

Which people with traumatic paraplegia return to work?

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Abstract *This research aimed to investigate the factors that affect the return to work of individuals with traumatic paraplegia and to characterize post-injury work by means of a cross-sectional epidemiological study without statistical inference. The participants were patients at the Spinal Cord Injury Program of the Sarah Rehabilitation Hospital, Salvador, Brazil. The descriptive analysis used mean and standard deviation for continuous variables and proportions for categorical variables. Male predominated among the 42 respondents, with a mean age of 36 years. Mean schooling years was 9 years. Twenty-two respondents returned to work, 21 of which were in the informal labor market. Mean time to return to work was 3 years. The main reasons for returning to work were need for money, personal satisfaction and contact with other people. In this study, returning to work is relevant for adults with spinal cord injury, providing them with higher income and better quality of life. We also noted the importance of higher education level for the successful return to work. Therefore, it is necessary to improve the return to work process, the qualification and professional rehabilitation of these workers.*

Key words *Return to work, Paraplegia, Spinal cord injuries, Rehabilitation*

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Introduction

Traumatic spinal cord injury is one of the chronic diseases of modernity and one of the conditions with the greatest impact on human development. It has consequences that both change family routine and establish a new way of living for all members of the family¹.

The Sarah Network of Rehabilitation Hospitals is a reference in Brazil for the care of victims of polytrauma and locomotor problems. The Map of Morbidity from external causes, a set of predictable and preventable accidents and violence, is published on its Internet portal half-yearly. Admissions due to external causes accounted for 23% of all hospital admissions in the first half of 2012 and traffic accident was the main external cause of hospitalization in all the units of the Network. Most patients were young, single, males, educated to elementary school and urban residents².

The first moment after the spinal cord injury aims at self-knowledge and learning techniques to develop activities previously performed automatically and now requiring planning, such as body hygiene. Time necessary for this first moment is quite individual. Individuals must first recoup self-esteem and recognize the new body image and its functionality. Only then can they revive their life toward integrating themselves into society and reassuming their worker role.

The Brazilian legislation attempts to follow the advances in the world in relation to the rights of people with disabilities and, thus, has been showing important achievements in recent years³⁻⁶.

The right to work is ensured by the Statute of Persons with Disabilities (Law N° 13.146/2015). According to Art. 34: "A person with a disability has the right to work freely and acceptably in an accessible and inclusive environment, on an equal basis with other persons"⁶. The statute also assures the disabled the right to the habilitation and rehabilitation process (Article 14).

The right to retirement due to disability is reserved for those who cannot develop work activity after the injury, and are, according to Social Security's medical expertise, unable to perform their activities or other type of service that guarantees their livelihood. Retirement is discontinued when the insured regains capacity and returns to work⁷. Individuals not linked to Social Security with proof of monthly household per capita income of less than one quarter of minimum wage and who are considered by the medi-

cal expertise of the National Social Security Institute (INSS) unable to perform work are entitled to the Continuous Cash Benefit of Social Welfare (BPC/LOAS), a benefit paid by the Federal Government and operationalized by the INSS. The benefit will also cease to be paid when the conditions that gave rise to its concession have been overcome. According to data from March 2012, there are 3.6 million BPC beneficiaries in Brazil, of whom 1.9 million are people with disabilities⁸.

Work is an integral part of an adult's identity, for individuals are not recognized only by their name and address, but also by what they "do". In addition to being generators of income and learning, they also produce satisfaction and achievement.

By identifying that the spinal cord injury predominantly affects the young population at a productive age, this study aims to investigate the factors that interfere in the return to work of individuals with traumatic paraplegia and to characterize this work. This is a pioneer study in Brazil, because no papers were found in this country with "spinal cord injuries" and "return to work" descriptors in the Lilacs and Medline databases. Brazilian studies on return to work are usually related to work-related accidents or illnesses.

