

Men with leg venous ulcers and implications for working life

Homens com úlcera venosa de perna e as implicações para vida laboral

Hombres con úlcera venosa de pierna y las implicaciones para la vida laboral

*Patrícia Alves dos Santos Silva^I; Norma Valéria Dantas de Oliveira Souza^{II}; Déborah Machado dos Santos^{III};
Elias Barbosa de Oliveira^{IV}; Mariana Barci de Souza^V; Dayse Carvalho do Nascimento^{VI}*

ABSTRACT

Objective: to analyze the repercussions of venous leg ulcers for the working life of men of productive age. **Method:** qualitative and descriptive research whose object dealt with men with venous ulcers and its implications for their work in the world of work. Twenty-two men attended at two outpatient clinics belonging to the health complex of a public university in Rio de Janeiro participated in the study. The collection instrument was the semistructured interview and data were treated through the thematic content analysis. **Results:** the study evidenced that there are difficulties for these men to act in the labor market, in addition, they present fear of unemployment and feeling of incapacity. On the other hand, the reception of co-workers was a positive aspect to minimize this feeling. **Conclusion:** it is important to create public policies that contribute to a better quality of life to minimize impacts on the biopsychosocial dimensions of this population of workers.

Descriptors: Worker's health; men; nursing; leg ulcer.

RESUMO

Objetivo: analisar as repercussões das úlceras venosas de perna para a vida laboral de homens em idade produtiva. **Método:** estudo qualitativo e descritivo cujo objeto tratou de homens com úlceras venosas e as implicações para sua atuação no mundo do trabalho. Participaram do estudo 22 homens atendidos em dois ambulatorios, pertencentes ao complexo de saúde de uma universidade pública do Rio de Janeiro. O instrumento de coleta foi a entrevista semiestruturada e os dados coletados foram tratados por meio da análise temática de conteúdo. **Resultados:** evidenciou-se que há dificuldades para estes homens atuarem no mercado de trabalho. Além disso, apresentaram medo do desemprego e sentimento de incapacidade. Por outro lado, o acolhimento dos colegas de trabalho foi um aspecto positivo para minimizar tal sentimento. **Conclusão:** é importante a criação de políticas públicas que contribuam para melhor qualidade de vida para minimizar impactos nas dimensões biopsicossocial dessa população trabalhadora.

Descritores: Saúde do trabalhador; homens; enfermagem; úlcera da perna.

RESUMEN

Objetivo: analizar las repercusiones de las úlceras venosas de las piernas para la vida laboral de los hombres en edad productiva. **Método:** investigación cualitativa y descriptiva cuyo objeto se ocupó de hombres con úlceras venosas y sus implicaciones para su trabajo en el mundo del trabajo. Veintidós hombres atendidos en dos clínicas ambulatorias pertenecientes al complejo de salud de una universidad pública en Río de Janeiro participaron en el estudio. El instrumento de recolección fue la entrevista semiestructurada y los datos se trataron a través del análisis de contenido temático. **Resultados:** el estudio evidenció que existen dificultades para que estos hombres actúen en el mercado laboral, además, presentan temor al desempleo y sensación de incapacidad. Por otro lado, la recepción de compañeros de trabajo fue un aspecto positivo para minimizar este sentimiento. **Conclusión:** es importante crear políticas públicas que contribuyan a una mejor calidad de vida para minimizar los impactos en las dimensiones biopsicosociales de esta población de trabajadores.

Descriptores: Salud del trabajador; los hombres; enfermería; úlcera de la pierna.

INTRODUCTION

Among the diseases that affect individuals in their productive phase is Chronic Venous Insufficiency (CVI), which, despite its non-existent mortality, shows high morbidity and is mainly characterized by the occurrence of lesions in the advanced stage in the lower limbs¹. Because it is a chronic and recurring problem, not only does it cause people to suffer physically, but it also prevents them from working, since the lesion often remains open for months or years, thus leading to important socioeconomic and emotional problems².

