

Sports and amputees



Previous studies have shown that 60% of lower limb amputees participated in recreational activities, including sports. To date, research in The Netherlands into sports participation of this specific amputee population is insufficient. The purpose of the reported survey was to investigate the sports participation habits of lower limb amputees in the Province of Deterrent, The Netherlands, using a self-constructed questionnaire. A total of 105 lower limb amputees responded (36%), a large proportion of whom were traumatic amputees (31). Of the respondents, 34 (32%) participated in some form of sport.

Results indicated that participation in sport before the amputation was a predetermining factor for amputees to participate in sports whilst the level of amputation, age and etiology were not predetermining factors of participation in sports after a lower limb amputation. Keywords: Evaluation studies, amputation, lower extremity, sports

Introduction A total of 56% of adults with disabilities in the United States do not engage in any leisureliness physical activity compared to 36% among adults without disability. These results are consistent with the notion that, on average, people with a disability are more inactive than the general population. , 3 There are cultural differences between the United States and The Netherlands in sports participation. 4 It has been shown that while the average American person is inundated by sports and very much involved in sports participation, the Dutch population is more reserved in their participation in sports. 5 However, in The Netherlands, participation in sports activities continues to gain popularity. Recent surveys revealed that over 60% of the total Dutch population (18-79 years old), including disabled individuals, participated in

sports 12 times or more per year. 6, 7 From the disabled population bestially fewer people participated in a sport, with the percentages ranging from 39-1. 4%. 6, 8 This wide range of percentages demonstrates that it is difficult to attach an exact figure to the number of people with a disability participating in sports.

Correspondence: DRP Rink Decker, Center for Rehabilitation, University Medical Center, Groning, The Netherlands. E-mail: r.Mums. Nil SINS 0309-3646 pant/less 1746-1553 online 2009 'SPOT DOE 10. 3109/03093640902984579 Participation in sports of lower extremity amputees 357 The apparent difficulty in estimating the amount of people with a disability articulating in sports is likely due to difficulties in defining the terms 'disability and 'sports participation'.

According to the World Health Organization (WHO), disability serves as an umbrella term for impairments (problems in body function or structure such as a significant deviation or loss, such as amputation), activity limitations (difficulties an individual may have in executing activities) or participation restrictions (problems an individual may experience in involvement in life situation). 9 The WHO defines physical activity as any bodily movement produced by skeletal muscles that requires energy expenditure. As such, it includes sports but also physical activities such as playing, cleaning the house, dancing or climbing stairs. 2 In accordance with the Dutch norm for healthy exercise, 11 for the current study sports is defined as an activity involving physical exertion with or without a game or competition elements, with a minimal duration of half an hour, and where skills and physical endurance are either required or to be improved. Physical inactivity is one of <https://assignbuster.com/sports-and-amputees/>

the most important health risk factors. Inactivity contributes to early death by heart and coronary diseases and other chronic conditions. 3, 6, 8 Physical activity on the other hand, including sports, provides positive effects on the physical, physiological and social wellbeing of all people with or without a disability. 6, 12-15 The most recent information about sports participation of lower limb amputees dates back more than 25 years. In the United States two studies took place concerning recreational activities (including sports) of people with a lower limb amputation. 16, 17 The results of both studies showed that 60% of the amputees (n = 13416 and n = 10016) participated in a recreational activity which included participation in sports as defined in the present study. 17 Recent information about sport participation of lower limb amputees in The Netherlands does not exist. The incidence of lower limb amputations in The Netherlands is 20 per 100,000, resulting in 3,200 amputations annually. 18 In view of these considerable numbers and because of the beneficial health effects of sport participation, the purpose of the present survey was to investigate the sports participation habits of lower limb amputees in the Province of Drenthe, The Netherlands.

The key outcomes of interest were the age of the participant (age), how long since amputation (post-amputation time), where the limb was amputated (level of amputation), the etiology underlying the amputation (etiology), and the history of sports participation of the lower limb amputees. Methods Amputees living in the Province of Drenthe, The Netherlands (population 486,90319) were approached through the MM (a group of orthopedic workshops). The database of these orthopedic workshops contains the

details of all the amputees living in the Province of Deterrent who have been prescribed with a prosthesis.