In order to consider the specificities of the issue analyzed in this study, return to work is being used here to represent the resumption of a regular formal or informal labor activity to obtain income for at least one hour a week, not necessarily in the same activity performed before spinal cord injury.

We highlight three factors hypothetically associated with return to work in adults with spinal cord injury: preservation of self-esteem, lack of depression and level of schooling, with positive influences on return to work; and the receipt of sickness or disability benefits, as discouraging return to work.

Methodology

This is a descriptive epidemiological study carried out from April to July 2014 with patients admitted to the Spinal Cord Injury Program of the Sarah Rehabilitation Hospital, Salvador Unit, Brazil.

The study population consisted of all individuals who met the following inclusion criteria: diagnosed with spinal cord traumatic paraplegia; completed the rehabilitation program of that institution for at least one year; at the end

of this program, was independent for all activities of daily living, defined by obtaining a score of 74 points or more on the motor scale of the Functional Independence Measure⁹ (this motor scale has 13 assessment items and the score varies from 13 to 91); wheelchair mobility; report of work activity before spinal cord injury; in the economically active age range, that is, between 18 and 65 years; hospitalized at the Sarah Salvador Hospital during the data collection period of this research, in order to enable the application of the study tools. The only exclusion criterion was to be a foreigner.

The follow-up of patients with spinal cord injury is continuous, even for those who have achieved complete independence in activities of daily living. This follow-up occurs for periodic evaluation of the urinary system and its possible complications, as well as other systems that may suffer change in their functioning due to spinal cord injury. Patients residing in Salvador, in general, are followed at the outpatient clinic, without requiring hospitalization.

The participants were selected by the evaluation of the electronic medical record of all 272 patients who entered the Spinal Cord Injury Program in the referred period. We identified 47 eligible patients and 42 accepted to participate in the study. Three losses were recorded, since they were short hospitalizations with discharge before the invitation to the survey; a patient refused and an individual was excluded because he was Turkish (due to the language barrier and not having worked in Brazil).

Tools used were the following:

- Questionnaires for the evaluation of demographic, socioeconomic, lifestyle and work data, prepared by the researcher;

- WHOQOL-bref quality of life questionnaire - questionnaire validated in Brazil¹⁰ and for the population surveyed¹¹; this tool contains 26 questions, the first two of which relate to the perception of quality of life and health, and the remainder address four realms: physical, psychological, social relationships and the environment;

- Beck Depression Inventory-II (BDI-II) – tool validated for the Brazilian population¹². It contains 21 items, with Likert type ascending four-point scale answers and is a non-diagnostic tool designed to identify the occurrence of depressive symptoms¹³.

The interview was carried out during hospitalization and questionnaires were applied by the researcher to all the research participants, except for the Beck Inventory, applied by the psychol-

ogist who works in the Spinal Cord Injury Program, a tool exclusively applied by psychologists.

Data were analyzed using the Statistical Package for the Social Sciences 21 (SPSS Statistics 21.0). Mean and standard deviation of the continuous variables and proportions of the categorical variables in the set were calculated according to the return to work to describe the study population. Age was categorized by quartiles.

The Research Ethics Committee of the Association of Social Pioneers (CEP/APS) approved the project. All participants were informed about the objectives and methodologies adopted and signed an Informed Consent Form (ICF).

Results

The mean age was 36 years and mean schooling was 9 years, where 5% completed elementary school, 31% secondary school and 7% higher education. The mean injury time was 10 years and the rehabilitation program started, on average, 18 months after the injury. The support network was provided by a spouse or companion (45%) and by siblings (29%), (data not shown).

Twenty participants did not return to work and 22 returned to work, five of which in the same pre-injury activity. Before the spinal cord injury, 18 participants performed regular activity in the formal labor market; of these, ten returned to work and began to perform informal activity. Only one person had a formal employment upon return to work, but she was an informal worker at the time of the spinal cord injury. The demographic, socioeconomic and spinal injury characteristics according to the return to work are shown in Table 1.

