31 - FUNCTIONAL INDEPENDENCE OF AMPUTEES TRANSTIBIAL PROSTHESES

BIANCA GIEHL;
JOSÉ MOHAMUD VILAGRA
Faculdade Assis Gurgacz-FAG – Cascavel – Paraná - Brasil
bianca.giehl@gmail.com

INTRODUCTION

According to Carvalho (2003) amputation is a word derived from the Latin, means a partial or total withdrawal of a member or more, may be surgical or traumatic. In Brazil, the incidence of amputations is estimated at 13.9 per 100,000 inhabitants / year, it is found that the transtibial level corresponds to 22.9% and the 2nd highest incidence in the lower limbs (Santos et al, 2010). The only absolute indication for amputation is irreversible ischemia in a diseased or traumatized, and can also be to preserve the lives of patients with uncontrollable infections and the best option in some patients with tumors.

Amputations can occur for several reasons: trauma, vascular processes, thrombosis, tumor, and infection, congenital and rheumatoid arthritis. The level of amputation of lower limb may also vary anatomically transtibial amputation varies between the knee joint and ankle joint can be divided into three levels, proximal , is a short stump with respect to the knee average level that features a middle stump over the knee and distal level that is called a long stump . The transtibial amputation distal stump presents a rather long, resulting in a large lever arm and good control over the prosthesis. More often find on a stump over problems like ulcers and abrasions, which is very dangerous in patients with vascular problems. The average transtibial amputation is considered ideal for this level of lower limb amputation. With a good cushioning terminal and good length of stump, patients do not find major difficulties in rehabilitation. Previously, when there was enough skin for traumatic sutures, surgeons used to sacrifice the length of the amputation stump, performing amputations proximal (CARVALHO, 2003). With the cutaneous techniques, it is possible to prioritize the length of the stub, providing better adapted to patients and increase patient compliance to the prosthesis, this adjustment can be assessed to help to further improve the functionality of this patient with the prosthesis.

The evaluation of the functional capacity of these patients is paramount, especially for use of equipment in the medium and long term, and more specifically after rehabilitation. In general, the existing evaluation protocols take only muscle strength and range of motion of the segments involved, and the gait pattern after fitting (KAGEIAMA, 2007). Little is known whether patients after discharge, continue to use the prosthesis and, likewise, there is no information on the impact of different treatment programs on the recovery of function or the factors that may predict the use or not of prosthesis.

In Brazil there is no instrument specifically developed to assess patient amputees, making it necessary to search in the literature. Many authors seek to define an optimal method for evaluating patients with lower limb amputation, in scales or using existing questionnaires for other diseases and adapt to their studies, others develop instruments and evaluate its psychometric properties. Some scales are used, Functional Independence Measure (FIM), Reintegration Normal Living (RNL), Prosthetic Profile of the Amputee (PPA), Prosthesis Evaluation Questionnaire (PEQ), Functional Measure for Amputees Questionnaire (FMA), Barthel Index and other (KAGEYAMA, 2007).

Questionnaires and scales to measure differ in the way the results are only partly and comparable to each other. There is no consensus in the literature on an evaluation method most appropriate to be applied to the population of lower limb amputees.

This study aimed to evaluate the functionality of the prosthesis use in performing activities of daily living in patients with a transtibial amputation, showing whether or not there are benefits to using the prosthesis.

MATERIALS AND METHODS

This is a field study, cross-sectional, quantitative trait, data collection primary source, and the research sample consisted of 19 individuals, as follows: 5 females and 14 males. Inclusion criteria were patients with unilateral transtibial amputation type, with more than 1 year of amputation and over 1 year of use of the prosthesis, ages 40-60 years, Exclusion criteria were patients with less than 1 year use of prosthetic and amputation, with bilateral amputation or any other type of amputation, patients with sequelae of diseases such as stroke among others, and patients aged below 40 years and above 60 years who used a wheelchair or not to use the prosthesis. Data were collected at the rehabilitation center of Assisi School Gurgacz - FAG in the city of Cascavel - PR in the months of June, July and August 2013, through direct interview to transtibial amputees where a questionnaire was applied to measure functional amputees (FMA) after approval of the ethics committee n ° 079/2013 - CEP / FAG.

