered SCI for diving. The data were collected by means of a structured script and the analysis was by descriptive statistics. **Results:** All were male (100.0%), aged 46 to 60 years (63.3%), 54.5% had until elementary school, lived without a mate (63.6%) and 52.3% reported having some type of occupation. As for the questionnaire question 1 CAGE, had the highest percentage of positive responses (90.9%). According to CAGE, it was found that 93.2% of fishermen had indication of alcoholism. **Conclusion:** The most of the participants had indication of alcoholism. **Descriptors:** Alcoholism, Decompression sickness, Spinal cord injuries.

#### RESUMO

**Objetivo:** Analisar a indicação de alcoolismo em pescadores artesanais vítimas de lesão medular (LM) por mergulho por meio da aplicação do questionário CAGE. **Método:** Estudo seccional e analítico, com abordagem quantitativa, realizado entre outubro de 2013 e agosto de 2014. A amostra foi composta por 44 pescadores que sofreram LM por mergulho. Os dados foram coletados por meio de um roteiro estruturado e a análise foi por estatística descritiva. **Resultados:** Todos eram do sexo masculino (100,0%), na faixa etária de 46 a 60 anos (63,3%), 54,5% tinham até o ensino fundamental, viviam sem companhia (63,6%) e 52,3% relataram ter algum tipo de ocupação. Quanto ao questionário CAGE, a questão 1 teve o maior percentual de respostas positivas (90,9%). De acordo com o CAGE, constatou-se que 93,2% dos pescadores tinham indicação de alcoolismo. **Conclusão:** A maioria dos participantes possuíam indicação de alcoolismo. **Descritores:** Alcoolismo, Doença da descompressão, Traumatismos da medula espinal.

#### RESUMEN

**Objetivo:** Analizar la indicación del alcoholismo en los pescadores artesanales víctimas de Lesión Medular Espinal (LME) para el submarinismo por medio de la aplicación del cuestionario CAGE. **Método:** Estudio transversal y analítico, con un enfoque cuantitativo, realizado entre octubre de 2013 y agosto de 2014. La muestra fue constituida por 44 pescadores que sufrieron LME para el submarinismo. Los datos fueron colectados mediante un guion estructurado y el análisis fue por estadística descriptiva. **Resultados:** Todos eran varones (100,0%), con edad de 46 a 60 años (63,3%), el 54,5% había completado la escuela primaria, vivían sin pareja (63,6%) y 52,3 % reportó tener algún tipo de ocupación. Quanto al cuestionario CAGE, la cuestión 1 tuvo el mayor porcentaje de respuestas positivas (90,9%). De acuerdo con lo CAGE, se encontró que el 93,2% de los pescadores tenían indicación de alcoholismo. **Conclusión:** La mayoría de los participantes tenían indicación de alcoholismo. **Descritores:** Alcoholismo, Enfermedad de descompresión, Traumatismos de la médula espinal.

1 Nurse. Doctor in nursing. Professor at the school of nursing/EEN at the Federal University of Rio Grande do Norte/UFRN. Natal (RN), Brazil. E-mail: elianeufrn@hotmail.com 2 Nurse. Doctor in nursing. Professor at the school of nursing/EEN, Universidade Federal do Rio Grande do Norte/UFRN. Natal (RN), Brazil. E-mail: izaurafreire@hotmail.com 3 Nurse. Master's degree by the graduate program in nursing/PPGENF, Universidade Federal do Rio Grande do Norte/UFRN. Natal (RN), Brazil. E-mail: andrea.tlgomes@gmail.com 4 Nurse. Doctor in nursing. Professor in the Department of nursing/DENF and the graduate program in nursing/PPGE da Universidade Federal do Rio Grande do Norte/UFRN. Natal (RN), Brazil. E-mail: farnoldo@gmail.com

## INTRODUCTION

**T**he present study uses a tripod as a worsening health, excluded the claims to identify the order of the event in the lives of the subjects of research. In this sense the problematic part of the use and abuse of alcohol, passing by the chronic non-degenerative and ending with the decompression sickness affecting artisanal anglers diving accident victims. This triad, little explored/studied is presented as relevant and justified by the finding of this Association reveals a reality the same way the production of life with disability and loss of autonomy.