In general, considering the demographic, socioeconomic and spinal injury characteristics, most of the studied population was male (78.6%), had current work as a source of income besides retirement benefit (45.2%), with current income being higher than before the accident (50.0%); belonged to class C (61.9%), came from inland Bahia State (69.0%), did not live alone (83.3%), was married or lived with a companion (50.0%), used a combination of transportation means after injury (40.5%), had a formal work contract or was self-employed at the time of the injury (73.8%), whose injury derived from firearm bullet or automobile or motorcycle accident (83.3%), had a complete injury (73.8%) and was not a work accident (71.4%). Twelve patients had spinal cord injury during the exercise

Table 1. Demographic, socioeconomic and spinal injury characteristics according to return to work by patients with traumatic paraplegia, Hospital Sarah, Salvador, Bahia, Brazil, 2014.

Return to work Characteristics	Yes (n = 22)		No (n = 20)	
	n	%	n	%
Gender				
Men	17	51.5	16	48.5
Women	5	55.5	4	44.5
Age (years, per quartiles)				
1st quartile (31 years)	4	50.0	4	50.0
2° quartile (35.5 years)	7	53.8	6	46.2
3° quartile (41 years)	8	80.0	2	20.0
4° quartile (51 years)	3	27.3	8	72.7
Schooling (years of study)				
0	0	0.0	1	100.0
1 to 9 years	8	44.4	10	55.6
10 to 12 years	8	50.0	8	50.0
13 and over	6	85.7	1	14.3
Current income				
Same	2	33.3	4	66.7
Lower	9	60.0	6	40.0
Higher	11	52.4	10	47.6
Source of income other than pension (1)				
None	1	6.3	15	93.8
Current work	19	100.0	0	0.0
Public servant	1	100.0	0	0.0
Real estate rental	3	60.0	2	40.0
Other sources of income	2	50.0	2	50.0
Economic class				
A1/A2	1	100.0	0	0.0
B1/B2	9	81.8	2	18.2
C1/C2	12	46.2	14	53.8
D	0	0.0	3	100.0
E	0	0.0	1	100.0
Origin				
Salvador	1	33.3	2	66.7
Metropolitan Region of Salvador	0	..	2	100.0
Inland Bahia State	15	51.7	14	48.3
Northeast – Capital	2	100.0	0	..
Northeast – Inland	4	66.7	2	33.3
Living alone				
Yes	1	14.3	6	85.7
No	21	60.0	14	40.0
Marital status				
Single	7	46.7	8	53.3
Married or with companion	12	57.1	9	42.9
Separated or divorced	3	50.0	3	50.0

it continues

Table 1. Demographic, socioeconomic and spinal injury characteristics according to return to work by patients with traumatic paraplegia, Hospital Sarah, Salvador, Bahia, Brazil, 2014.

Return to work Characteristics	Yes (n = 22)		No (n = 20)	
	n	%	n	%
Children				
Yes	10	50.0	10	50.0
No	12	54.5	10	45.5
Transportation used (1)				
Own adapted car only	11	78.6	4	21.4
Friends or family car only	2	33.3	4	66.7
Own non-adapted car only	2	66.7	1	33.3
Taxi only	0	0.0	1	100.0
Combination of transportation means	7	41.2	10	58.8
Employment at the time of spinal cord injury				
Formally employed	8	50.0	8	50.0
Public servant	2	100.0	0	0.0
Self-employed	8	100.0	7	0.0
Informally employed	4	44.4	5	55.6
Etiology of injury				
Firearm bullet	9	50.0	9	50.0
Car or motorcycle accident	10	58.8	7	41.2
Fall from height	2	40.0	3	60.0
Melee weapon	1	50.0	1	50.0
Type of injury				
Complete	17	54.8	14	45.2
Incomplete	5	45.4	6	54.6
Work accident injury				
Yes	6	50.0	6	50.0
No	16	53.3	14	46.7
Was confirmed as work accident				
Yes	2	28.6	5	71.4
No	4	80.0	1	20.0
Received compensation				
Yes	2	100.0	0	0.0
No	4	40.0	6	60.0
Participated in a professional rehabilitation program				
Yes	0	..	0	..
No	22	52.4	20	47.6

Source: Research data.

