Depression in Amputation Patients

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ABSTRACT
Amputation alters the quality of life with an undeniable negative somatic and functional impact. The patient’s general mobility is impaired and there is an increase in metabolic needs as well as pain and discomfort. Etiologies are quite diverse: essentially vascular pathologies (74%) for the lower limbs and trauma related (61%) for the upper limbs. Thus, an important number of patients have to face amputation-related consequences. Pain (stump, phantom limb, back pain) is frequently described in 65 to 75% of patients after an amputation as well as the common onset of major depressive disorders for 35% of them. With the incidence of depression after limb amputation increasing in the patients, we sought to summarize the management of depression in amputation patients.

Introduction
Amputations are characterized by the removal of an organ/limb or part thereof located at the end of the human body. Etiologies leading to amputation are various and can be divided into vascular causes, such as diabetes mellitus, atherosclerosis and vasculitis, as well as nonvascular causes as trauma, neoplasia, burns, congenital or infectious conditions.¹

Traumatic limb amputation leads to higher levels of anxiety, depression and emotional stress in the individual. Adaptation to this event encounters a large number of physical changes such as impairments in physical functioning, prosthesis use, pain, changes in employment status or occupation and alterations in body image. This can precipitate other compounding psychosocial factors such as lack of social acceptance, relationship breakdown, alcohol dependence and drug abuse. Depression, anxiety and post-traumatic stress are among the predictors of poor long-term Quality of Life (QOL) and reliance on pain medication. The impact of all these on the life of the patient and the caregivers is important for treatment, rehabilitation and social care services. It has also been linked to the development of health service designs and allocation of adequate funds and resources. Each person has his own method of dealing with this loss and it has been shown that hoping for a better outcome and social support play an important role in positive adjustment.²

Methods
A systematic review of the literature was conducted in the Medline and Pubmed databases, searching articles from 2001 to 2021. The references of the articles selected were taken into account and articles corresponding to inclusion criteria but not found in the initial search were also selected. A Grey Literature search was also conducted using Google. Keywords used were “depression,” “amputation,” “anxiety”. A first abstract-based selection of articles
was conducted independently by the author in order to retain articles on therapeutic patient education in patients who underwent amputation of the upper or lower limbs. Once the articles selected, the full texts were read thoroughly. A first reading was done to discard articles not directly related to therapeutic education after limb amputation.³

Results

Emotional factors

Much research on emotional processing in chronic pain has focused on comorbid anxiety and depression, which have a high prevalence in chronic pain. For example, a health survey in a representative German sample found an interview-based prevalence of 8.1% for chronic pain disorder. Compared to the healthy population, the 12-month prevalence for anxiety disorders was significantly elevated in both male (33% versus 7%, odds ratio = 5.65) and female (37% versus 20%, odds ratio = 2.69) chronic pain patients. Mood disorders were also significantly more prevalent in chronic pain patients compared to pain free participants (men: 30% versus 7%, odds ratio = 5.48; women: 30% versus 15%, odds ratio = 2.69). In line with the role of anxiety and mood disturbances (especially depression) in chronic pain, similar relationships can also be expected for chronic PLP. In the following sections, we will summarize findings on the role of depression and anxiety in PLP and will show that it is important to take specific characteristics of the sample into account, especially whether the sample consisted of amputees in early or later stages after amputation and whether concomitant pain was present.⁴

Depression and anxiety in early-stage amputees

Especially in early stages after amputation, comorbidity rates of mental disorders in amputees can be related to factors other than PLP. Factors like chronic diseases leading to the amputation, traumatization, secondary pain, disability caused by the amputation, and adaptation to the new situation can give rise to anxiety and depression independently of PLP. Modulation of pain by emotional factors may therefore be different in early and late stage amputees. For example, Shukla et al. reported high rates of depression (about 50%) and anxiety (above 35%) in amputees in the postoperative phase, regardless of PLP.

In contrast, in samples that were more heterogeneous in age, time since amputation, or the cause of amputation, prevalence rates for depression and anxiety were lower than the rates reported by Shukla et al. for recently amputated participants. For example, a prevalence of 19% was reported for depressive symptoms and of 24% for both depression and anxiety symptoms. In these studies, the association of depression and anxiety with PLP (which is most prevalent shortly after amputation has not been specifically investigated. Consequently, recent amputations should be seen as a special case, and in fact, there is evidence that depression in the postamputation phase is more strongly related to concerns about disability than PLP. However, a different relationship has been observed for preamputation anxiety. Raichle et al. investigated the relationship between overall anxiety levels prior to lower limb amputation and PLP and found that they were positively related particularly with PLP intensity (up to five days after amputation), even when postoperative analgesic medication was controlled for. (e analysis of the interplay between emotional states and PLP can be better determined in later stages, when disability and adaptation to the new situation are no longer dominating topics. However, even in later stages, PLP is frequently related to disability and it is important to consider both disability- and pain-related issues.⁵

Depression in later stages after amputation

As already stated, symptoms of depression are common in the acute phase after an amputation. However, several studies showed that the rates of depressive symptoms decline during the following years. Horgan and MacLachlan published a review on psychosocial adjustments following lower limb
amputations and concluded that depression in the first years after amputation is most strongly associated with disability and that, by two years after amputation, depression rates have dropped to a level comparable to those of healthy people. However, even at later stages, it is important to distinguish between disability, somatic symptoms, pain, and depression. Whyte and Niven used the Beck Depression Inventory (BDI) to assess depressive symptoms in a sample of amputees with PLP in the chronic stage. (ey observed a significant positive correlation of PLP and BDI scores; however, they found that this correlation was mainly driven by PLP being correlated with items of the BDI that assess performance or somatic symptoms that are often seen in chronic pain. (e problem that the BDI (and possibly other depression scales as well) tends to overestimate depression in samples with physical diseases and chronic pain has been pointed out before. 6

Discussion

Limb amputation is a life changing event with social, mental, psychological and spiritual sequelae. These concerns stem from their inability to perform daily activities, remain independent and support their families. Individuals facing disability often seek to find meaning and higher purpose in their disability and try to rationalize the incidence. The QOL of a person who has undergone amputation is determined by the psychological effects of the event. Also, the World Health Organization has described QoL to be affected by physical, psychological, personal, social, environmental and spiritual factors. Lack of education and training amongst the farmers and labourers predisposes them to the hazards of mechanical harvesting and makes them increasingly susceptible to injury and amputations. 5

There have been studies conducted in the past with unequivocal results to show that age of the amputee affected his/her psychosocial concern status. While some have shown that older amputees had lesser concerns, some others have failed to document this. Despite this, it was seen that older people had lower anxiety and depression scores as compared to their younger counterparts. This may be because of the reason that older amputees have lower expectations and demands and are less likely to have emotional upset. 7

Conclusion

The amputees have a large number of psychosocial concerns which need to be addressed to provide a holistic care and a better quality of life. The affected, which were optimistic, had more social support, had a pain free life and had to visit hospitals less were significantly less anxious than their counterparts. It is essential to sensitize the community, the health care providers and the patient’s family to the additional psychosocial needs of the amputee. Measures need to be taken to provide proper education and counseling of such patients. Provisions should be made to provide prostheses, counsel the amputees and to provide adequate physiotherapy and multidisciplinary pain relief to make the rehabilitation easier.

References