After data collection they were grouped according to age, gender, cause of amputation and analyzed according to the answers of the questionnaire, this functionality evaluation of patients was performed by using the questionnaire FMA issues most significant to the study, data will be generated in Microsoft Excel, along with statistical analysis.

RESULTS

In this research, conducted at the rehabilitation center of Assisi School Gurgacz, with a transtibial amputation, is the predominance of males, and 73.68% men and 26.32% women.

While determining the causes of amputations observed that trauma has 42.11%, being the highest, second comes to diabetes with 21.05% of the cases, thrombosis with 21.05%, 10.53% with gangrene and nonunion with 5.26%, totaling 100% of the respondents. Contacted to the sample analyzed that the main cause for the transtibial amputation was trauma, it may be a car accident, accident at work among others.

Checking of questions adapted to the study, the item level of amputation, which was assessed by the interviewer was identified a prevalence of long transtibial amputations 47.37 % in 9 cases , and average with 47.37 % and also 9 cases, already short level less incident with 5.26 % or 1 case of analyzed . The average time of amputation was at 15.84 ± 13.45 years, and the time of fitting the patients was analyzed in 14.26 ± 12.90 years.

Regarding the daily use of the prosthesis , it was observed that 94.74% of respondents use the prosthesis every day (7 days a week) , and only 5.26 % uses the prosthesis only five days a week, with an average of daily use of 12.57 ± 3.07 hours per day . But when asked about his ability to put your dentures yourself 100 % reported placing the prosthesis without difficulty, showing a significant functional independence in relation to the prosthesis. Were asked about the activities of daily living, where

the patient performs the same, with or without help, whether it is someone who is close even crutches canes, or walkers, where it was found that 52.53% of the sample reported full independence in activities evaluated, and 15.79 % reported not perform some tasks such as climbing and descending stairs without railing and catch objects on the ground with the use of the prosthesis.

About the use of a wheelchair, walker, cane or even crutches to get around in the home environment, where we found that 26.32 % are fully functional and reported not make use of the apparatus described. Other 73.68 % reported using some of the apparatuses described to move around indoors. However, the average score at that point was 1.56 points, a total of 4 possible points. In addressing what could prevent the patient from using his prosthesis in the household identified that 88.21 % agreed that always use the prosthesis indoors, and 15.79 % disagreed with the statement due to factors such as insecurity, pain, discomfort and others. When asked about the use of a wheelchair , walker, cane or even crutches to get around outside the home the results were opposite when asked about getting around inside the home , where only 21.05% are fully functional and not reported make use of devices described other 78.95 % reported using some of the described devices outside the home , reporting some uncertainty about the wet conditions and locomotion as sidewalks in poor condition, but although they use some assistance 100 % agreed with the statement that always use the prosthesis for getting out of the house .

By analyzing the distance with the prosthesis, 73.68 % reported walking as you like and 26.32 % reported limitations in walking distance, compared to 63.16 % reported falls falls with the prosthesis and 36.84 % reported no falls. One of the most significant questions to check the level of functionality of the patient in relation to the prosthesis and its return to activities of daily living and social life shows that 47.37 % returned to previous functional level of amputation, 10.53 % report having the same functional level within the home and outside the home decreased. And 31.58 % reported that they stopped doing most of the activities they performed before amputation.

DISCUSSION

The male predominance of 73.68 %, and 26.32 % females in the present study resembles the study Gylvana and Vanessa (2009), where they were checked 76.5 % of males and 23.5 % of the female population evaluated.

The mean age of the study evaluated Gylvana and Vanessa (2009) was 50 ± 14.76 years for men and 56 ± 9.5 years for women and in this study the average age was generally between 52 ± 5 38 years, which is similar and near the two studies.