Conventional sign used: .. Numerical data not applicable. (1)

Totals of response categories outweigh the subtotals of individuals due to the possibility of there being more than one option for the question.

of the occupational activity, seven of whom had a work-related accident and only two received compensation for this reason. None of the participants had access to any professional rehabilitation program (Table 1).

No significant differences were observed in the comparisons of groups according to gender, origin, marital status, children, cause of injury and complete or incomplete injury. However, some differences were noted. Considering the return to work, those who tended to be younger (86% under the age of 41, while 60% of those who did not return to work were under that age) and with higher schooling (six of them had 13 or more schooling years, schooling reached by only one who did not return to work). All those who had completed higher education returned to work and the only non-educated (illiterate) participant did not return to work. In addition, participants of this group revealed that they earned a retirement benefit/INSS benefit and income from the current job, had a higher share in economic classes A and B and of people who did not live alone, used predominantly only the own adapted car as transport, the cause of their injury was car or motorcycle accident and injury was complete (Table 1).

On the other hand, those who did not return to work reported more often not having any source of income other than retirement benefits, living alone and using the combination of transport for mobility. They were classified in the lower purchasing power levels, based on the Brazilian Criterion of Economic Classification¹⁴. In this group, there was greater recognition that injury originated from a work-related accident (Table 1).

In the BDI-II assessment, only two participants had mild depressive symptoms, which does not establish the diagnosis of depression. It was observed that quality of life assessed by the WHOQOL-bref in the physical and psychological realms was slightly better among those who returned to work. The current ability to perform work was greater among those who returned to work (Table 2).

With the application of the questionnaire on work, it was found that half of those who did not return to work received sickness benefits and the other half received disability retirement benefits, showing that all received some kind of benefit. Most of them did not try to work again. The greatest difficulty to return to work was accessibility. The most frequent reasons for not returning to work were not being able to perform the

previous activity, lack of opportunities, difficulty to work, low schooling, risk of being unemployed and without benefits (Table 3).

Among those who worked, 19 received some type of benefit (sickness or disability retirement), that is, only three of those who worked did not receive any kind of benefits. Most returned in the first two years after the injury. The current work had both physical and mental / intellectual requirements. A wide prevalence of self-employed in relation to other work relationships was observed. The average number of hours worked was five daily hours, and most of those surveyed worked at least five days a week (Table 4).

Fifteen participants reported having a hard time accessing the workplace and two of them said they did not have access to the restroom. The same number revealed that some adjustment in the workplace was necessary to allow own activity. The main interventions at the workplace were ramps, workload fit, restroom adaptation and increased doors' width (Table 4).

The main support networks mentioned in the study were family members, co-workers and bystanders, in this case, those working outdoors in the streets. Among the reasons for returning to work were need for money, personal satisfaction and establishing contact with other people. The main difficulties to return to work were accessibility, lack of public transportation and shortage of adapted buses. The main perceived facilitators to return to work were will power, owning an adapted car and work at home (Table 5).

Most said they were satisfied with their current job. Expectation to continue doing the current work in two years' time prevailed (Table 5).

Discussion

The results of this study are comparable to those in which spinal cord injury predominates in males aged 25-35 years and with a traffic accident-related injury¹⁵⁻¹⁷.

The main causes of traumatic spinal cord injuries (firearm injuries and traffic accidents) reflect the situation of violence experienced in Brazil today. In European countries and the United States, the main causes are traffic accidents, falls and sports accidents; injuries resulting from firearm, weapon or assault are rarely reported¹⁶⁻¹⁸.

