Pre- & Post-Assessment of Health-Related Quality of Life (HRQOL) Using the Orthotics Prosthetics Users’ Survey (OPUS)

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1. Background
There is a dearth of longitudinal studies about patients’ health-related quality of life (HRQOL) in prosthetics and orthotics (P&O). Filling this gap in research can support the validity and reliability of current treatment plans for patients, payers and professionals.

Research has suggested that with increased HRQOL, the person has an increased quality of health, thus, the burden on the health care system is decreased.1 HRQOL outcome measures are subjective, and are considered a valid method in identifying service needs and intervention outcomes.2–4 Additionally, HRQOL measures have been able to predict mortality and morbidity patterns that many objective measures of health cannot.3,4

The HRQOL from the International Classification of Functioning, Disability and Health (ICF)3 defines that “individuals’ perceptions of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards and concerns” (p. 5). It is important to define HRQOL because it has meaning to nearly everyone, but individuals and groups can view it very differently.

2. Objective
Drawing on the ICF framework, this study aims to longitudinally assess a patient's HRQOL before and after receiving a below-knee prosthetic or orthotic device(s).

3. Methods
A single subject experimental A-B study design was followed. ‘A’ is the baseline measurement (pre-survey) and ‘B’ is the treatment intervention of the prosthetic or orthotic device(s) (post-survey). Upon approval from the Research Ethics Board of BCIT clinics from BC, Manitoba and Ontario were contacted. There was a total of ten participating clinics.

Pre-Survey Methods
- Contact P&O Clinics
- A. Baseline Completion of Pre-Survey
- Intervention within One Month
- B. Treatment Intervention Post Survey

Post-Survey Methods
- Data Collection
- Data Analysis:
  - Pre Survey Descriptive Statistics
  - Post Survey: Pharmaceutics Properties of OPUS
  - Individual Questionnaire Analysis

4. Results: Pre-Survey

Comparison of pre-survey to post-survey scores revealed none of the scores exceeded the minimal detectable change of the OPUS (T 7.4-16.6). Thus, this decrease is not considered clinically significant. The measurement error or variation is most likely responsible for the change. It would be interesting to allow for more time to pass and to administer the OPUS multiple times throughout the rehabilitation journey. The OPUS has excellent test-retest reliability with the ability to produce consistent results each time it is administered. This could establish trends that could change the decision-making process regarding the treatment intervention (P&O devices).

5. Results: Post-Survey

Results: Individual Question Analysis
Since the objective was to track change in HRQOL it was important to break down those scores on the OPUS to track where the change was or was not happening.

The greatest change for the majority of participants occurred on the first page of the OPUS, particularly in survey questions three (3) and seven (7). These questions are related to HRQOL restrictions and indicates that this may be what P&O clinicians influence in the first month of treatment.

No change was observed for two questions on the second page of the OPUS, particularly in survey questions sixteen (16) and nineteen (19). These questions are associated with HRQOL emotions and may indicate that P&O treatment does not necessarily influence emotion in the first month of treatment.

6. Results: Post-Survey

Tracking the change of HRQOL in a patient can be beneficial for the individuals motivation and autonomy. Autonomy can make a patient more responsive and involved in the treatment process. P&O clinicians can use the OPUS and ICF framework to communicate inter-professionally while justifying or guiding treatments to improve patient outcomes. HRQOL has the potential to influence legal and social structures such as funding models and policies. By identifying health needs through the OPUS and ICF, payers can allocate resources appropriately.

8. Future Directions
For future research a consideration is to increase the sample size while identifying sample characteristics. For example, differentiating between age, type of device, pathology and amputation level. Additionally, the use of OPUS would be suggested in its single module forms or as an entire survey package. It is important to administer the OPUS in the context of the rehabilitation cycle. For example, surveying patients at initial fitting, definitive fitting or at a follow-up appointment may show different results. Lastly, the ICF framework has the potential to become the common language among rehabilitation professionals through continued use.

9. References

10. Acknowledgements
Thank you to all participating clinics, clinicians & volunteer participants, Caroline Soo, Nathan Owen, Winston Colau, Jen Slipchuk, and D. Alex Heinemann (OPUS Developer).