Agrees that the use and abuse of psychoactive substances abuse of lawful character, such as alcohol and tobacco, has higher prevalence overall, bringing serious consequences for public health. Worldwide, estimated individuals aged less than 15 years consumed around 6.2 liters of pure alcohol in 2010, equivalent to 13, 5 g of alcohol per day.<sup>1</sup>

In Brazil, reckons that the total consumption of alcoholic beverage is 8.7 gallons per person, much higher than the world average, but about men consuming 13.6 liters a year and women 4.2 liters. When considering only individuals who consume alcohol, this average rises to 15.1 liters of pure alcohol per person being 8.9 liter among women and 19.6 liters among men.<sup>1</sup>

The consequences of the use and abuse of alcohol generate burden society, directly and indirectly, increasing costs in hospitals and in other levels of health care assistance, justice system, social security, loss of productivity, absenteeism and unemployment, resulting in years of life lost adjusted by disability. Still, throughout the world, it should note that the Group of people aged 20-49 years most affected in relation to deaths associated with the use of alcohol, translating greater loss of the economically active population.<sup>1</sup>

Add the problematic, the co-morbidities arising from some chronic conditions, to the extent that present limitations that decrease the body's exposure to contingencies of positive reinforcement and increase the possibility of their exposure to contingencies adverse, with substantial effects on family relationships, occupational, social, and affective. Among these, stands out the Spinal Cord Injury (SCI) characterized by loss of limb and body image changes, gradually leading to psychic disorganization, with membership of the use and abuse of drugs and alcohol.<sup>2</sup>

The main features of SCI motor and sensory changes are negative and neurovegetatives disturbances below the lesion. Statistics show that the main causes of SCI are accidents and violence, especially for firearms injuries, traffic accidents, diving in shallow water, drops or stops diseases, which are also common in non-industrial fishermen who develop a snorkeling fishing.<sup>3-4</sup>

Yet, the decompression sickness occurs when the diver returns quickly at sea level. As the diver descends, the amount of dissolved gases in the blood, mainly oxygen and nitrogen increasing exponentially and when returns the surface undergoes the depressurization effect that occurs so suddenly causing the formation of bubbles of nitrogen, which can reach vital organs of the body, reflected from mild symptoms to serious, including numbness, weakness and even serious spinal injuries.<sup>5</sup>

The chronicity generated by the consequences of SCI brings about important social and economic loss, leading to disenchantment of life, loss of labor capacity, partial impossibility of locomotion and leisure, need for adaptation and, in some situations, loss of autonomy, changes in body image and negative feelings between ambiguous fear of permanent disabilities and social exclusion, insecurity, aggression, anxiety, impulsiveness, social isolation, hopelessness, feelings of inferiority, ambivalence, anger, fear and hopelessness.<sup>2,6</sup>

The significant changes with respect to morbidity of people bearers of LE, a biological perspective to a psychosocial, as reflection of the social transformations occurred in a given historical and social context. That is the Decade of 1970, the main causes of death of the persons involved from SCI were urinary tract complications, and kidney function, while in the general population predominated the deaths from cardiovascular, renal, respiratory problems, suicide, and neoplasms. In the early 1980, occurred relative decrease renal causes deaths and relative increase by suicide, liver disease and alcohol abuse, thus decreasing the biomedical causes and increasing the causes psychosocial in nature.<sup>6</sup>

In the face of high rates of consumption of alcoholic beverages on the world stage, it was noted the importance of investigation of alcoholism in artisanal fisherfolk victims of SCI, in order, the damage suffered by them, which is responsible for generating motor disability and employment. Moreover, therefore, generates negative feelings, and may result in escape from reality through the consumption of alcohol too. So, question: what is the indication of alcohol use in artisanal fisherfolk victims of spinal cord injury by diving? With these considerations, support the objective of analyzing the indication of alcoholism in artisanal fisherfolk victims of spinal cord injury by diving through the application of the CAGE questionnaire.