Still using the above study, and correlating the causes of amputations can verify a higher rate of amputations due to trauma, this study found that trauma represent 42.11 % of the causes of transtibial amputations, and the study and Gylvana Vanessa (2009), are vascular diseases account for most of amputations of the lower limb and they both transtibial both transfemoral with an index of 58.82 % of the cases. According to Silva (2005), injuries are the result of several situations, such as having bouts preferred in adolescents and young adults, due to automobile accidents and work, which is proven in this study.

Diogo(2003) assessed the level of independence of transtibial and transfemoral amputees, according to the Barthel Index, and tried to identify relationships between the Barthel Index and the type and level of amputation and prosthesis use, Gylvana and Vanessa (2009) is used a questionnaire designed by the authors so that they could evaluate the pattern of activities, exercises and self-care, which evaluates the individual's independence in their ADLs and the use of auxiliary equipment, Lilian (2010), we used the semi-structured questionnaire with questions multiple choice and open. The survey questions addressed aspects membership demographics (age, sex and marital status) and post - rehabilitation (time of use of the prosthesis and complaints regarding the use of the equipment). Amirah et al. (2010) also sought to assess socioeconomic status, quality of life by SF -36, and to assess the locomotor ability is used the FMA - Functional Measure for Amputees, and if the observed data were an issue in specific, having an amputation specifies to evaluate. Being that this study is different from the mentioned above, it was used a questionnaire developed by the researcher seeking socioeconomic and utilized the FMA - Functional Measure for Amputees analyzing all the issues that the questionnaire offers as well as the sample was composed only of transtibial amputees.

Comparing the results of the items already presented you can see that even with a difference in age and amputation level assessment tool, some results are similar. In Gylvana and Vanessa (2009) related to locomotor functional independence and the results were 100% of the interviewed patients can feed themselves, 41.17 % can carry your toiletries alone, while the remainder needs help of equipment or others when checked ambulation only 17.64 % do not require the aid of equipment, showing a high rate of respondents who need some assistance to walk, climb stairs also appeared a low rate of independence with only 11.76 % of patients not needing help and the remainder requiring some kind of aid.

The results of this study were observed similar items, where patients were asked about ADL 's where interviewees perform the same with help or without help, with 52.53% of the sample reported total independence of which 15.79 % reported not perform some tasks such as going up and down stairs and picking up objects without some assistance from equipment or another person, the comparative analysis of the results obtained in the research shows a higher level of independence in this population assessed , taking into account that the present study only evaluated transtibial amputees and other works not selected a height of amputation specifies whether using the transtibial and transfemoral levels.

Comparing the level of functional independence of this study with Diogo (2003) whose sample consisted of 12 respondents who used continuously prosthesis, is, withdrawing it only for sleeping or bathing, staying with her at home and out. Survey participants were asked about the daily time of use of the prosthesis where most of the responses was that 94.74% of respondents use the prosthesis every day (7 days a week) , and only 5.26 % uses prosthesis only five days a week, with an average daily use of 12.57 ± 3.07 hours per day. The comparative analysis of these two studies with different populations is even possible to observe that the use and acceptance of the prosthesis is very large offering more functionality to these patients. The elderly study participants Diogo (2003) showed high functional capacity assessment for Barthel. In this research we also show with a high functional capacity, and with these two studies is possible to observe the importance of the hearing is she in adults who become elderly and at any age, because it offers independence important to the patient, improving their quality life even though at times need some assistance as canes and crutches to get around, showing the prosthesis in the lives of the people interviewed helped them to return to having a normal social life and functionality allowing them to play paid positions or activities of daily living that require some effort .

CONCLUSION

According to the results obtained by this research, it is possible to conclude that the mentioned sample fitting a benefit and functionality behind the quality of life of patients who appear independent and familiar with the use of the prosthesis to perform activities of daily living. Now the leading cause of amputation in verified Rehabilitation Center FAG was traumatic what diverges from the literature, as most studies show vascular causes as causes which may be a possible explanation for the homogeneity of the sample with respect the level of amputation and time amputation. The use of the transtibial prosthesis even when dealing with adults is 100 % of respondents showing a good outcome of the hearing in this population, being very functional use of the prosthesis for people who have lost part of a limb.

