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Program Development in Pediatric Prosthetic Training for Occupational Therapists

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BACKGROUND

- According to the CDC (2022) 1 in every 1,900 births in the United States are infants with a limb reduction defects. Between 1997 and 2012 there were 6,130 cases of pediatric traumatic amputations of upper extremities (Vakhshori, et al., 2019).
- Prosthetic rejection is very common in pediatric patients. Predominantly due to lack of comfort and functional aid (Wagner, et al. 2007).
- Studies on the role of OT in pediatric upper limb prosthetic training demonstrate OTs can help with education, strengthening, pain management, and ADL training with the prosthetic limb (Rosende, et al. 2017) .

PROBLEM

- Most patients do not yet receive enough treatment sessions for the period needed (Butler, et al. 2019).
- The existing literature does not properly guide education of OTs in prosthetic training (McDonald et al., 2020).
- A gap in literature excludes curricula and education on amputation care and prosthetics for OT programs. No up-to-date tools have been found to help prepare OTs to train pediatric patients with upper limb prosthetics.

PURPOSE

To develop a training guide for Occupational Therapist to better serve pediatric patients with upper limb prosthetics to ensure improved functional participation and avoid overuse injuries.

PURPOSE

Project Objectives:

- Conduct a needs assessment to identify occupational of pediatric patients as well as preparation requirements of OTs
- Develop an OT training guide based on the needs assessment data and observation of OT prosthetic training sessions.
- Develop a user-friendly digital resource that facilitates access for both OTs and patients seeking upper-limb prosthetic information
- Conduct an evaluation to determine effectiveness and benefit of the developed guide. As well as evaluate limitations and future directions.

METHODS

Setting: Scottish Rite Pediatric Orthopedic Hospital

Needs Assessment:

- Qualitative data/Microsoft Forms
- 3 OT participants were asked about their experience and training in prosthetics and 3 patient parents were asked about their experience with their prosthetic and training

Prosthetic Evaluation and Training:

- 4 Patients' parents gave consent to observation to gain insight into the role of OT during prosthetic selection phase and pre-prosthetic training phase.
- 1 Patient's parent gave consent to observation during the prosthetic training phase.

Post-Survey:

- Qualitative data/Microsoft Forms
- 6 OTs answered post survey questions
- An interview was conducted with a prosthetist.

PROGRAM

General Program Goals:

1. Educate OTs on the role and importance of OT in the upper limb prosthetic area
2. Educate OTs on the different diagnosis as well as the different prosthetic options
3. Gather information and educate OTs on pre-prosthetic training and strengthening
4. Educate OTs on prosthetic training
5. Provide resources to OTs and Patients on more prosthetic information

Outcomes:

1. A training guide in the form of a word document for OTs
2. A digital tool that goes along with the document. This tool can be utilized to provide OTs and patients with information of prosthetic training and what to expect.

Theoretical Frameworks:

The Rehabilitative Frame of Reference

Conclusions / Future Directions

The positive response from 100% of the participating OTs in the evaluation reaffirms the guide's effectiveness and potential benefits for other OTs and new graduates. This positive feedback validates the guide's significance in bridging the knowledge gap and supporting OTs in delivering exceptional care to patients with upper limb prosthetics.

Strengths and Limitations: Challenges include limited patient visits. Leading to an absence of specific intervention ideas beyond specific tasks, and personalized approaches. Positive factors, such as the virtual tool, enhances patient education and support. Lastly the input from Scottish Rite's knowledgeable staff.

Future Recommendations: Future studies would benefit from extending the program time to include more patients and the possible development of an OT training program or module for OT students.

Website & References

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