^INurse. MNSc. Rio de Janeiro State University. Brazil. E-mail: patatyenf@gmail.com

^{II}Nurse. PhD. Rio de Janeiro State University. Brazil. E-mail: norval_souza@yahoo.com.br

^{III}Nurse. PhD. Rio de Janeiro State University. Brazil. E-mail: debuerrj@yahoo.com.br

^{IV}Nurse. PhD. Rio de Janeiro State University. Brazil. E-mail: eliasbo@oi.com.br

^VNurse. Intensive Therapy Specialist. Master's Student. Rio de Janeiro State University. Brazil. E-mail: mariana.barci@hotmail.com

^{VI}Nurse. MNSc. Doctoral Student. Rio de Janeiro State University. Brazil. E-mail: daysecnascimento@hotmail.com

CVI is defined as an abnormality of the venous system function. The basic mechanism for its development and consequently the origin of the ulcer is venous hypertension, usually caused by one or more factors, such as: an obstruction, which stops blood flow; a valve incompetence, which allows retrograde blood flow; and calf muscle failure³.

Statistical data indicate that venous leg ulcers are considered a problem that predominantly affects women. However, research results have shown a predominance of males with this type of lesion²⁻⁴.

On the other hand, health professionals' incipient knowledge of how to care for males, especially for those with a venous ulcer (VU), was also observed as a result of the fact that male-gender-related topics are not addressed in detail in the academy or in educational institutions⁴.

Moreover, it was found that this problem is not often investigated by nursing professionals, since in a search for articles, theses and dissertations in the Virtual Health Library (VHL) databases, particularly in the Latin American and Caribbean Health Sciences Literature (LILACS), Scientific Electronic Library Online (SCIELO), Nursing Database (BDENF) and Medical Literature Analysis and Retrieval System Online (MEDLINE), without language restrictions and using the descriptors "Leg Ulcer", "Men's Health" and "Work", 12 articles were found which were published from 1969 to 2012. It is noteworthy that recent studies, as from 2013 to 2018, were not found in the abovementioned databases.

Regarding language, it was observed that 09 studies were in English, 02 in Portuguese and 01 in German. When analyzing the provision of full texts for these 12 studies, it was found that only 04 articles were available in full, and 01 referred to the problem addressed in this study. The search was conducted in June 2018.

Considering the results obtained in this bibliographic review, an incipient scientific production involving the topic was found, especially in articles written in Portuguese. Therefore, it is relevant to develop studies that produce knowledge and evidence so that the care for men with venous ulcers can be resolute and meet this population's needs.

Based on this initial contextualization of the problem in this study, an object was selected: men with venous leg ulcers and the implications for their performance in the working world.

In this perspective, the following objective was outlined: to analyze the repercussions of venous leg ulcers on the working life of prime-age men.

THEORETICAL FRAMEWORK

Venous Ulcers (VUs) are chronic wounds that affect people of different age groups. They are recurrent, incapacitating and have a severe impact on ambulation. The treatment is complex as they can lead to prolonged hospitalization and significant morbidity. The lesion may remain for years before healing, thus imposing high financial, social and emotional costs. In many cases, it can distract individuals from their work activities, which aggravates their socio-economic conditions⁶.

Reiterating, it is inferred that the presence of the lesion leads to a profound change in daily-life and work activities, as it causes pain, mobility limitations, changes in sleep and rest patterns, alterations in one's self-image and the inability to perform work activities, thus interfering with quality of life and stimulating social isolation⁷.

Given the signs and symptoms resulting from the lesion and the need for prolonged therapy, individuals with venous ulcers often need to move away from work activities, which affects their productivity and often causes absenteeism and early disability retirement. Additionally, leisure activities are restricted, thus pleasure in daily activities is reduced⁸.

A VU requires long treatment because it is characterized by a chronic phenomenon, and constant changes of dressings and bandages are necessary, which causes clinical, functional and aesthetic disorders in people's quality of life. Embarrassment and shame are feelings that are present in these individuals' lives, and those feelings determine social isolation⁹.

In addition to interfering with patients' quality of life, whether due to high costs, the period of continuous treatment or the possibility of absences from work, there is also the risk of their losing their jobs, along with decreased pleasure in usual activities.

Thus, because of the complexity that surrounds the situation, individuals with VUs should take care of them under the support of an interdisciplinary team, with specific knowledge, technical skills, articulation between the different

levels of care complexity in Unified Health System (SUS) and the family's participation, which is of great importance to support individuals with such lesions¹⁰.

METHODOLOGY

Qualitative and descriptive study conducted in two fields: I) the wound-bandaging outpatient clinic of a large hospital; and II) the vascular-surgery outpatient clinic of a polyclinic. It is noteworthy that both outpatient clinics belonged to the health complex of a public university in the city of Rio de Janeiro.

