
Reference

Kooijmana C, Dijkstra P, Geertzena J, Elzinga A, van der Schans C

Department of Rehabilitation, University Hospital Groningen, The Netherlands

Phantom pain and phantom sensations in upper limb amputees: an epidemiological study

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Products

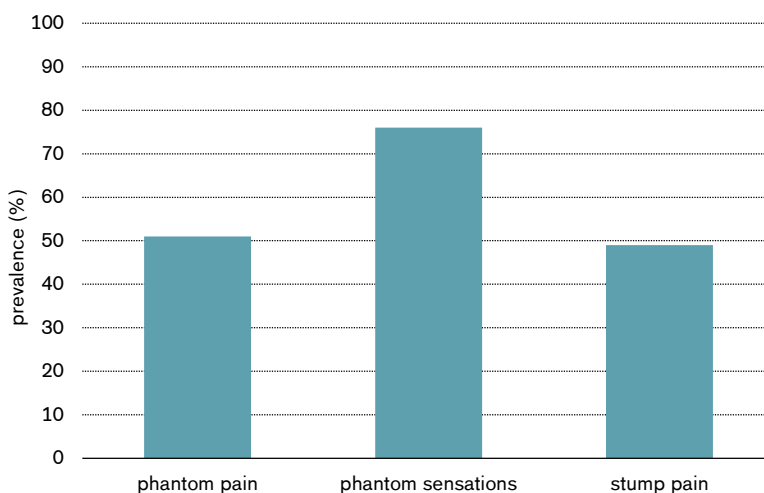
Myoelectric, body-powered, cosmetic prostheses

Major Findings

With phantom pain and phantom sensations in upper limb amputees:

- **The prevalence of phantom pain was 51%, phantom sensations 76% and stump pain 49% in the subjects with acquired amputation.**
- **Phantom pain was not reported in congenital group.**
- **Phantom pain did not affect prosthetic usage or functional ability.**
- **Phantom sensations and stump pain could lead to phantom pain.**

Prevalence in the group with acquired amputation



Population

Subjects: 99 upper limb amputees
Prosthesis: myoelectric, body-powered, cosmetic prostheses
Amputation causes: 56 accident, 27 congenital malformations, 11 cancer, 2 vascular disease, 2 infection,
Median age: congenital group – 30.5 years;
acquired group - 44.2 years
Median time since amputation: 19.1 years

Study Design

Retrospective study

This study retrospectively evaluated the pre-amputation pain and frequencies of phantom sensations, phantom pain, and stump pain post-amputation. Additionally, the study reviewed the types of medical treatments received for phantom pain and/or stump pain as well as self-medication and prosthetic use. The median follow-up time was 19.1 years.

Results

Body Function		Activity			Participation	Others	
Mechanics	Pain	Grip patterns / force	Manual dexterity	Activities of daily living (ADL)	Satisfaction and Quality of life (QoL)	Training	Technical aspect

Category	Outcomes	Results for stump pain, phantom pain and sensation.	Sig.*
Pain	Questionnaire (self-designed)	Phantom pain was not reported in congenital group.	n.a.
		The prevalence of phantom pain in acquired group of amputees was 51%, of phantom sensations 76% and of stump pain 49%.	n.a.
		Pain before amputation was experienced by 14% of subjects that acquired amputation during their life.	n.a.
		Medical treatment was given to 4 subjects (transcutaneous electrical nerve stimulation, medication injections), two responded.	n.a.
		Medical treatment for stump pain was given to 5 subjects of which four subjects underwent an operation and one subject received massage. In three subjects the operation was effective.	n.a.
		In 20 subjects a spot was present which upon touching provoked phantom pain and stump pain.	n.a.
		The arm prosthesis was used for more than 8 h per day by 72% of amputees.	n.a.
		Phantom sensations associated with phantom pain: <ul style="list-style-type: none"> • Itching 25% • Movement 38% • Abnormal shape 9% • Abnormal position 22% • Something touching 7% • Warmth 11% • Cold 40% • Electric sensations 42% 	n.a.
		The relative risk of experiencing phantom pain when having stump pain is about twice as high compared with those not experiencing stump pain.	n.a.
Phantom pain was present in 97% of subjects experiencing phantom sensations.	n.a.		

* no difference (0), positive trend (+), negative trend (-), significant (++/--), not applicable (n.a.)

Author's Conclusion

"In conclusion, phantom pain after upper limb amputation is a common problem. The determinants are still poorly understood." (Kooijmana et al. 2000)

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