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Title

Influence of phantom pain in spanish lower limb amputees.

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Summary

This study aims to understand the influence of phantom pain in lower limb amputees' quality of life through the use of the Prosthetic Evaluation Questionnaire (PEQ). The presence of phantom pain reduced the scores in the AM, SB and WB subscales.

Introduction/ basics

The use of clinical measurement and evaluation tools allows the technicians to apply them in view of the need to obtain a perception of individual patients or the health status of a given population(1). Patients who suffer a lower limb amputation are faced with several changes in their lives(2), from the establishment of a physical disability that, in turn, can lead to a social disassociation and even increase the propensity for depression, anxiety and social isolation(3) that can influence the quality of life, namely its reduction(2). For that reason, the quality of life is an important outcome to be taken into account during rehabilitation(2). Due to its pertinence, it became interesting to evaluate it through the application of the PEQ. Phantom pain, defined as painful sensations in the limb, can be a factor of health and quality of life in amputees(4). This sensation can influence significantly on work and interfere with sleep and everyday activities(5).

Material method; implementation/ process

The data collection will be carried out through the PEQ in amputees with unilateral lower limb amputation at the transtibial and transfemoral levels, whatever the etiology of the amputation. Lower limb amputees 18 years and above from rehabilitation clinics (in Madrid and Barcelona) were recruited (n = 45). Demographic data and clinical data of our interest were collected with their authorization. The PEQ was applied to the subject after the visit purpose and, when all data was collected, it was then analyzed in the SPSS program and interpreted to determine

which data has influence over the quality of the patient's life. This study was approved by the Ethics Committee of Escola Superior de Tecnologia da Saúde de Lisboa.

Results

Our study had the participation of 45 amputees, with almost two thirds of these amputees being part of the sample from Madrid and the rest from Barcelona, 27 were male amputees (60%) and 18 female (40%), and the mean age of all participants was 44.3 years (range 22-80; SD=13,72). As for the level of amputation, 22 transtibial amputees, 20 transfemoral amputees, while knee disarticulation is present in a minority, with only 3 amputees (9.7%). The most common aetiologies in this sample are traumatic with 24 participants, due to neoplasia with 12 participants, followed by vascular (5), infectious process (3) and congenital (1). Gender was a factor that we found to influence some subscales of the PEQ, namely, it was possible to verify statistically significant differences in the FR subscale, the female gender presents significantly lower values compared to the male gender, which means, that the female gender is more frustrated than the male gender. Pearsons correlation on the V7D question of the PEQ with the validated subscales was used to obtain the results. We were able to verify that, in fact, the presence of phantom pain in amputees influences the quality of life regarding the use of the prosthesis, and we found statistically significant differences in 3 of the 9 subscales. In the AM subscale ($r=-0.304^*$), in the SB subscale ($r=-0.329^*$) and in the WB subscale ($r=-0.319^*$).

Discussion/ conclusion; conclusion for the practice

In our results phantom pain affects AM subscale and in a study by Van der Schans et al. (5) it can be verified that amputees with phantom pain had a median walking distance of 100-500 meters and without phantom pain, the median distance was 500-1000 meters(5). It can be argued that amputees with phantom pain have a shorter walking distance compared to amputees who don't have phantom pain, influencing their ambulation and, consequently, their quality of life, which, according to this research, amputees with phantom pain have a poorer quality of life(5). The SB subscale in our research was influenced by phantom pain, as in the article by Bosmans et al.(6), where the phantom pain influenced the social well-being, preventing them from achieving and performing various tasks, the amputees end up skipping certain activities, work or losing contact with their family and friends. Concluding that the more

an amputee had phantom pain the lower the amputees social well-being(6). The last subscale influenced by phantom pain was the WB, where we can verify the same results in the article by Padovani et al.(7) that the patients with phantom limb pain have a worse quality of life, which is mostly due to impairments in everyday activities and an increase in anxiety. We can then conclude that our results are according to the scientific evidence and that phantom pain is a factor that influences quality of life with the use of prosthetics, in the AM, SB and WB subscales

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