## METHOD

Sectional study and analytical, with quantitative approach, carried out by artisanal fishers affected by SCI on beaches of the coast state northeastern Brazil. The data collection was carried out between October 2013 and August 2014.

The population composed by artisanal fishermen who have affected by SCI for diving on the beaches of the coast of a certain State of northeastern Brazil. For the selection of the sample, bleeding cool is the following inclusion criteria: fishermen victims of SCI for diving, over 18 years of age and agree to participate in the survey through the signing of an informed consent. Of the 49 individual's victims of SCI, five refused to participate in the study, being the final sample comprised of 44 people.

For data collection, we used a structured script consisting of two parts, namely:

### Demographic characterization

This questionnaire has designed by the researchers themselves and sought to meet the socio-demographic data of the participants of the survey, composed by the following variables: age, gender, education, marital status, occupation, religion, family income, and number of children.

### Questionnaire CAGE<sup>7-8</sup>

This questionnaire constituted by four questions concerning the following Anagram:

- Question 1 (Q1): "cut-down" (Any time you (a) felt that should decrease the amount of alcoholic beverage or stop drinking?);
- Question 2 (Q2): "annoyed" (people (a) bored because they criticize the way you drink alcohol?);
- Question 3 (Q3): "guilty" (you (a) do you feel upset (the) with yourself for the way they take alcoholic beverages?); and
- Question 4 (Q4): "eye-opener" (Usually take alcoholic beverages in the morning to reduce nervousness or hangover?).

At the time of the interview, the respondents should answer four questions casting an affirmative or negative. The presence of at least two affirmative responses (CAGE  $\geq$  2) suggested an indication of suspected alcoholism.

The CAGE, drafted in the 1970, validated in Brazil in 1983 is a practical questionnaire quick and easy application with answers able to track the use and abuse of alcohol. The four questions, allow monosyllabic answers (yes/no) and a clear and objective score. Without the pretension to infer in the diagnosis, the CAGE allows indicate the likelihood of alcohol use and abuse in a given segment or social group, and can be used in day-day of any healthcare professional<sup>9</sup>.

The data collected and organized into spreadsheet in Microsoft Excel®2010, then were transported to the statistical program SPSS 20.0® and analyzed through descriptive statistics. For comparison of proportions was used the Fisher exact test, considering the statistical significance level of 5% (p-value = 0.05). The results presented through tables and charts with their respective absolute and relative values.

## RESULTS AND DISCUSSION

The profile of the respondents, it was observed that they were all male, at the age of 46 to 60 years of age (63.3%) average age of 50.0 years, minimum and maximum of 29 86 years ( $\pm$  9.1 years). The majority (54.5 percent) had the degree of schooling up to the elementary school, they lived without a mate (63.6%) and 52.3% reported having some kind of occupation, as shown in Table 1.

**Table 1.** Demographic characterization of artisanal fishermen victims of spinal cord injury on the North coast of Rio Grande do Norte, 2015.

DEMOGRAPHIC CHARACTERIZATION	n	%
<b>Age group</b>		
26 to 45 years	12	27.3
46 to 60 years	28	73.3
More than 60 years	4	9.1
<b>Schooling</b>		
Not literate	18	41.0
Elementary school	24	54.5
High school	2	4.5
<b>Marital status</b>		
Without a mate	28	63.6
With companion	16	36.4
<b>Occupation</b>		
With occupation	23	52.3
Without occupation/Retired	21	47.7

