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Rehabilitation Services for Closing the Rehabilitative Gap after Major Amputation of Lower Extremity

A Feasibility Study

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BACKGROUND

In the established rehabilitation system in Germany, rehabilitative gaps exist for people with rare functional impairments – such as after major amputation of lower limbs.
This gap arises because there is no supply structure in the phase after discharge from the hospital and before the beginning of *standard rehabilitation*. In general, there is hardly any specialization for this patient group, especially in the post-operative phase. The high level of comorbidity, frequently delayed wound healing and variations in the circumference of the residual limb lead to the fact that inpatient or all-day outpatient *standard rehabilitation* is insufficient. There are two approaches to *standard rehabilitation* in Germany: that initiated by the hospital immediately after the stay in an acute hospital or that initiated by a family doctor after a period of time at home or for short-term care. The prosthesis is usually not ready at first access, and the second access has higher administrative barriers.
As supply takes place in several sectors (acute, rehabilitation, outpatient care, and family medicine) and with several professional groups (e.g. practitioners, therapeutics, orthopedic technicians) through different costs providers (social assurances), there are also information deficits on the patient's side. There is no instance of coordination in the overall process. As a rule, only the orthopedic technician is a permanent contact person.

METHODS

To improve the described situation, firstly we introduced care management, people who are available to patients as contacts until the phase of long-term care, and secondly we established an interim phase between acute hospital stay and rehabilitation to prepare patients for subsequent rehabilitation. The inpatient or full-day outpatient rehabilitation took place in a cooperating rehabilitation departments.
In addition, training courses for familiy doctors as well as occupational and physiotherapeutic practices were offered.
The accompanying scientific evaluation over a period of one year from University of Lübeck will be available in 2022.

Inclusion criteria

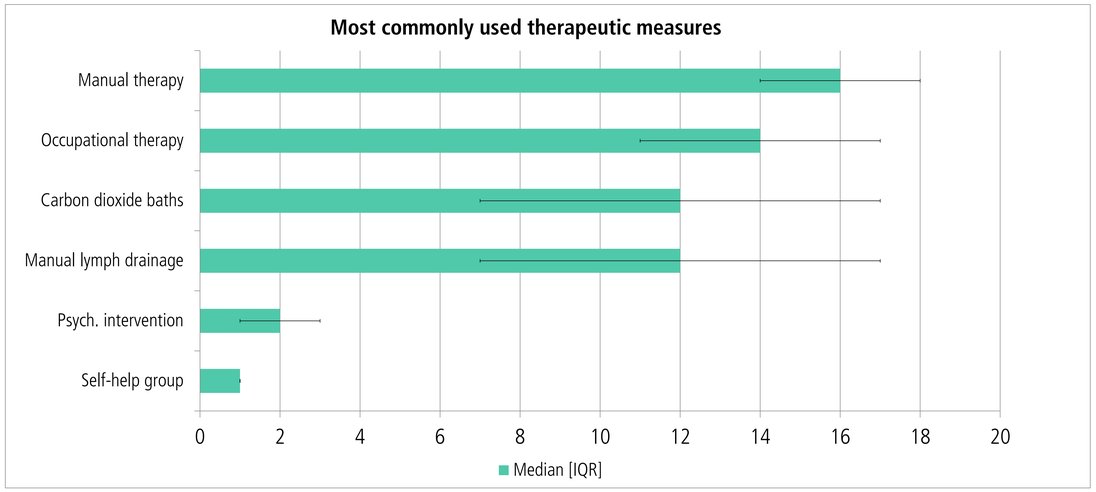
- major amputation of one of the lower limbs
- ability to walk before amputation
- over 18 years old
- knowledge of the German language sufficient to complete the questionnaire
- interest in participating in the project

Exclusion criteria

- amputation performed abroad
- multiple amputations
- patients who are under legal care

RESULTS

A total of 71 potential study participants were reported by the 14 cooperating acute clinics within 30 months. Of these, 39 patients could be included in the control group (KG) and 13 in the intervention group (IG). The KG received the standard supply. IG received care management and the new outpatient interim phase. The outpatient interim phase in our department lasted an average of 41 days (range: 21-69 days; SD: 15 days). Treated patients received an average of 59 therapy units (range: 11-109 units; SD: 27 units). Therapy was prescribed after an initial medical examination including assessment. The whole interim phase was accompanied by a doctor, and at the end of the interim phase there was a final medical examination. The inpatient or full-day outpatient standard rehabilitation started when the patient was mobile with his interim prosthesis for a week.



CONCLUSION

Experience in the project shows that there is a high level of medical and therapeutic need for this group of patients that is not covered by standard rehabilitation. On average, the participants were only fit for standard rehabilitation 7 weeks after the amputation.
With a high level of effort at cross-sectoral coordination (care management) – especially with regard to communication with cost providers and the organization of the patient's transport to the university department of rehabilitation medicine – as well as multimodal, medically controlled therapy, the rehabilitative needs of this patient group can be adequately addressed.

PROJECT INFORMATIONS AND GRANTS

The Project *Development and implementation of a multimodal, cross-sector and cross-provider supply concept after major amputation* (1/1/2018 – 31/12/2021) is financed by the Innovation Fund of the German Federal Joint Committee (G-BA).

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