

PROSTHETIC ACCEPTANCE IN CHILDREN AND FACTORS THAT CAN INFLUENCE IT: A LITERATURE REVIEW

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INTRODUCTION

Children with upper limb deficiency usually do not have sense of limb-loss, and often see a prosthesis as an assistive tool, rather than a functional hand replacement¹. Therefore a child will accept and wear a prosthesis only if it is regarded as useful². The objective of this review was to evaluate the factors that might influence upper limb prosthetic acceptance in children fittings.

METHODS

Pubmed search was performed to identify the publications with upper limb prosthetic acceptance in children. The published articles additionally known to the authors were reviewed and if relevant included. Quality assessment of the studies was not conducted.

RESULTS

Eleven articles were identified as appropriate and included in the review.

41% of children were multiple prosthetic users³. Of those children who used only one prosthesis, 44% selected a simple passive hand as their prosthesis of choice, 41% a body-powered and 15% a myoelectric prosthesis³. Another study reported that 36% of children accepted a passive or body-powered prosthesis, while 38% accepted a powered hook or "pat a cake"⁴. When children transitioned to the myoelectric hands, acceptance increased to 58%⁴. The general acceptance rate of myoelectric prostheses in preschool children was 76%⁵.

First fitting before 2 years of age seems to be related to higher acceptance rates⁶. 50% of children fitted at an age older than two years abandoned their prostheses compared to only 22% of children who had been fitted before the age of two years⁷. For the final type of prosthesis, children who wore an active prosthesis were more than twice as likely to wear it longer in life than children who wore a passive prosthesis⁸.

Additional factors that might increase prosthetic acceptance were: prosthetic cosmetic appearance, functionality in conducting specific tasks, appropriate training and positive parental influence⁹⁻¹¹.

34% of tested children with trans-radial limb deficiency between the ages of 2-20 years (n=498) rejected their prosthesis¹. The principal reasons for rejection of a prosthesis were lack of function (53% of 135 non-users), and lack of comfort (49% of non-users)¹. Additional factors that might increase prosthetic rejection were user's identity challenges, level of deficiency (children with higher levels of

upper limb deficiency tend to wear their prosthesis longer), and negative parental influence^{9,10}.

DISCUSSION

The factors that drive prosthesis acceptance in children differ from those that are leading to the prosthesis rejection. Focusing on them might increase upper limb prosthetic acceptance and use later in life.

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