Source: data of the own research

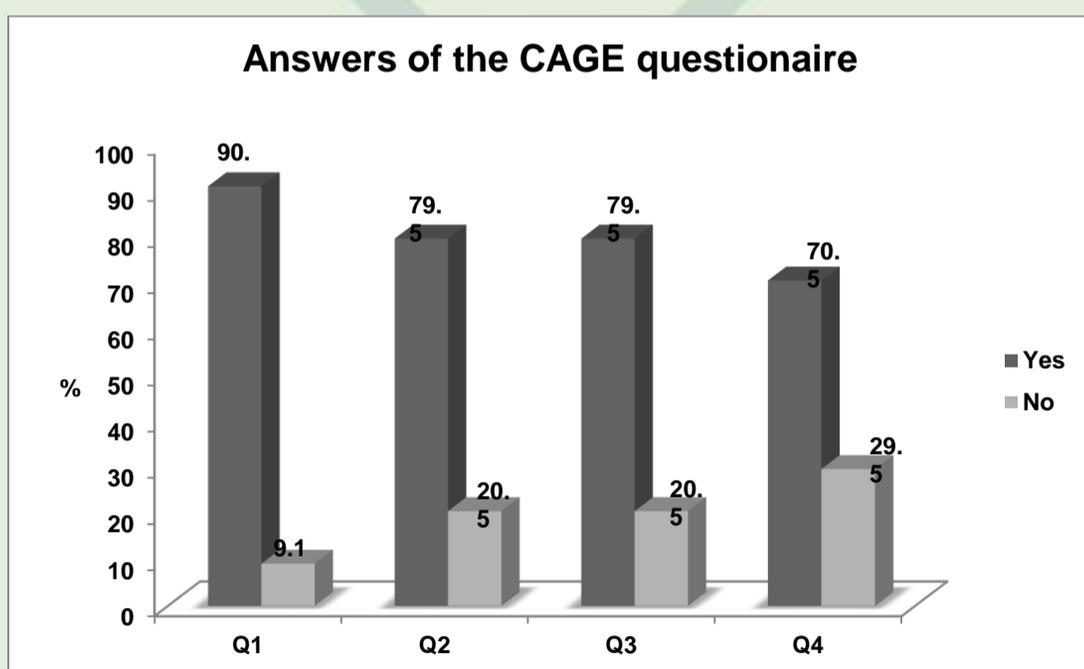
Demographic characterization of artesanal fisherfolk with SCI thickens when specific literature shows the unanimous presence of male. This fact brings the reflection about the sexual division of labor in the asymmetric relations of power between men and women, anchored in a series of elements considered specific "of man" and "woman".<sup>10-1</sup>

As for the distribution by age, it found that the age range varied from 29 to 86 years, with an average of 50.0 years. These results reinforce the found in study of residents of four fishermen different beaches of the coast of São Paulo/Brazil, which showed that the average age of the respondents in the Jabaquara Beach was 43 years (minimum of 25 and a maximum of 68 years), on the beach of famine was 31 years (minimum and maximum of 14 54 years) on the beach of Sawmill was 34 years (minimum and maximum of 19 67 years) and in Bonete Beach was 46 years, being the minimum age and maximum 26 79 years. In addition, among the 54 fishermen involved in the research, 40 (74.1%) had low level of education, since most had only incomplete elementary school.<sup>12</sup>

On the civil status, the data found in the present study contradict the results presented in research conducted with fishermen in the State of Santa Catarina/Brazil, where more than 80.0% of fishermen lived with companion.<sup>10</sup> Explained this fact because the population of this study if treating fishermen with spinal injuries.