Return to work for people with spinal cord injury is of great interest considering that the affected population is composed mainly of young male adults, probably providers of their house-

Table 2. Current characteristics of occurrence of depression, quality of life and ability to work, according to the return to work by patients with traumatic paraplegia, Hospital Sarah, Salvador, Bahia, Brazil, 2014.

Return to work	Yes (n = 22)		No (n = 20)	
	n	%	n	%
BDI (indicator suggesting evidence of depression)				
Minimum intensity	19	52.8	17	47.2
Light intensity	1	50	1	50
Moderate and serious intensity	0	..	0	..
Not evaluated	2	50	2	50
Realms of the WHOQOL-bref (quality of life indicator)				
Physical				
Mean	65.2		58.7	
Standard Deviation	8.9		14.3	
Psychological				
Mean	70.1		66.2	
Standard Deviation	11.2		10.5	
Personal Relationships				
Mean	69.3		70.8	
Standard Deviation	21.7		11.9	
Environmental				
Mean	60.4		59.2	
Standard Deviation	19.4		14.8	
Current work capacity (scale from 0 to 10)				
Mean	8.3		5.3	
Standard Deviation	1.6		3.2	
Minimum	5		0	
Maximum	10		10	

Source: Research data.

hold's subsistence and at the peak of their professional life.

The observed rate of return to work far exceeded what was expected from the initial assumptions.

None of the participants was diagnosed with depression, nor did they show signs suggesting depression under the BDI-II evaluation. Thus, depression was not identified as a health problem in the groups analyzed according to the return to work, thus not contributing to distinctions between these groups.

Results were consistent with the hypothesis that schooling interferes with return to work because the level of schooling of respondents who were working was better than that of those who were not. Therefore, an agreement with most of the reviewed studies was noted, which refer to high schooling as the main predictor of return to formal work after spinal cord injury^{18,19}. These studies highlight the importance of schooling not only to return to work but also to improve pay. A major obstacle for those injured who wish to improve their schooling is the limitation im-

posed by architectural barriers²⁰. In addition, Franceschini et al.¹⁷ emphasize the importance of rehabilitation programs in training skills to drive and use public transport, allowing greater mobility.

Lastly, the receipt of retirement or sickness benefits did not restrict return to work because the observed return was predominantly for informal work activities, with control over workload and number of days worked, and work was a complement to already guaranteed income from disability retirement or sickness benefits.

In this study, return to work was considered as a regular activity to obtain income. In general, studies also use activity with income and not only the formal activity as a criterion. Despite initial expectations that return to work would have a low prevalence in our study, the 52% finding was similar or even higher than in first world countries, for example: 67% in the Netherlands¹⁹, 46% in Australia²¹, 47% in Sweden²², 35% in Norway¹⁶, 39% in the United States¹⁵, 64% in Switzerland¹⁷ and 35% in Italy¹⁸. However, if we consider the return to regular labor activity in the formal

Table 3. Information on patients with traumatic paraplegia who did not return to work, Hospital Sarah, Salvador, Bahia, Brazil, 2014 (n = 20).

	n	%
Sickness benefits (1)		
Yes	10	50
No	10	50
Disability retirement (1)		
Yes	10	50
No	10	50
Tried to return to work		
Yes	3	15
No	17	85
Difficulties to return to work (2,3)		
Accessibility		
Fear of being unemployed	2	
Relying on someone else to take out and put the wheelchair in the car	1	
Stress to complete 8 hours work	1	
Why aren't you working? (3,4)		
I cannot perform the previous activity	8	
Few opportunities	5	
Low schooling	4	
It is hard	4	
Risk to be unemployed and without benefits	3	
Fear of skin injury	2	
Dedicated to studies	2	
Dedicated to public examination	2	
Other reasons	8	

Source: Research data.

(1) Those who receive sickness benefits do not receive disability retirement and vice versa. (2) Asked only those who attempted this return. (3) Totals of response categories outweigh the subtotals of individuals due to the possibility of there being more than one option for the question. (4) All were asked this question.

labor market, the rate of return was inexpressive.

