

ARTIGO ORIGINAL

Retorno ao trabalho em amputados dos membros inferiores

Return to work in lower limb amputees

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RESUMO

Introdução: A reabilitação de um paciente amputado de membros inferiores tem como metas a aquisição de independência funcional para atividades da vida diária e locomoção e promoção de inclusão social integral. O retorno ao trabalho deve ser incentivado, pois proporciona bem estar, melhora da auto-estima e do convívio social, além de dar mais um sentido a vida. **Objetivo:** Verificar a situação atual de trabalho e o uso de próteses de membros inferiores em amputados atendidos no Lar Escola São Francisco - Centro de Reabilitação - UNIFESP, São Paulo. **Material e métodos:** Estudo retrospectivo dos pacientes atendidos de 1999 a 2005, com amputação de membros inferiores, com idade acima de 18 anos, que estivessem trabalhando ou estudando na época da amputação. A amostra foi composta por 78 amputados, 61 homens e 17 mulheres, com média de idade de 46,3 anos. Cinquenta por cento eram transfemorais e 34,6% transtibiais. A vasculopatia foi a mais prevalente das causas de amputação (62,8%). Cinquenta e um pacientes (65,4%) tinham grau de instrução fundamental. Realizada entrevista, por telefone, no período de dezembro de 2006 e janeiro de 2007. **Resultados:** Sessenta e quatro por cento dos pacientes estavam em uso de prótese de membro inferior no momento da entrevista. A taxa de retorno ao trabalho foi de 10,2%, sendo todos para a mesma ocupação pré-amputação. **Conclusão:** Baixa taxa de retorno ao trabalho de amputados de membros inferiores reabilitados com próteses. Alguns fatores, tais como, idade avançada na época da amputação e baixo nível de instrução podem ser responsáveis por estes resultados. Outros estudos precisam ser realizados para melhor análise desta situação.

PALAVRAS-CHAVE

amputação, membros inferiores, trabalho

ABSTRACT

Introduction: The main rehabilitation objectives for the lower-limb amputee patients are: functional independence in their activities of daily living, locomotion and community reintegration. The return to work must be encouraged, as it promotes well-being, improves self-esteem and social integration and gives life a new meaning. **Objective:** To verify the work status and use of prosthetic lower limbs of amputee patients seen at Lar Escola Sao Francisco Rehabilitation Center - UNIFESP, Sao Paulo. **Material and Methods:** Retrospective study with patients seen between 1999 and 2005, presenting lower limb amputation and at least 18 years of age, working or studying at the time of the amputation. The sample consisted of 78 patients, 61 men and 17 women, with a mean age of 46.3 years. Amputation level was transfemoral in 50% and transtibial in 34.6% of the patients. Vascular diseases were the most prevalent cause of amputation (62.8%). Fifty-one patients (65.4%) had finished Elementary School. The interview by phone was carried out from December 2006 to January 2007. **Results:** Sixty-four percent of all patients used prosthetic lower limbs. A total of 10.2% of the amputee patients returned to work after a lower-limb amputation, and all of them returned to the same work they did before the amputation. **Conclusion:** Few amputee patients return to work after rehabilitation with prosthesis. Many factors, such as older age at the time of amputation and low level of schooling may be the cause of these results. Further studies are necessary for a better analysis of this outcome.

KEYWORDS

amputation, lower limb, work

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INTRODUCTION

The amputation of a lower limb is a great challenge to be overcome. Its occurrence brings severe changes in the esthetical aspects, self-esteem, mobility and capacity to perform daily living activities, work and leisure activities. Rehabilitation aims at adapting the individuals to their new condition and fostering their full inclusion. The return to work is, undoubtedly, an important moment in this new phase, as it promotes well-being, improves self-esteem and social integration and gives life a new meaning¹.

Regarding disabled individuals in general, amputees are in general the ones with the best return-to-work rates, when compared to those with neuromuscular disease, stroke sequelae and multiple sclerosis, among others². And these chronic patients are the ones who report the great importance of maintaining the work activity and feel satisfied with and are gratified by their work activity, as shown by *Schoppen et al.*³

Some studies have demonstrated the characteristics and the positive factors in lower-limb amputees that are related to the return or not to work, with or without professional readaptation^{1,3-6}.

The first reports on this subject had a multidisciplinary and individualized approach followed by early prosthetization as the essential factors for the success of the rehabilitation and the amputee's return to work⁴.

Millstein et al.⁽⁴⁾ carried out a renowned study with amputees due to work accidents, which showed that 89% of them returned to work, and 75% of these changed their work activity, going from more physically demanding jobs to more sedentary and intellectually complex ones. Regarding the changes in the social environment at work, more than 50% of the patients interviewed reported a bad aftermath after the amputation, with fewer chances of promotion and pay raise. The positive factors identified to be employed after an amputation procedure are: prosthetization, promoting better mobility and the individual's own attitude and willpower. Phantom pain, female gender, age older than 45 years and higher-level amputations were the factors identified in the individuals who remained unemployed after the amputation procedure.