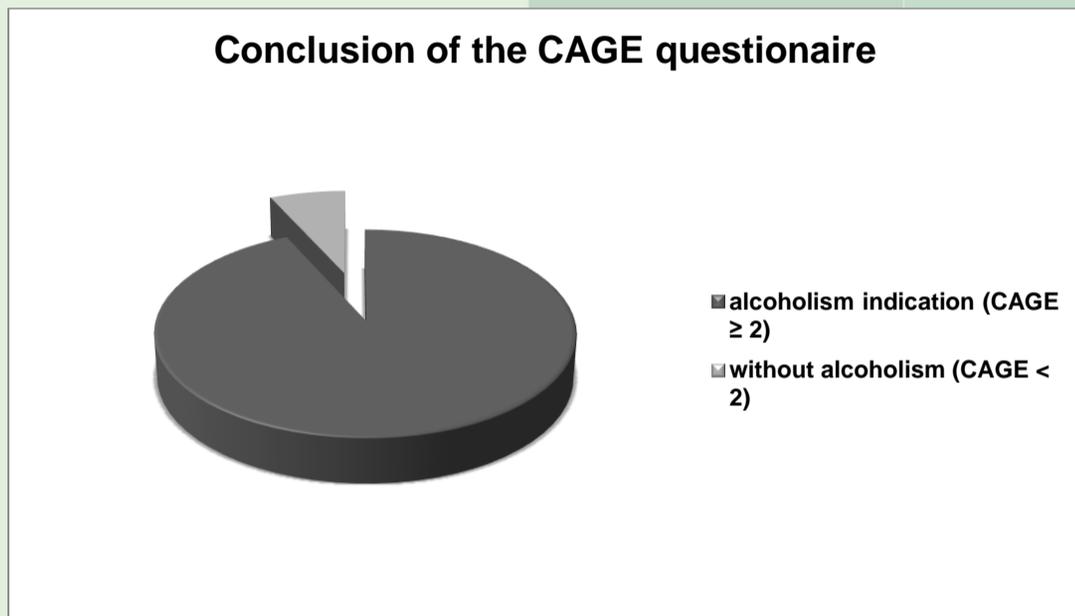
Researchers have shown that the practice and the sexual frequency reduce after the SCI. Added that the erectile response often occurs as insufficient to try coitus, and may not appear in the desired time or with sufficient duration. These factors, along with the fear of rejection or failure, contribute to the reduction of the frequency and of the difficulties of sexual activity, making conjugal life.<sup>13</sup>

The Figure 1 presents data relating to responses of the four questions of the questionnaire CAGE: Question 1 (Q1) "have you ever felt that you should decrease the amount of alcoholic beverage or stop drinking?"; Question 2 (Q2) "annoy people because they criticize the way you drink alcohol?"; Question 3 (Q3) "you feel upset with himself for the way they take alcohol?"; Question 4 (Q4) "Usually take alcoholic beverages in the morning Elementary school reduce nervousness or hangover?". Observant that the Q1 had the highest percentage of positive responses (90.9 percent), followed by Q2 and Q3, both with 79.5%.



**Figure 1.** Distribution of the number of positive and negative responses according to the questions of the questionnaire CAGE, 2015.

The Figure 2 explains the CAGE questionnaire completion as an indication of alcoholism or alcoholism, according to analysis of the replies given by fishermen questions: Q1, Q2, Q3, and Q4.



**Figure 2.** Distribution of the number of fishermen dependent and not dependent on alcohol according to the conclusion of the CAGE questionnaire, 2015.

Reinforcing the findings of this study, research conducted in order to assess tobacco use and nicotine addiction diagnosed by Fagerström test as well as the alcohol addiction diagnosed through the CAGE questionnaire in French fishermen and sailors concluded that daily consumption of alcohol was significantly higher among fishermen than us sailors.<sup>14</sup> According to Figure 2, after analysis of the issues of the CAGE questionnaire, it found that 93.2% of participants of the survey had indication of alcoholism. This fact implies the positive response of two or more questions the CAGE questionnaire.

According to table 2, which shows the intersection of demographic characterization and the conclusion of the CAGE questionnaire, it observed that although there is no statistical significance between the variables, the percentage of fishermen with indication of alcoholism is greater in those who were without a mate (61.4 percent).

**Table 2.** Demographic characterization of fishermen according to the conclusion of the CAGE questionnaire, 2015.

Demographic characterization	Completion of the CAGE questionnaire						Test Accurate Fisher P
	Indication of alcoholism		Without alcoholism		TOTAL		
	n	%	n	%	n	%	
<b>Age group</b>							
Less than 50 years	21	47.7	2	4.5	23	52.2	1.000
More than 50 years	20	45.5	1	2.3	21	47.8	
<b>Education degree</b>							
Literate	23	52.3	3	6.8	26	59.1	0.258
Not literate	18	40.9	0	0.0	18	40.9	
<b>Marital status</b>							
Without a mate	27	61.4	1	2.3	28	63.6	0.543
With companion	14	31.8	2	4.5	16	36.4	
<b>Occupation</b>							
With occupation	22	50.0	1	2.3	23	52.3	0.599
Without occupation	19	43.2	2	4.5	21	47.7	
<b>TOTAL</b>	<b>41</b>	<b>93.2</b>	<b>3</b>	<b>6.8</b>	<b>44</b>	<b>100.0</b>	<b>-</b>