Some authors reflect the difficulty of comparing rates of return between different countries, in view of differences in social support and insurance systems, as well as different social and labor market policies^{16,22}.

It is important to point out that the rate of return observed in this study is low when compared to the estimated employment rate in a monthly survey conducted by the Brazilian Institute of Geography and Statistics (IBGE), of 77% for the general population in Brazil and 73% in the metropolitan region of Salvador, in November 2014²³.

Table 4. Information related to the current work of patients with traumatic paraplegia who returned to work, Hospital Sarah, Salvador, Bahia, Brazil, 2014 (n = 22).

	n	%
Sickness benefits (1)		
Yes	8	36.4
No	14	63.6
Disability retirement (1)		
Yes	11	50
No	11	50
Time to return to work (years)		
≤2	12	54.5
3-5	8	36.4
8-11	2	9.0
Mean	3.18	
Standard Deviation	2.57	
Current work requirements		
Mental/intellectual	3	13.6
Physical	2	9.1
Both	17	77.3
Current employment		
Public servant	1	4.5
Self-employed	18	81.8
Informally employed	3	13.6
Daily workload (hours)		
Mean	5	
Standard Deviation	2.01	
Number of days worked in a week		
1	2	9.1
2	2	9.1
3	1	4.5
4	4	18.2
5	8	36.4
6	3	13.6
7	2	9.1
Access to rooms needed at work		
Yes	7	
No	15	31.8
No access to restroom	2	68.2
Interventions at the workplace		
Yes	15	68.2
No	7	31.8
Main interventions at the workplace (2)		
Ramps	8	36.4
Workload adjustment	7	31.8
Restroom fit	3	13.6
Increased doors width	3	13.6

Source: Research data.

(1) Those who receive sickness benefits do not receive disability retirement and vice versa. (2) Totals of response categories outweigh the subtotals of individuals due to the possibility of there being more than one option for the question.

Current income and income at the time of the spinal cord injury were compared including

Table 5. Information related to the return to the current work, facilitators and satisfaction with work of patients with traumatic paraplegia who returned to work, Hospital Sarah, Salvador, Bahia, Brazil, 2014 (n = 22).

	n	%
Support network at work (1)		
No one	2	9.1
Colleague	7	31.8
Boss	1	4.5
Family member	10	45.4
Student	2	9.1
Security people	2	9.1
Bystander	3	13.6
Employees	1	4.5
Reason for return to work (1)		
Establishing contact with other people	11	50
Personal satisfaction	15	68.2
Need money	17	77.3
See abilities and overcome limits	1	4.5
Not to stay idle	2	9.1
Main difficulties identified to return to or keep work (1)		
Accessibility	15	68.2
No public transport	10	45.5
Few adapted buses	4	18.2
Feeling as if no one believes in you	3	13.6
Impossible to keep the previous activity	3	13.6
Low schooling	3	13.6
Main facilitators to return to or keep work (1)		
Will power	10	45.5
Having an adapted car	9	40.9
Work at home	5	22.7
To have participated in the rehabilitation program	3	13.6
Go back to study	3	13.6
Not feeling intimidated	3	13.6
Work satisfaction		
Very dissatisfied	1	4.5
Dissatisfied	0	0
Not satisfied, nor dissatisfied	6	27.3
Satisfied	9	40.9
Very satisfied	6	27.3
Expectation to continue in current work two years from now		
It's improbable	0	0
It's not quite certain	2	9.1
Very probable	20	90.9

Source: Research data.

(1) Totals of response categories outweigh the subtotals of individuals due to the possibility of there being more than one option for the question.

cord injury should be understood as raising incomes (income from work and social benefits) compared to the pre-injury period, when there was only work-generated income. In addition to disability or sickness benefits, some unemployed also receive a 25% increase due to the need for third-party assistance. If the work is informal, the worker assumes the labor income as a complement to the social benefits, accumulating these two receipts.