Participants were men with venous lower-limb ulcers, and the inclusion criteria were: having had the lesion for more than one year; being male; being over 18 years old; being or having been a worker at some point in their lives; and having developed the lesion in the productive phase of their lives. Exclusion criteria were: men showing any cognitive impairment and/or any permanent limitation to work.

Considering these criteria, 22 men participated in the study, of whom 10 were treated at the wound-bandaging outpatient clinic and 12 were linked to the vascular-surgery outpatient clinic.

Semi-structured individual interviews were used for data collection. They were applied in the previously mentioned collection fields, specifically in reserved and silent rooms provided by the abovementioned sites. The participants were chosen based on the selection criteria previously explained. Initially, the medical records of potential participants were consulted. If they met the inclusion criteria, an invitation for participation was made, and the object of the study as well as its benefits and probable risks were explained. Thus, if they agreed to participate in the study, the Free and Informed Consent Form was conjointly read.

Following the agreement to participate, the interview was conducted, the content of which was recorded by using an MP4 device and then transcribed.

Data were collected from April to July 2015 after the study had been approved by the Research Ethics Committee (CEP) of Rio de Janeiro State University (UERJ), according to process no. 993.194. It is noteworthy that this study was developed in compliance with Resolution 466/2012 by the National Health Council¹¹.

The data were treated by the thematic content analysis method¹², which led to the emergence of 245 meaning units, thus allowing the creation of the following category: Perceptions of men with a venous ulcer and the consequences for working life.

RESULTS AND DISCUSSION

Perceptions of men with a venous ulcer and the consequences for working life

The topics covered in this category involve the repercussions of a leg VU for men in their productive life. Moreover, themes related to legal aspects and labor rights, the leave of absence from work and retirement due to disability emerged. Such content was correlated with the experience in the working world.

In this perspective, one of the repercussions listed by the participants was the embracement and help from co-workers. The following account illustrates this situation:

In my job, everyone knows that I have a leg ulcer. People are more concerned; the team keeps asking when I'll have the surgery, when I will be able to solve this problem that is bothering me so much. They are helping me a lot to deal with this psychological aspect because you end up moving away. I feel embraced by my colleagues; it helps to ease the situation. (H21)

On the other hand, there were reports of negative repercussions that the presence of an ulcer causes to men in their work environments, as they stressed some colleagues' poor understanding of the limitations that a VU imposes on the performance of certain activities in their work processes.

As the work was heavy, sometimes I would ask my colleagues to pick up the parts for me; some would complain, but as the boss told them to pick up the parts for me to work, they ended up helping me. (H11)

Participants reported that because they could not manage the heavy workday, they ended up evading formal employment and became self-employed. However, they realized that their responsibilities were not reduced and the demands from capitalism made them work even harder.

I changed my line of work because of the wound, because when I worked by motorcycle, the hot steam from the engine hurt me. I went to work at a café as a formal employee, but eventually it didn't work out, so I decided to leave. Then, I started working off the books, and later set up my own business. On the one hand, it was good to get out of stability and have my own business, but on the other, it was much more tiring. So, it has not been all that I had dreamed of. (H5)

Another situation that emerged from the content of the interviews was the fear of losing their jobs due to absences from work in order to attend health services. Thus, some participants reported that taking care of the wound was eventually neglected, as they preferred to miss medical appointments rather than having to leave work.

For fear of missing work, I held back; I didn't miss work; I didn't tell anyone at work that I had a problem. I didn't go to the doctor's at all because I knew that I was going to have to go on a sick leave and be paid by the National Institute of Social Security (INSS), so I was going to lose a great deal of my wages and would also be at risk of losing my job. (H14)

Participants reported that when they were on a sick leave or even on disability retirement, they continued working off the books because the amount that they received from the National Institute of Social Security (INSS) did not meet their needs, as it was not enough for their material subsistence.

I was a driver for many years and when I got the benefit, I had a lot of side hustles as a bricklayer. (H13)
Sometimes, I have side hustles as a servant because the money we receive is not enough; I have to buy medicines. (H8)

Participants pointed out that they needed the financial benefit of sick pay because they could not work. They also reported the mishaps of their constant going to INSS offices, as described below:

I would go to the INSS office; the doctors decided that was fit and I went back to work; then, I worked for one month, two months, and the wound would start to hurt and bleed with a lot of secretion, so I would go back to the INSS office; then, they would cancel my benefit and decide that I was fit again; I would go back to work and couldn't take it. Actually, this benefit was too little for my expenses, but since I couldn't work, it was better than nothing. (H11)

Another situation reported by the participants was the fact that when they were released by the INSS assessor to return to labor activities, they were not always able to stay at work for very long and were eventually sent back to the INSS office by the companies where they worked for a new assessment.