Although the studies presented, it shows more studies in this area mainly with assessment tools are specific to the population, as there is much to be explored when it comes to the use of the prosthesis and return their daily activities with greater quality of life.

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Endereço: Rua Espirito Santo, n°: 2685. Bairro: Nazaré,
Medianeira-Paraná.
E-mail:Bianca Giehl.

FUNCTIONAL INDEPENDENCE OF AMPUTEES TRANSTIBIAL PROSTHESES

ABSTRACT

Introduction: Amputation is a word derived from the Latin meaning partial or total withdrawal of a member or more, may be surgical or traumatic, and amputations have various causes such as trauma, vascular processes, thrombosis, tumor, infectious among others. The level of amputation can also vary and the main transtibial and transfemoral are all characteristics that refer to amputation as the amputation height whether short or long average are interesting at the time of assessment whether physical or functional. Objective:Check level of functional independence in patients clinic of the Faculty of Assisi Gurgacz with transtibial amputations towards their functional capabilities, using the Media Functional Amputee (FMA). Methodology: This research is in a field study, cross-sectional, quantitative trait, data collection of primary source, and the research sample consisted of 19 individuals, as follows: 5 female and 14 male. Data were collected at the rehabilitation center of Assisi School Gurgacz - FAG in the city of Cascavel - PR in the period June-August 2013, through direct interview to transtibial amputees where a questionnaire was applied to measure Functional Amputee (FMA). Results: There was a predominance of males with 73.68%, being the main cause trauma presenting an incidence of 42.11%%. The levels of functional independence of the sample was observed that all patients have a very good degree of functionality using the same prosthesis that require some assistance at any time. Conclusion: Although the studies presented, it appears necessary further studies in this area mainly with assessment tools are specific to the population.

KEYWORDS: Evaluation, transtibial amputation, functionality.

INDÉPENDANCE FONCTIONNELLE DES TRANSTIBIAL AMPUTATION PROTHÈSES

RÉSUMÉ

Introduction:L'amputationest un mot dérivé du latin et signifiepartielouretrait total d'un membreou plus, peutêtre chirurgical outraumatique, et les amputations avoir des causes diversestellesque les traumatismes, les processusvasculaires, la thrombose, tumorales, infectieuses, entre autres. Le niveau de l'amputationpeutaussivarier et le principal transtibial et transfemoral sonttoutes les caractéristiques qui font référence à l'amputation à la hauteur de l'amputationsoit à court ou à long moyennesontintéressants au moment de l'évaluationqu'ellesoit physique oufonctionnelle. Objectif:Vérifier le niveaud'indépendancefonctionnelle chez les patients clinique de la Facultéd'Assise Gurgacz avec transtibiaux amputations enversleurscapacitésfonctionnelles, en utilisant la fonctionnelleamputésmédias (FMA). Méthodologie: Cetteétudeestuneétude de terrain, transversale, caractèrequantitatif, la collecte de données de source primaire et l'échantillon de recherchecomposée de 19 personnes, comme suit: 5 femmes et 14 hommes . Les donnéesontétérecueillies au centre de réadaptationd'Assiseécole Gurgacz - FAG dans la ville de Cascavel - PR dans la périodeJuin-Août 2013, une interview directe aux amputéstranstibiauxoù un questionnaire a étéappliquée pour mesureramputésfonctionnelle (FMA). Résultats: Il y avaituneprédominance des hommes avec 73,68%, étant la principale cause de traumatismeprésentantune incidence de 42,11%%. Les niveauxd'indépendancefonctionnelle de l'échantillon a étéobservéquetous les patients ontuntrès bon niveau de fonctionnalité en utilisant la mêmeprothèse qui nécessitentune assistance à tout moment. Conclusion: Bien que les étudesprésentées, ilapparaîtnécessaire de poursuivre des étudesdanscedomaineprincipalement avec des outilsd'évaluationsontspécifiques à la population.

MOTS-CLÉS:évaluation, transtibial amputation, la fonctionnalité.

