Implementation of evidence based research into practice in the field of rehabilitation

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Although a considerable amount of knowledge is being generated through evidence-based research, the implementation of this knowledge into practice is slow, taking 17 years or more. This is referred to as the "know-do-gap" whereby research evidence is known but not used in practice. "Knowledge translation" has emerged as a paradigm to learn and act towards closing this gap. Knowledge translation (KT) is defined as a dynamic and iterative process that includes the synthesis, dissemination, exchange and ethically sound application of knowledge to improve health, provide more effective health services and products, and strengthen the health care system. This process takes place within a complex system of interactions between researchers and knowledge users which may vary in intensity, complexity and level of engagement depending on the nature of the research and the findings as well as the needs of the particular knowledge user. KT research (implementation science) addresses to study the methods to promote the uptake of research findings into practice. Various models/frameworks that can be used to support KT practice and research have been developed. One of the most commonly used framework is the Knowledge-to-Action-Cycle (KTA), which composes knowledge creation funnel and the action cycle. Knowledge creation includes knowledge inquiry, knowledge synthesis, and knowledge tools/products. The action cycle includes the following phases: 1) Identify a problem that needs addressing; identify, review, and select the knowledge or research relevant to the problem, 2) Adapt the identified knowledge or research to the local context, 3) Assess barriers and facilitators to using the knowledge, 4) Select, tailor, and implement interventions to promote the use of knowledge, 5) Monitor knowledge use, 6) Evaluate the outcomes of using the knowledge, 7) Sustain ongoing knowledge use.

It has been reported that research evidence is not adequately integrated into clinical practice in the field of rehabilitation throughout the life span and across various conditions such as stroke, musculoskeletal disorders, and paediatric conditions. KT research in rehabilitation aims to identify individual and organisational barriers and facilitators and to develop, implement and assess the impact of strategies used to narrow the know-do-gap. Recently, some papers have reviewed the KT activities and research initiatives in the rehabilitation field. In the context of KTA framework, knowledge creation activities include literature synthesis, surveys, systematic reviews, and guideline development. Barriers to uptake of research outcomes in rehabilitation include both individual and organisational factors such as lack of time, lack of knowledge/skills, lack of motivation, limited confidence in critical appraisal and use of research information, reimbursement and cost-related issues, and limited environmental context and resources. Higher academic degrees, organizational or leadership support, positive perspective of clinicians, accessibility of related knowledge tools, close proximity between researchers and clinicians, and supportive environment are factors found to facilitate research implementation. Common KT interventions (generally multi-component) include educational workshops, development of online platforms to support implementation, expert or mentor consultation, audit and feedback strategies, and leadership strategies. Monitoring knowledge use, evaluating outcomes, and sustainability plans/activities have also been reported in some KT papers.

Engaging knowledge users (e.g. clinicians, educators, administrators, patients, caregivers, other consumers) in the implementation process can improve the success of KT interventions as shown by integrated KT models. A successful knowledge translation requires the contribution of all stakeholders to create an optimal physical and social infrastructure. Studies reporting on KT practice and KT research in

the field of rehabilitation (mostly conducted in high income countries) have considerably increased in the last 10 years. Rehabilitation is a complex multi-disciplinary dynamic process conducted within multi-level healthcare systems involving interactions between all stakeholders. Given this complex nature of rehabilitation, efforts to facilitate implementation of research into practice in the field of rehabilitation should be carried out with strategic planning at national and international levels.

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