FACTORS INFLUENCING LONG TERM PROSTHESIS USE

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BACKGROUND

Experienced Upper Limb(UL) prosthetists regularly engage patients with a successful long term prosthesis wear and use history. Clinical concentration to quantify the primary contributing factors to this outcome is paramount to consistent clinical practice. Patient population specific factors such as amputation level, patients' prosthesis expectations, experience and preferred type and demographic characteristics must be considered when making clinical decisions. While, there are many opinions as to what qualifies as prosthetic rehabilitation "success" (e.g., active grasp, user satisfaction). Clinical observation demonstrates a variance in prosthesis wear time among some patients and may serve as a common marker among UL patients. As such, the primary aim of the current study is to better understand which, if any, condition-related or demographic variables influence long term UL prosthetic rehabilitation "success."

METHODS

Representative case studies demonstrating the scope and variety of factors impacting long term prosthesis wear and use were completed. These representatives' results were compared to prosthetic rehabilitation patient survey results to identify corresponding factors influencing outcomes. One hundred and eighteen patients the Comprehensive Arm Prosthesis and Rehabilitation Outcome Questionnaire-Revised© (CAPOQ-R©) as a standard of clinical care. A series of t-tests, univariate analyses of variance, and simple linear regression analyses were conducted to assess associations between a) key demographic and condition-related variables and b) prosthetic wear time were completed.

RESULTS

Comparison of representative case studies and survey results confirmed prosthetist expectations of prosthesis wear history and daily wear time. Analyses of survey results found no significant difference in prosthetic wear time based on biological sex, education level, age, current job status, area of the country, trauma type, or primary prosthesis type. However, results showed a significant difference based on the amount of time patients had their prosthesis [$t(105) = 2.46$, $p=.016$]. More specifically, patients who had their prosthesis for more than five years ($M=9.59$, $SD=4.93$) wore their prosthesis for significantly more hours on a daily basis than participants who had their prosthesis for less than five years ($M=7.21$, $SD=4.15$).

CONCLUSION

Results of the clinical observation and patient responses suggest UL amputees with long term experience utilizing a prosthesis wear their prosthesis for longer periods of time each day. Results do not support any general or patient population specific demographics as having a significant impact on prosthesis wear time. Further research is warranted to evaluate the impact of other factors with the potential to influence long term wear and use of an UL prosthesis.