

Form Section 3b - Abstract in English

Background and purposes: Stroke is the leading cause of adult disability. A person's level of independence on activities of daily living (ADL) is considered indicative of the level of disability. The effectiveness of ADL training depends greatly on the motivation of the patients and their family. A patient-centered approach has been advocated for clinical practice and potentially increases the motivation and effectiveness of ADL training. However, the patient and his/her caregiver mostly lack knowledge of stroke and occupational therapy (OT), which is, in essence, professional ADL training. This lack of fundamental knowledge not only hampers the execution of a patient-centered approach but also reduces the effect of ADL training. Thus, our primary purpose is to propose a patient-centered OT approach and examine its effect on ADL function in stroke patients. To prepare for the patient-centered OT approach, we will first develop a computerized adaptive knowledge and education system for testing and improving patients' and caregivers' knowledge on both stroke and OT.

Method: In the first 3 years of the 5-year project, we will develop the computerized adaptive knowledge and education system. We will also examine the effectiveness of the computerized adaptive knowledge and education system. In the last 2 years, we will employ this system as a component of the patient-centered OT approach to improve the efficiency of patient-caregiver-therapist communication. Finally, we will carry out a randomized controlled trial to determine whether the patient-centered OT approach using the computerized adaptive knowledge and education system will significantly improve ADL function in stroke patients over that of traditional OT. The cost effectiveness and cost utility of the program will also be examined.

Expected results: We hypothesize that the patients and caregivers' original knowledge of stroke and OT will be limited or modest. We expect that the computerized adaptive knowledge and education system will efficiently improve knowledge of stroke and OT of a patient/family. In addition, the patient-centered OT program using the computerized adaptive knowledge and education system will improve ADL independence in stroke patients. The patient-centered OT program will be cost-effective in improving ADL function and quality-adjusted life years.

Potential value and contributions: The computerized adaptive knowledge and education system will be useful for clinicians to promote stroke and OT knowledge for stroke patients and their families. Because no adaptive stroke and OT knowledge and education system exists yet, our system might be the first in the world. The computerized adaptive knowledge and education system will be so efficient that it can facilitate the administration of patient-centered OT approach in busy clinical settings. Thus, the patient-centered OT approach will be feasible and effective. We will develop clinical guidelines on the basis of the patient-centered OT program to disseminate this program to daily clinical practice. Finally, we hope that our project will allow us to combine patient-centered care and evidence-based medicine while addressing the imperatives of cost effectiveness and utility.