The doctor I used to see was the company doctor; the INSS office would call him and say that I could go back to work. I would work for 15 days, 1 month, and then I couldn't take it any longer, and the boss would send me to see the company doctor again. There were times when I only stayed on a sick leave for 15 days because the INSS office would not agree to disability retirement. (H11)

They also pointed out that when their retirement applications were denied by INSS, they had to appeal to obtain such benefit, as exemplified in the following statement:

In one of the assessments, I was seen by a very good doctor; she asked me to take off the bandage and asked if I worked. Then, she realized that I could not work and said that I was going to retire. I cried a lot because I wasn't able to work anymore. But, even though she had recommended my retirement, it was denied. I had to appeal; it was denied again. Then, the attendant asked me to wait a few days to appeal again. When it was approved, then, I cried again. (H14)

Among the interviewees, two of them were retired due to age, but because they considered their income insufficient to support themselves and their families, they had decided to continue working. One of them was self-employed and the other remained at the same company as a formal worker.

For me, continuing to work is necessary because there are times when I have to buy gauze, adhesive tape, bandages, and only my retirement money is not enough for survival. Then, I have to make an extra effort. (H20)

I have been retired since 1993, but I still work with a formal contract. My retirement pension is a minimum wage, so I need to work to support the house. I have been married for 50 years and my wife has never worked because I am responsible for the house. (H10)

Social Security regulates that workers, although retired by age, can continue to work in the formal market. On the other hand, if a worker has a labor accident, his rights will only be guaranteed within the limits of the company (a leave of 15 consecutive days), and he will not be entitled to any benefits if he remains incapable to work.

With this regard, one participant reported a situation in which he was not paid his wages because he had been on a sick leave for longer than 15 days, thus having to survive only on his retirement pension.

When I was hospitalized, my company paid me for the 15-day period that companies are held accountable for, but after that I still had to stay in hospital, and they did not pay me. I could not apply to INSS for a paid sick-leave benefit because of my retirement. I am not entitled to a sick-leave benefit because I am retired. (H10)

Of the interviewees who were retired due to disability, totaling ten men, three reported that they had continued to work off the books as a way to feel useful as well as due to the insufficient amount of their retirement pension and to work-related social appreciation.

Since I am retired, I can no longer work from a formal contract, but I have to work; what can I do? Today, I work as a car keeper, so I have my chair, and I can sometimes sit down. I know I need some time for my leg to get better, but out of necessity, I work. Also, I still feel useful active, productive. (H12)

Work promotes situations that protect people's subjectivity and make them feel pleasure. With this regard, working people feel useful and accepted by society. They have a feeling of belonging to the work context, maintain a social status and establish friendship ties. As regards friendship and interpersonal relationships, which were mentioned by the participants, they are strong protectors of human beings' subjectivity, since they help to ease the pain of a disease and also to build a social and material support network¹³.

Contradictorily, work can also compromise people's physical and mental health if it is unwholesome or has a fast pace and a great many requirements, a leader that demands from workers more than what their psychophysical capacity allows them to achieve or if there are no friendship or confidence relationships in the work environment. Thus, under the pressure imposed by formal work, people idealize that informality or even self-employment can be a solution to the tensions experienced in labor organizations. However, they find that all kinds of work bring some degree of suffering and, from this perspective, can result in feelings of frustration, discouragement and demotivation¹³, as described by the participant (H5).

Material subsistence is an indisputable basic necessity, especially considering our participation in the capitalist and consumerist society in which we live. With this regard, keeping one's wages is a matter of survival; therefore, situations that can endanger employment or wage income, such as a disease that limits one's productive capacity, are hidden and minimized¹⁴. In this perspective, sickness absenteeism or leaves of absence due to a pathological process are situations that are often seen as negative by bosses and supervisors. Considering the still hegemonic role of men in contemporary society, especially as home providers who are invulnerable to illness, it becomes even more difficult for them to leave work because of a disease¹⁵.

Regarding the legal issues involving workers in the formal market when they take a leave of absence, it is known that their employer must pay for the first 15 days of leave, but due to the size of the lesion and the extension of the affected limb, this period often becomes insufficient for a possible return to work. In such cases, workers will have an income through a sickness allowance, which is a benefit granted by the government to those who work with a formal contract and self-employed professionals who pay into the Social Security Program¹⁶.

