Archives of Business Research – Vol. 9, No. 11
Publication Date: November 25, 2021
DOI:10.14738/abr.911.11226.
Castelli, I. (2021). Patients Profile of Traumatic Amputation: An Analysis of Factors That Can Help or Prevent the Treatment Adherence. Archives of Business Research, 9(11). 15-20.

Patients Profile of Traumatic Amputation: An Analysis of Factors That Can Help or Prevent the Treatment Adherence

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ABSTRACT

Amputee surgeries refer to the removal of totally or partial part of an organ. There are few illnesses that can lead to an amputation: cancer, diabetes, infections and traumas. We should stand out about the traumatic amputees' patient's profile: young, on working age and with no previously known disease. In the United States of America, are estimated 185.000 amputations per year which 45% are provoked for traumatic accidents. It's estimated that by the year of 2050 the total number of amputees will reach about 3.6 million people. That makes the attendance and follow-up of amputees a public health issue. It is essential that an amputee patient be evaluated and monitored by a psychological professional. These study analysis 11 traumatic amputees and the factors that influenced adherence. The results show that social factors, type of amputation and use of drugs are the principal factors to be considered.

Key-Words: traumatic amputation; healthcare adherence; rehabilitation; psychological treatment

INTRODUCTION

Amputation: an overview

Amputee surgeries refer to the removal of totally or partial part of an organ. Currently, this type of surgery is considered reconstructive surgery because the final objective is to restore the organ [1; 2].

There are few illnesses that can lead to an amputation: cancer, diabetes, infections and traumas. About this last type of amputation, it's necessary to highlight the sudden break with the "normal" life before the trauma and the need to quickly adapt to a completely new form of living [3]. In other words, the patients usually distinct their lives on "before and after" the traumatic amputation [3].

We should stand out about the traumatic amputees' patient's profile: young, on working age and with no previously known disease [4; 5].

In the United States of America, are estimated 185.000 amputations per year which 45% are provoked for traumatic accidents [6; 7]. It's estimated that by the year of 2050 the total number of amputees will reach about 3.6 million people [8]. That makes the attendance and follow-up of amputees a public health issue.

Psychological reaction in amputation

The experience of amputation brings physical and psychological changes [9]. It's important to highlight that these changes are called "adjustment reactions" and they are not considered pathological reactions. These adjustment reactions involve feelings like anger, fear of the future, sadness, self-esteem change and anxiety.

Therefore, it's important that the patient receive psychological treatment as soon as possible (10; 11; 9]. Despite the vast report of these symptoms the number of studies publications is still very low [12; 6; 5].

It's possible to didactically divide two moments post amputation: (a) acute phase, immediately after the surgery, when the principal mission of the patient is to survive with the necessary adaptations; (b) chronic phase, the moment when the patient must lead with the characteristic of its new physical limitation, the pain, the meaning of loss, quality of life and, eventually, the fitting on a prosthetic.

In both phases – acute or chronic – the limitation imposed by the absence of a member result in serious daily life changes; impacting social, work and sexual life [13; 14; 15].

Psychological interventions are recommended in both phases in order to avoid aggravation os psychological changes [16; 10; 17; 9].

Authors defend that follow-up of psychological intervention in medium and long term (to six months to a year) it's important to follow the evolution of the adaptation of the adjustment reaction [6; 4]. According to these authors, the first year after an amputation brings emotional symptoms, being the most frequent depressive and anxiety symptoms'. This important to discuss that negative symptoms are not necessarily negative reactions – they can be the adjustment reaction. These reactions can lead the patient to treatment motivation. Some patients understand the amputation as a chance to "live a new, health life" (9, p. 326).

Given the above, it is essential that an amputee patient be evaluated and monitored by a psychological professional [12].

Just to explain to the reader, a systematic literature review was carried out by this author to screen the number of studies that address psychological aspects of amputees. Descriptors used were "traumatic amputation" and "psychological trauma".

Were found a total of 143 articles. Of these, 14 were duplicated. 30 articles did not approach amputation issues. Another three articles were excluded because approach only technical questions about amputation's surgery (two of them discuss what the medication were to be used on the immediately post operatory and the other one discusses exclusively the surgical techniques for an amputation).

Eight articles were excluded because treat about pediatric context (the reader can suppose that pediatric and adult context of amputation are different). 21 articles were excluded for treating revascularization surgeries (where, we can understand, that the patient was not amputated).

25 articles were excluded because they discuss penile amputations (which, for this review would bring low contribution). Seven articles were excluded for treat about complications of non-traumatic amputation. Three articles were excluded because they did not mention psychological aspects.