Considering the great relevance of work in the life of individuals, both as personal fulfillment and in their social role, rehabilitation services and social security must be structured to provide the necessary support to these citizens so that they may, if they so wish, be supported, oriented and stimulated to return to work. While Brazilian legislation accompanies the international decrees and laws in order to encourage and provide conditions to return to work, this is not reflected in the reality of participants of this research. Many revealed difficulties in accessibility, one of the main obstacles to living in a community environment. None of them underwent a professional rehabilitation program, and, in this regard, the active role of Social Security was not observed.

Another revealed fact was the importance of family support at work, reported by 45.4% of those who returned to work. Many of them performed activities at home and some who performed activities outside the residence referred to the importance of family members assisting in handling the wheelchair (placing it in the luggage compartment) or aiding in the activity itself, such as street vending, in which it is necessary to unload goods from the car trunk to arrange them in the place of exhibition (example mentioned by one of the respondents).

It is also worth mentioning that the return to work for 54% of respondents occurred in the first two years after the spinal cord injury accident, denoting a short time to adapt to the new reality and resume the work activity or start to perform another type of activity. An even smaller interval was observed in a study carried out in the Netherlands, where the mean time to return to work was 12 months¹⁹. In a study conducted in Malaysia, mean time to return to work was 4.9 years²⁴.

The option to perform the study with only paraplegic patients and who had been totally independent for at least one year was intended to evaluate the situation in Brazil for those who have the best potential of coexistence in a community environment. In first world countries,

social benefits as income. Thus, the fact that most reported that their income is higher after spinal

issues related to accessibility, income and schooling are at a much higher level, such that some publications mention no difference in return to work rates between paraplegics and quadriplegics^{17,22}. Franceschini et al.¹⁷ correlate the higher level of schooling with a greater probability of being employed, also with the support of research that indicates that, in these cases, physical limitations interfere little since intellectual capacities are used.

This reality is quite distant from that shown in Brazil, where community environments still lack adaptations to allow accessibility for both wheelchair users and anyone with mobility-related difficulty. Investigating accessibility in a community environment was not the purpose of this study, but when we questioned accessibility at the workplace, we found that reality is even more complex. More than half of those who were working said they did not have access to the rooms they needed at work and two of them said they did not have access to the restroom. In a study carried out in the Netherlands, 45% of those who were working at the time of the research mentioned the need for workplace fits related to furniture or restroom facilities¹⁹.

This study had some limitations. The number of respondents was small and no random sampling was performed, hindering statistical

inferences and generalization of results impossible. Interviews were restricted to hospitalized patients, mostly from small cities, with lower employment opportunities and greater accessibility-related difficulties. It would have been interesting to have more participants from the capital, where the hospital is located, to obtain a broader scope of analysis and to be able to compare these different situations. Therefore, generalizable studies are required, encompassing population and regional diversity and with greater capacity for accessibility analysis.

In conclusion, the return to work in this study is relevant for adults with traumatic paraplegia, insofar as we evidenced a better quality of life, greater income and greater purchasing power among the injured who were working, in relation to those who did not return to work. We also showed the importance of a higher level of schooling for a successful return to work. We observed a relatively high rate of return to work, but in informal, lowly paid activities, without regulation and assurances. The study therefore reveals the need to improve the return to work process, in particular regarding the qualification of adults with spinal cord injury and the adaptation of transportation and working spaces and conditions so that such individuals can effectively return to work and sustain their activities with quality.

Collaborations

MCNS Calliga was responsible for the design and delineation of the article, participated in all stages of the research, bibliographic review, data collection, database preparation, descriptive analysis and writing of the manuscript. LA Porto contributed to the bibliographic review, the analysis and interpretation of the data and the writing of the article. The authors performed a critical review of the version of the article sent to the journal.

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Article submitted 15/04/2016

Approved 15/09/2017

Final version submitted 17/09/2017