In the studies carried out by *Schoppen et al.*^(2,3), 64% of the amputees were working and 31% were unemployed at the time of the study, but had worked after the amputation. Comparatively with the healthy population of the Netherlands, there was no significant difference in the employment rate. The older age at the time of the amputation was shown to be a negative factor that influenced the return to work, in addition to the lower level of schooling. The use of an adequate and comfortable prosthesis was shown to be a positive factor influencing the achievement of a new job.

Phantom or stump pain was not identified as a factor that decreased the chances of work or prevented the individual from working, but it was observed that the more present the pain is, the lower the return-to-work rate is⁷.

Another noteworthy point, regarding amputees in the work environment, concerns the level of satisfaction regarding the activity being performed. In most cases, the individuals report being

satisfied with their jobs, although they present comorbidities and difficulties of promotion in their careers⁸.

OBJECTIVE

The objective of the present study is to carry out a quantitative analysis of lower-limb amputees treated at the Amputation and Prosthesis Group (GAP) of the Discipline of Physical Medicine of the Department of Orthopedics and Traumatology of the Federal University of São Paulo – UNIFESP – Lar Escola São Francisco Rehabilitation Center, verifying the current use of prosthesis and the return-to-work rate.

MATERIAL AND METHODS

Data were obtained from the medical files of new cases of lower-limb amputation treated at the Amputation and Prosthesis Group (GAP) of the Discipline of Physical Medicine of the Department of Orthopedics and Traumatology of the Federal University of São Paulo – UNIFESP – Lar Escola São Francisco Rehabilitation Center between 1999 and 2005. Those older than 18 years who were working, seeking work, studying or attending continuing education classes at the time of the amputation were selected. The retired individuals as well as the unemployed and those who were not seeking work or those who performed housework were excluded.

The interview was carried out by telephone between December 2006 and January 2007, to verify the current work/occupation status and use of lower-limb prosthesis. The quantitative analysis of the data was performed to characterize the present study sample.

SAMPLE CHARACTERIZATION

A total of 221 medical files of patients with lower-limb amputations were reviewed and 72 (32.6%) of them did not fulfill the inclusion criteria, being excluded from the final analysis. Of the 149 patients included in the present study, 78 (52.3%) were interviewed by telephone and 71 (47.6%) were not located.

The total population studied (78) consisted of 61 (78.2%) males and 17 (21.8%) females, aged 19 to 70 yrs at the time of the amputation and with a mean age of 46.3 yrs.

Regarding the level of schooling: 6.4% (5) were illiterate; 44.9% (35) had not finished Elementary School*; 20.5% (16) had finished Elementary School*; 2.5% (2) had not finished High School**; 10.2% (8) had finished High School; 11.5% (9) had finished College and 3.8% (3) did not provide this information. The classification used at the time of the recordings currently corresponds to: *Elementary School, **High School and ***College or University.

We observed 50% of transfemoral amputations, 34.6% of trans-tibial amputations and 7.7% of partial foot amputations. Bilateral amputations, at different levels, occurred in 7.7% of the cases.

The vascular etiology was responsible for 62.8% (49) of the amputations; trauma occurred in 28.2% of the cases (22); infection affected 6.4% (5) of the patients and tumors 1.3% (1); 01 patient

was amputated due to a different reason (1.3%).

The period between the amputation and the time of the study varied from 1 to 23 years, with a mean of 6.4 years. At the time of the amputation, mean age was 46.3 years.

The occupations were classified as one of the following categories: rural, industrial/production, transportation, administrative/commerce, services and scientific/technical. The studied population consists of 01 rural worker (1,3%), 18 individuals employed at the industry and production area (23.0%), 6 employed in the transportation area (7.7%), 6 in commerce and administrative services (7.7%), 35 employed in the service area (44.9%), 9 in the technical and scientific knowledge area (11.5%) and 1 was unemployed at the time of the amputation (1.3%).

RESULTS

Of the contacted individuals, 54 have retired or are on sick leave (69.2%). Of these, one retirement due to age limit and two sick leaves due to pathologies indirectly related to the amputation were reported. Three (3.8%) retired individuals declared they practiced some parallel activity to complement the retirement pension.

Only eight patients (10.2%) returned to work and kept the same professional activity they had prior to the amputation. A small number (9.0%) has chosen not to have any professional activity and two of the interviewed individuals (2.6%) referred that they have not found work, but are still looking for it. The characteristics of the amputees that returned to work are: six of them are younger than 45 years and the other two were 59 and 61 years at the time of the amputation; three of them finished Elementary School and five finished College. The amputation levels were: five transtibial, one partial foot amputation and two transfemoral; the etiologies were: 5 traumatic and 3 vascular cases.