On this survey, 110 articles were excluded; being considered only 31 articles. Based on the survey above descript, we can note that studies about traumatic amputation are rare. Just in front of that fact, we need to develop studies with traumatic.

PROFILE OF TRAUMATIC AMPUTATION

This study was conducted in a tertiary hospital located in Brasília. This hospital is a reference in attendance of polytraumatized patients. We considered the time gap of one year (from august 2020 to august 2021) and proposed to follow up the patients victims of traumatic amputation.

It's important to say that other type of amputation triggered by chronic illness was not considered in this analysis.

Were considered eligible for these analysis 11 patients: 9 men and only 2 women. The average age was about 34.83years and eight patients were inserted in the labor market. This can be explained by the social reinforcement for men to engage in dangerous situations. This is according to recent literature [18; 19; 20; 21].

The same health treatment was offered to all patients: early psychological intervention, physiotherapeutic and orthopedic follow up along the first year after the accident.

Between the 11 patients, one died due to clinical complications.

About the other 10 patients, three patients lived on the streets and used different kind of drugs (like alcohol, crack, cocaine, tobacco etc); making treatment adherence unfeasible. Despite of have been forwarded to healthcare follow up, none of these three patients were followed up. One patient worked as bricklayer, was formal working at the time of the accident and he followed up the treatment. Nevertheless, he also used different types of drugs and that was a barrier to his treatment.

One of the patients' was minor and lived in rural area which made hospital access very difficult. This patient chose to not maintain the healthcare treatment. He and his parents were aware of the losses of discontinue the treatment.

Another patient suffers from a very advanced type of anxiety with serious damage to social relations. The healthcare team was never able to obtain telephone contact with this patient and he totally abandoned the treatment. Until now, it is unknown how the case evolved. Similar to this case, another patient also abandoned the treatment (he even had some psychotherapy sessions), however one day he no longer met the investments of the healthcare team. This case is also unknown about the outcome.

URL: http://dx.doi.org/10.14738/abr.911.11226

Three of the patients' adhered to the treatment: (a) one was a woman, 18 year-old, with both breast and arm amputation. She was a victim of a trampling and was dragged to 2.5 miles on the hood of the car. She is still in psychological treatment and medical treatment, waiting for the breast reconstruction (this treatment is paid for the Brazilian HealthCare System – also known as Sistema Único de Saúde (SUS). About the arm prosthesis, it cost average U$ 24.000,00 and it is not distributed by SUS. As to be expected, this prosthesis cost too much for her family to pay for.

It's important to frizz that the SUS pays for some types of prostheses like prostheses above and below the knee ; some type of insoles adapted for amputee toes; none functional (only aesthetics) above elbow prostheses. However, prostheses below elbow and hand prostheses are not commonly provided for SUS and when provided, they are not functional.

(b) The second success case of patient was a man, 34 year-old, who lost his arm in a crushing by concrete mixer when he was working. He maintained psychological treatment for one year over the accident and evolves satisfactorily, being discharged from follow-up. The company he worked for bore the cost of the prostheses and he managed to acquire a functional prosthesis. Now, he is well adapted to the prosthetization process and has resumed retake his work activities (obviously in an adapted way).

(c) The third case, also considered successful, was a 19 year-old man who had an amputation of three fingers with chainsaw. At the beginning of his psychological treatment he was very shy, having difficulties of expressing his emotions. He was in treatment for nine months, when he decided to leave the follow up because he had managed to reframe his loss. Although he was not prosthetized he was clearly pleased with its physical limitations and satisfied with his life.

DISCUSSION

What psychologist could do in those situations? Help of prevent the treatment adherence. The first conclusion about these case reports is to bring to discussion is the lack of studies and publication on the traumatic amputee area. This reinforces the importance of offering conditions for researchers to develop innovate studies. Also, in this study we could observe the difficulty to do a follow up research. Despite of this, it's very necessary that others researchers seek answers about the change of treatment adherence behavior over time after the accident.
We show, in this study, that simple factors influence on the good or bad rehabilitation process. We can quote: the type of amputation, the use of drugs, the presence of support network, and the ability to face and reframe the problems.

Another conclusion on these case reports is the importance of psychological intervention on both phases: acute and chronic phases; therefore, which one has their specificities. More than "patients" the psychological professional should stare to the amputee as a person who need all the effort on the healthcare team.

An amputee will need help to relearn the simplest things and activities in their live and, this, should motivate the healthcare team.

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