The INSS sickness benefit is granted as compensation for temporary incapacity for more than 15 consecutive days, due to any situation to which the definition and legal equalization of incapacity for work can be applied¹⁶.

The purpose of the sickness benefit is to guarantee the monthly income of workers who are temporarily disabled to work due to illness or accident. This right is provided for in the Federal Constitution in article 201, which establishes that Social Security should provide coverage for illness events. In order to be entitled to the benefit, an insured individual must have fulfilled the minimum grace period of 12 payments to the Social Security Program (except for the cases of accidents and other pathologies provided for by law). Those insured by the Social Security Program are entitled to receive a sickness benefit while remaining ill and incapable, that is, for as long as the result of medical examination recognizes the existence of incapacity for work¹⁷.

Another point to note is that medical assessors can also refer insured individuals to professional rehabilitation services, propose a benefit review in two years, or recommend disability retirement¹⁷. They need to know about the circumstances of production, work process, movements performed during professional activities, risks and pathologies inherent to the activity of each insured person that they assess in order to establish the causality of the disease and its respective nexus¹⁸.

Illness has social determinants and disability assessment should take that into account. What is apparent from the participants' statements is that this situation is not considered by the assessors, and there is a lack of sensitivity to evaluate the socio-environmental, cultural, economic, political and labor issues that interfere with the health-disease-disability process¹⁸.

From the interviewees' statements, it was understood how deeply embedded in society is the sense of usefulness that work produces, as well as men's responsibility to be the providers of the home and family, as described in the statements by H10, H12 and H20. In this perspective, work is associated both with the supply of basic and consumption needs and with a way to remain useful, productive and accepted in society.

CONCLUSION

The existence of a venous ulcer in working men or in men at their working age was considered to cause psychological distress, in addition to the physical repercussions imposed by the wound and by venous insufficiency. The impacts on these men's subjective dimension involve the suffering of having to hide the fact that they have a wound for fear of unemployment. They relate to the feeling of incapacity to perform their work, refer to the need for retirement and to a reduction in people's earnings when they are granted sick pay as well as when they retire.

Finally, there are many situations that cause suffering for men with a VU, but the relationship of friendship and the embracement by co-workers when they are aware of that health problem alleviate such psychological distress. Moreover, it was found that work causes a feeling of usefulness, autonomy and belonging to the social world, not to mention that it fulfills financial needs.

Another important aspect is related to the fact that many participants were retired due to disability, which shows how much venous leg ulcers disable individuals to work. Thus, it is necessary to create public policies that contribute to these people's rehabilitation in order to enable a possibility of return to work activities with quality of life.

It is noteworthy that the study serves as a warning in relation to this complex and multifaceted health problem, as well as to encourage other researchers to investigate the subject so as to produce knowledge in order to promote care that fully meets individuals' needs and that can contribute to their return to and maintenance in the working world.