Source: data of the own research

As regards the abusive consumption of alcohol, scholars noted that the is inversely proportional to the age group in both sexes, as well as include greater positivity in the CAGE between men with less education and those who do not carry out paid work activities. These results diverge to those found in the present study, where no statistical difference demonstrated between these variables and confirming that there is no relationship between demographic variables and the indication of alcoholism.<sup>15</sup>

The Table 3 presents the results for the four questions of the questionnaire this questionnaire is complete second CAGE. It is observed that there was statistical significance between Q2 ( $p < 0.05$ ) and the conclusion of the CAGE questionnaire and, similarly, between Q3 and the conclusion of the CAGE. Demonstrating that occurred more positivity of these issues among those who had indication of alcoholism and no positivity among the group without alcoholism.

**Table 3.** Distribution of the questionnaire questions CAGE according to the conclusion of the CAGE questionnaire, 2015.

The CAGE Questionnaire Questions	Completion of the CAGE questionnaire						Test Accurate Fisher p
	Indication of alcoholism		Without alcoholism		TOTAL		
	n	%	n	%	n	%	
<b>Q1</b>							
Yes	38	86.4	2	4.5	40	90.9	0.254
No	3	6.8	1	2.3	4	9.1	
<b>Q2</b>							
Yes	35	79.5	0	0.0	35	79.5	0.006
No	6	13.6	3	6.8	9	20.5	
<b>Q3</b>							
Yes	29	65.9	0	0.0	29	65.9	0.034
No	12	27.3	3	6.8	15	34.1	
<b>Q4</b>							
Yes	30	68.2	1	2.3	31	70.5	0.204
No	11	25.0	2	4.5	13	29.5	
<b>TOTAL</b>	<b>41</b>	<b>93.2</b>	<b>3</b>	<b>6.8</b>	<b>44</b>	<b>100.0</b>	-

Source: data of the own research

Still about use and abuse of alcohol, authors demonstrated that the excessive consumption of alcohol, use of drugs and medicines are one of the main risk factors of behavior related to the development of occupational diseases in the fishery sector. As well as social factors influence similar to the occupational diseases, which are the prolonged workday, unfavorable socioeconomic conditions, the low level of education and belong to disadvantaged social classes.<sup>16</sup>

One should take into consideration that the studied population it is victims of SCI and had to fit changes in life habits and the need to stop doing what provided pleasure because of the difficulties and limitations related to the lesion. This fact can be a predictive factor for the consumption of alcoholic beverages in excess.<sup>17</sup>

In addition, the individual with SCI can feel lack of personal fulfillment from work deprivation caused by the nets, deriving of physical squeal. Such reality, usually leads to financial difficulties, causing the subject report symptoms of anxiety and stress by the uncertainty of tomorrow.<sup>17</sup>

## CONCLUSION

We analyzed through the CAGE questionnaire the indication of alcoholism in artisanal fisherfolk victims of spinal cord injury, reaching the following conclusions: the four questions answered, the question: "have you ever felt that you should decrease the amount of alcoholic beverage or stop drinking?", was presented the highest positivity among respondents; that the large majority of the participants had indication of alcoholism; that although the majority of participants without a mate have indication of alcoholism, not showed statistical significance between social demographic characteristics and indication of alcoholism; that question two: "annoy people because they criticize the way you drink alcohol?" got more positive among those who had indication of alcoholism, showing statistical significance between that issue and the conclusion of the CAGE.

Given the above, emphasizes the importance of multidisciplinary performance, especially of the nurse in the rehabilitation process of the individual with LM, taking into consideration all the bio psychosocial changes arising from disability generated by injury in order to avoid negative overshoot strategies, like alcoholism.

