Chapter 13
The Use of Assistive Technology as a Tool for Family Support and Recovery Post Acquired Brain Injury

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ABSTRACT

The recovery period post acquired brain injury (ABI) results in individuals becoming vastly dependent on family support and caregivers. Theoretical data and findings suggest that there is a lack of awareness and family support structures surrounding those affected by ABI. The empirical data indicated the need for further research and development aimed at improving conditions for recovery for individuals who are recovering from acquired brain injury. This chapter is aimed at creating awareness of assistive technology that can be used in conjunction with existing family support structures for people who are affected by ABI. The findings of this study have the potential to significantly contribute to practices and policies in society through research by providing a local country-contextual theoretical understanding of what needs to be done for persons with ABI and how AT can be used as a recovery tool within family support structures during the recovery process.

INTRODUCTION

The concept of Acquired Brain injury is a developing form of disability globally. Acquired Brain injury (ABI) can be understood as is a lifelong, chronic health condition, with varying severity of cognitive, physical, and behavioural sequelae (Sakzewski, Lewis, McKinlay, Ziviani, & Boyd, 2016). Acquired brain injury (ABI) refers to brain damage after

birth that may be caused by infection, substance abuse, brain tumours, poisoning, encephalopathy, ischemia, and stroke, or by closed or penetrating head injury (Oliver, Montero, Fernández-Caballero, González, & Molina, 2015). There is currently little evidence to guide occupational therapists in the

DOI: 10.4018/978-1-7998-7430-0.ch013

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choice of interventions to address the multi-modal deficits experienced by children with ABI (Sakzewski, Lewis, McKinlay, Ziviani, & Boyd, 2016) .This chapter is aimed at creating awareness of assistive technology that it currently being used and that can be used in conjunction with existing family support structures for people s who are affected by Acquired Brain Injury (ABI). The World Health Organisation has launched a programme to promote Global Cooperation on Assistive Technology (Boot, Owuor, Dinsmore, & MacLachlan, 2018). Lack of education, awareness of the condition and family support structures negatively impacts on recovery and healing. The inclusion and implementation of Assistive Technology (AT) would therefore be highly effective and accessible for these individuals. These AT's will not eliminate family support, but rather aid the recovery process and minimise the level of support that a family would need to provide to the affected person in the household. This is seen as beneficial to both the family the individual recovering post ABI. AT's can be implemented with the use of a range of strategies including use of video-recorded stimuli, communication partner involvement, text message reminders and drawing on metacognitive skills within the group setting were useful for helping people with ABI to set and achieve their goals towards recovery (Behn, Marshall, Togher, & Cruice, 2019). People with severe acquired brain injury often require lifetime support, sometimes received from paid workers if living in shared supported accommodation. Skilled prescription and ongoing support services are necessary to maximise recovery.

This chapter will serve to assist researches in the field, professionals in the field, individuals and family members in gaining insight into the impact of assistive technology and a means of support and recovery post ABI. The existing empirical findings and literature on assistive technology will be analysed and based on finds and discussions the clinical model will be developed. The proposal of the clinical model assists scholars in future research in developing progressive research that incorporates assistive technology, representative of a multi-faceted globalised world was assistive technology will be more vastly accepted and utilised as a means of family support and recovery globally.

BACKGROUND IN UNDERSTANDING ACQUIRED BRAIN INJURY (ABI)

The level of disability in countries and regions is influenced also by physical, human-built, attitudinal and socio-political barriers, including a critical lack of access to assistive products. High-quality and comprehensive disability data are essential to address these trends and challenges.(World Health, 2019). A review of the epidemiology of traumatic brain injury in children and adolescents in North America, Europe, Australia, and New Zealand found a median annual incidence rate of 691 per 100 000 population treated in emergency departments(Sakzewski et al., 2016). Distinctively, prevalence of presbyopia, moderate, and severe vision loss is highest in Armenia and Ukraine compared to Spain and Denmark, with the most substantial difference in prevalence observed for presbyopia and moderate vision loss(Larsson-Lund, Kottorp, & Malinowsky, 2017).

People with severe acquired brain injury often require lifetime support, sometimes received from paid workers if living in shared supported accommodation. People with severe acquired brain injury often require lifetime support, sometimes received from paid workers if living in shared supported accommodation ("Central Nervous System Diseases and Conditions - Brain Injuries; Researchers at Monash University Have Reported New Data on Brain Injuries (Electronic assistive technology used by people with acquired brain injury in shared supported accommodation: Implications for occupational therapy),"

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