Seven deaths (9.0%) occurred between the first medical visit and the current interview.

Fifty patients (64.1%) use lower-limb prostheses. Those who do not use prostheses report problems with prosthesis adaptation and comfort and few reported lack of financial funds to acquire it. Only one patient reported using a wheelchair for long-distance locomotion, although he was a prosthesis user.

Of the amputees that returned to work, all are prosthetized.

DISCUSSION

A different reality was observed in the present study in comparison to previous reports that dealt with professional relocation of lower-limb amputees. A population characterized by elevated mean age at the time of the amputation, a higher prevalence of vascular etiology, amputations at high anatomical levels and low degree of schooling contrasts with the epidemiological profile of European populations described by several authors^{2,3,5,6}. Factors that were not shown in this study, but are broadly known at the rehabilitation centers throughout the country, such as delay in referral and in the inclusion of the amputee in rehabilitation programs and socioeconomic problems, are also strongly determinant characteristics of the

final outcome of all the work carried out by the multidisciplinary rehabilitation team.

Only 10.2% of all the amputees returned to work, in contrast with rates described by others authors, which varied from 58.3% to 89%^{1-3, 5,6}.

The distribution of the patients in the different work categories also differs from that observed in the study by *Schoppen et al*², in which many of the workers were from the industry and transportation areas and subsequently changed to a more intellectual activity that demanded less physical effort. It was observed in our sample is that the population is concentrated in the area of services, followed by industry. The justification for the almost inexistent change of work category among the amputees that returned to work can be extrapolated from this fact, as they previously performed more intellectual work.

Despite the small sample size of individuals that remained active after the amputation, the positive factors mentioned by prior studies can be observed regarding the return to work, as our patients that returned to work underwent the amputation at a younger age, had a higher degree of schooling and were prosthetized³.

There are many negative factors that lead to such a high incidence (69.2%) of retirement observed in the sample. High mean age at the time of the amputation, more prevalent vascular etiology, generally associated with important comorbidities that impair rehabilitation, low degree of schooling, inadequate or poorly adapted prosthesis, miscellaneous psychosocial factors and socioeconomic conditions are some of the main factors to be considered.

The study presents limitations to establish associations between positive and negative factors that influence the return to work of lower-limb amputees, as it is a merely descriptive study and it does not deal in depth regarding important points for the success of rehabilitation, such as the presence of phantom pain and the adaptation to and satisfaction with the prosthesis. It also presents, as another limiting factor, the loss of a large amount of data due to the lack of update and errors contained in the patients' files.

CONCLUSION

The number of lower-limb amputees treated at our service that returned to work after the amputation is low (10.2%).

REFERENCES

1. Bruins M, Geertzen JH, Groothoff JW, Schoppen T. Vocational reintegration after a lower limb amputation: a qualitative study. *Prosthet Orthot Int* 2003 Apr; 27(1): 4-10.
2. Schoppen T, Boonstra A, Groothoff JW, de Vries J, Goeken LN, Eisma WH. Employment status, job characteristics, and work-related health experience of people with a lower limb amputation in The Netherlands. *Arch Phys Med Rehabil* 2001 Feb; 82(2): 239-45.
3. Schoppen T, Boonstra A, Groothoff JW, van Sonderen E, Goeken LN, Eisma WH. Factors related to successful job reintegration of people with a lower limb amputation. *Arch Phys Med Rehabil* 2001 Oct; 82(10): 1425-31.
4. Millstein S, Bain D, Hunter GA. A review of employment patterns of industrial amputees-factors influencing rehabilitation. *Prosthet Orthot Int* 1985 Aug; 9(2): 69-78.
5. Fisher K, Hanspal RS, Marks L. Return to work after lower limb amputation. *Int J Rehabil Res* 2003 Mar; 26(1): 51-6.

6. Mezghani-Masmoudi M, Guermazi M, Feki H, Ennaouai A, Dammak J, Elleuch MH. The functional and professional future of lower limb amputees with prosthesis. *Ann Readapt Med Phys* 2004 Apr; 47(3):114-8.
7. Ide M, Obayashi T, Toyonaga T. Association of pain with employment status and satisfaction among amputees in Japan. *Arch Phys Med Rehabil* 2002 Oct; 83(10): 1394-8.
8. Schoppen T, Boonstra A, Groothoff JW, De Vries J, Goeken LN, Eisma WH. Job satisfaction and health experience of people with a lower-limb amputation in comparison with healthy colleagues. *Arch Phys Med Rehabil* 2002 May; 83(5): 628-34.