REFERENCES

1. Costa LM, Higino WJF, Leal FJL, Couto RC. Clinical and socio-demographic profile of patients with venous disease treated in health centers of Maceió (AL). *J. Vasc. Bras.* [Internet]. 2013 [cited 2019 Apr 26]; 11 (2): 108-113. Available from: <http://www.scielo.br/pdf/jvb/v11n2/v11n2a07.pdf>
2. Malaquias SG, Bachion MM, Sant'ana SMSC, Dallarmi CCB, et. al. People with vascular ulcers in outpatient nursing care: a study of sociodemographic and clinical variables. *Rev. Esc. Enferm. USP* [Internet]. 2012 [cited 2019 Apr 28]; 46 (2): 302-10. DOI: <http://dx.doi.org/10.1590/S0080-62342012000200006>
3. Silva MH, Jesus MCP, Merighi MAB, Oliveira DM, et. al. The daily life of men who lives with chronic venous ulcer: phenomenological study. *Rev. Gaúcha Enferm.* [Internet]. 2013 [cited 2019 May 23]; 34 (3): 95-101. Available from: <http://www.scielo.br/pdf/rgenf/v34n3/a12v34n3.pdf>
4. Oliveira BGRB, Nogueira GA, Carvalho MR, Abreu AM. The characterization of patients with venous ulcer followed at the Outpatient Wound Repair Clinic. *Rev. Eletr. Enf.* [Internet]. 2012 [cited 2019 Jan 10]; 14 (1): 156-63. Available from: <https://www.revistas.ufg.br/fen/article/view/10322/15568>
5. Carvalho ESS. Living sexuality with the body wounded: Women's and men's representations [doctoral dissertation]. Bahia: Universidade federal da Bahia; 2010.
6. Deodato OON. Assessment of the quality of care for people with venous ulcers attended by ambulatory a university hospital in Natal / RN [master thesis]. Natal: Universidade Federal do Rio Grande do Norte; 2006.
7. Fonseca C, Franco T, Ramos A, Silva C. The individual with leg ulcer and structured nursing care intervention: a systematic literature review. *Rev. Esc. Enferm. USP* [Internet]. 2012 [cited 2019 Jan 09] 46 (2): 480-6. Available from: <http://www.scielo.br/pdf/reusp/v46n2/a29v46n2.pdf>
8. Salomé GM, Blanes L, Ferreira LM. Evaluation of depressive symptoms in patients with venous ulcers. *Rev. Bras. Cir. Plást.* [Internet]. 2012 [cited 2019 May 16]; 27 (1): 124-9. Available from: <http://www.scielo.br/pdf/rbcp/v27n1/21.pdf>
9. Silva FAA, Moreira TMM. Sociodemographic and clinical characteristics of customers with venous leg ulcer. *Rev. enferm. UERJ* [Internet]. 2011 [cited 2019 Jun 23]; 19 (3): 468-72. Available from: <http://www.facenf.uerj.br/v19n3/v19n3a22.pdf>
10. Torres GV, Costa IKF, Medeiros RKS, Oliveira AKA, Souza AKG, Jéssica A, Mendes P, Rosa, F. The characterization of persons with venous ulcer in Brazil and Portugal: comparative study. *Enfermería Global* [Internet]. 2013 [cited 2015 Jan 25]; 32: 75-87. Available from: http://scielo.isciii.es/pdf/eg/v12n32/pt_clinica5.pdf
11. Conselho Nacional de Saúde. Resolução nº 466 de 12 de dezembro de 2012 [Internet]. Dispõe sobre pesquisa envolvendo seres humanos. Brasília: Ministério da Saúde; 2012 [cited 2019 June 25]. Available from: <http://conselho.saude.gov.br/resolucoes/2012/Reso466.pdf>
12. Bardin L. Content analysis. Lisboa: Editions 70; 2011.
13. Fonseca C, Franco T, Ramos A, Silva C. The individual with leg ulcer and structured nursing care intervention: a systematic literature review. *Rev. Esc. Enferm. USP.* [Internet]. 2012 [cited 2019 Jun 21]; 46 (2): 480-6. DOI: <http://dx.doi.org/10.1590/S0080-62342012000200029>
14. Natividade MR, Coutinho MCO. The work in contemporary society: the senses attributed by children. *Psicologia & Sociedade* [Internet]. 2012 [cited 2019 Jun 13] 24 (2): 430-9. Available from: <http://www.scielo.br/pdf/psoc/v24n2/20.pdf>
15. Knauth DR, Couto MT, Figueiredo WS. The standpoint of professionals on the presence and demands of men on the healthcare services: perspectives for the analysis of the implementation of the Comprehensive Healthcare Policy for Men. *Ciênc. Saude Colet.* [Internet] 2012 [cited 2019 May 17]; 17(10): 2617-26. Available from: <http://www.scielo.br/pdf/csc/v17n10/11.pdf>



16. Jakobi HR. Disability to work in Brazil: analysis of sickness benefits according to a cut-off of economic activity, diagnosis and geographical location [doctoral dissertation]. Brasília: universidade de Brasília; 2013.
17. Gass ECZ, Dexheimer GM, Lawisch GKS. Profile of the National Institute of Social Security beneficiaries retired due to disability in Rio Grande do Sul from 2010 to 2015. Cad. Saúde Colet. [Internet]. 2017 [cited 2019 May 17]; 25 (3): 278-85. DOI: <http://dx.doi.org/10.1590/1414-462X201700030244>
18. Junior AGP, Braga AMCB, Cruz AR. Evolution of worker's health in the social security medical examination in Brazil. Ciênc. Saude Colet. [Internet]. 2012 [cited 2019 May 10]; 17 (10): 2841-9. DOI: <http://dx.doi.org/10.1590/S1413-81232012001000031>