## REFERENCES

1. World Health Organization (WHO). Global status report on alcohol and health. 2014 [acesso em 2014 Dec. 28];1-376. Disponível em: [http://apps.who.int/iris/bitstream/10665/112736/1/9789240692763\\_eng.pdf?ua=1](http://apps.who.int/iris/bitstream/10665/112736/1/9789240692763_eng.pdf?ua=1)
2. Fecho MB, Pacheco KMB, Kaihama HN, Alves VLR. A repercussão da lesão medular na identidade do sujeito. *Acta fisiátrica*. 2009; 16(1):38-42.
3. Melo ACR. Descrição da aptidão inicial para natação em lesionados medulares. *Rev. Bras. Med esporte*. 2011; 15(6):441-5.
4. Alves ALA, Salim FM, Martine EZ, Passos ADC, Carlo MMRP, Scarpelini S. Qualidade de vida de vítimas de trauma seis meses após a alta hospitalar. *Rev. saúde pública*. 2009; 43(1):154-60.
5. American College of Surgeons. Atendimento pré-hospitalar ao traumatismo. 7ª ed. Rio de Janeiro: Elsevier; 2011.
6. Conceição MI, Auad JC, Vasconcelos L, Macêdo A, Bressanelli R. Avaliação da depressão em pacientes com lesão medular. *Rev. Bras Ter. Comport. Cogn*. 2010; XII (1/2):43-59.
7. Mayfield D, McLeod G, Hall P. The CAGE questionnaire: validation of new alcoholism screening instrument. *Am j psychiatry*. 1974; 131:1121-3.
8. Masur J, Monteiro M. Validation of the CAGE alcoholism screening test in Brazilian Psychiatry inpatient hospital setting. *Braz j med. biol. res*. 1983; 16:215-8.

9. Corradi-Webster CM, Laprega MR, Furtado EF. Avaliação do desempenho do CAGE com pacientes psiquiátricos ambulatoriais. *Rev. latinoam enferm.* 2005; 13(especial number):1213-8.
10. Sedrez MC, Santos CF, Marenzi RC, Sedrez ST, Barbieri E, Branco JO. Caracterização socioeconômica da pesca artesanal do camarão Sete-barbas em Porto Belo, SC. *Boletim do Instituto de Pesca.* 2013; 39(3):311-22.
11. Vieira N, Siqueira D, Ever M, Gomes M. Divisão sexual do trabalho e relações de gênero em contexto estuarino-costeiro amazônico. *Amazônica - Revista de Antropologia.* 2013; 5(3):806-35.
12. Ramires M, Clauzet M, Rotundo MM, Begossi A. A pesca e os pescadores artesanais de Ilhabela (SP), Brasil. *Boletim do Instituto de Pesca.* 2012; 38(3):231-46.
13. Torrecilha LA, Costa BT, Lima FB, Santos SMS, Souza RB. O perfil da sexualidade em homens com lesão medular. *Fisioter mov.* 2014; 27(1):39-48.
14. Fort F, Massardier-Pilonchéry A, Bergeret A. Psychoactive substances consumption in French fishermen and merchant seamen. *Arch. Environ. Occup. Health.* 2010; 83(5):497-509.
15. Guimarães VV, Florindo AA, Stopa SR, César CLG, Barros MBA, Carandina L, et al. Consumo abusivo e dependência de álcool em população adulta no Estado de São Paulo, Brasil. *Rev. Bras. Epidemiol.* 2010; 13(2):314-25.
16. Rios AO, Rego RCF, Pena PGL. Doenças em trabalhadores da pesca. *Rev. baiana saúde pública.* 2011; 35(1):175-88.
17. Schoeller SD, Bitencourt RN, Leopardi MT, Pires DP, Zanin MTB. Mudanças na vida das pessoas com lesão medular adquirida. *Rev. eletrônica enferm.* 2012; 14(1):95-103.

Received on: 03/05/2015  
Required for review: No  
Approved on: 08/01/2016  
Published on: 03/04/2016

Contact of the corresponding author:  
Eliane Santos Cavalcante  
Universidade Federal do Rio Grande do Norte. Campus Universitário.  
Avenida Senador Salgado Filho, s/n - Lagoa Nova, Natal - RN,  
CEP: 59078-970.