Inclusion criteria for participation in the study were age (from 18-80 years) and level of amputation (proximal to a Same amputation, such as translational, knee circulation, transferal, hip discrimination and homogeneity amputations). Amputees who were admitted to nursing homes, and amputees who were not prescribed with a prosthesis were excluded from this study. Instrument The instrument used in this study to investigate the sport participation habits of lower limb amputees was a questionnaire (24 questions, see Appendix). This self-constructed questionnaire was partially based on previous studies. 1-23 358 C. Kara teal. Procedures Questionnaires were mailed to the 290 lower limb amputees that met the criteria as set out above. An accompanying letter explained the purpose of the questionnaire and assured the participants that responses would remain confidential and treated anonymously. Participation was voluntary. The amputees were asked to complete and return the questionnaire within three weeks. Design and variables The following questions were addressed in this study: What is the relationship between the level of amputation and sports participation? ; What is the relationship between and sports participation? What is the relationship between the etiology resulting in the amputation and sports participation? ; How many of the respondents participated in sports before their amputation? ; How many of the exponents participate in sports at the time of filling in the questionnaire (present participation)? ; Is there a difference between the post-amputation time of presently non-participating and presently participating amputees? ; How many of the

respondents have complaints about their prosthesis? , and, Do the complaints hinder their participation in sports? ; How many respondents have co-morbidity? And, Does co-morbidity hinder sports participation? ; How many of the respondents who participated in sports before their amputation are presently participating in sports? ; What are the reasons to participate in sports? What are the reasons for not participating in sports? In order to facilitate the data analysis the variable, level of amputation, was divided into three categories: Above the knee; knee-discrimination; and below the knee. The above the knee category was subdivided into the levels homogeneity, hip discrimination and transferal, and the below the knee category into the levels translational and ankle discrimination.

Data analysis Data were analyzed using the Statistical Package for Social Sciences 14 (SPAS). A Maternity test was used to test the differences between the variables age and postulation mime between presently participating and presently non-participating amputees. Crossbars and Pearson Chi-square tests were used to test the expected relationships between the variables of age with present participation, level of amputation with present participation, etiology with present participation and the history of participation in sports with present participation.

Significance in this study was preset at the 0. 05 level of probability. Ethical approval The study was approved by the Medical Ethical Committee of the University Medical Center Groping. Results Participants The questionnaire was sent to 290 lower limb amputees, 107 of homo responded (37%). Two of the respondents were left out of the data analysis because they appeared to have 359 a partial foot amputation and hence did not meet the inclusion

criteria. Of the 105 remaining respondents, 71 were male (66%) and 31 were female (29%) (three missing values).

As shown in Table I, 34 (32%) were participating in some form of sport. The age range of the respondents was 23-79 years. The mean age of the sports-participating respondents was 55.5 (SD = 11.5) years while the mean age of the non-sports-participating respondents was 60.2 (SD = 13.1) years ($U = 842.000$; $p = 0.034$; $r = 0.7021$). The mean post-amputation time of the sports-participating respondents was 198.9 (SD = 207.8) months and of the non-support-participating respondents 150.4 (SD = 213.9) months.

This difference between the sports-participating and the non-sports-participating respondents in mean post-amputation time was not significant ($U = 845.000$; $p = 0.059$; $r = 0.7019$). Four respondents (4%) were amputated bilaterally, 59 respondents (55%) were amputated on the left side and 42 respondents (39%) were amputated on the right side (two missing values). Present sports-participation

Further analysis of the data showed that age, level of amputation, and etiology could not predict sports participation after a lower limb amputation. None of the effects of age ($W = 4.149$, TFH 2, $p = 0.26$), level of amputation ($W = 1.707$, TFH 2, $p = 0.426$) and etiology ($W = 4.063$, TFH 3, $p = 0.255$) on present participation reached significance. On the other hand, the history of sports participation (participation in sports before the amputation) served as significant predictors ($W = 8.146$, TFH 1, $p = 0.004$). These results imply that when a lower limb amputee participated in sports before the amputation there was a higher likelihood that the participation in sports after the

amputation compared to when the lower limb amputee did not participate in sports before the amputation. Table I.