INDEPENDENCIA FUNCIONAL DE LA AMPUTACIÓN TRANSTIBIAL PRÓTESIS
RESUMEN

Introducción: La amputaciónes una palabra derivada dellatín que significa la retirada parcial o total de unmiembro o más, puede ser quirúrgico o traumático, y amputacionestener varias causas, tales como traumatismos, procesos vasculares, trombosis, tumores, enfermedades infecciosas, entre otros. El nivel de amputacióntambiénpuede variar y la principal tibial y femoral son todas las características que hacen referencia a laamputación como la altura de laamputación si media corta o larga soninteresantesenel momento de laevaluaciónyasea físico o funcional. Objetivo:Revise elnivel de independencia funcional en pacientes de la clínica de laFacultad de Asís Gurgacz conamputacionestibialesconrespecto a sus capacidades funcionales, utilizando la funcional Amputado Medios (FMA). Metodología: Esta investigación se encuentraenunestudio de campo, ensección transversal, rasgo cuantitativo, larecopilación de datos de fuente primaria, y lamuestra de investigaciónconsistióen 19 individuos, de lasiguientemanera: 5 mujeres y 14 varones. Los datosfueronrecolectadosenel centro de rehabilitación de AsísSchool Gurgacz - FAG enlaciudad de Cascavel - PR enel período de junio a agosto de 2013, mediante entrevista directa a los amputados tibiales donde se aplicóuncuestionario para medir Amputado funcional (FMA). Resultados: Hubounpredominiodel sexo masculino con 73,68 %, siendola principal causa de trauma que presenta una incidencia de 42,11 % %. Los niveles de independencia funcional de lamuestra se observó que todos los pacientes tienenunmuybuen grado de funcionalidaddel uso de lamismaprótesis que requierenunpoco de ayudaencualquier momento. Conclusión: A pesar de losestudios presentados, parece necesarioestudiosadicionalesen esta área, principalmente conherramientas de evaluaciónson específicos de lapoblación.

PALABRAS CLAVE:Evaluación, amputación transtibial, funcionalidade.

INDEPENDÊNCIA FUNCIONAL DE AMPUTADOS TRANSTIBIAIS PROTETIZADOS
RESUMO

Introdução: amputação é uma palavra derivada do latim que significa retirada total ou parcial de um membro ou mais, podendo ser cirúrgica ou traumática, sendo que as amputações têm diversas causas como traumas, processos vasculares, trombose, tumorais, infecciosos entre outros. O nível das amputações também pode variar sendo que as principais são transfemoral e transtibial, todas as características que se referem à amputação como, a altura da amputação seja ela curta média ou longa são interessantes na hora da avaliação seja ela física ou funcional. Objetivo: Verificar nível de independência funcional em pacientes da clinica da Faculdade Assis Gurgacz com amputações transtibiais perante as suas capacidades funcionais, utilizando a Media Funcional para Amputados (FMA). Metodologia:A presente pesquisa trata-se de um estudo de campo, de corte transversal, caráter quantitativo, de coleta de dados de fonte primária, sendo a amostra da pesquisa composta por 19 indivíduos, sendo: 5 do sexo feminino e 14 do sexo masculino. Os dados foram colhidos no centro de reabilitação da Faculdade Assis Gurgacz – FAG na cidade de Cascavel – PR no período de junho a agosto de 2013, através de entrevista direta aos pacientes amputados transtibiais onde foi aplicado questionário Medida Funcional para Amputados (FMA). Resultados: Houve uma predominância do sexo masculino com 73,68%, sendo a principal causa o trauma apresentando uma incidência de 42,11%%. Quanto aos níveis de independência funcional da amostra foi possível observar que todos os pacientes avaliados tem um grau de funcionalidade muito bom com a utilização da prótese mesmo que necessitem de algum auxilio em algum momento. Conclusão: Apesar dos estudos apresentados, se mostra necessário mais estudos nessa área principalmente com instrumentos de avaliação específicos para está população.

PALAVRAS CHAVES: Avaliação, amputação transtibial, funcionalidade.