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Remote versus face-to-face delivery of early intervention programs for children with autism spectrum disorders: Perceptions of rural families and service providers

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ABSTRACT

To date, research investigating the use of remote technologies to extend face-to-face early intervention services for children with autism spectrum disorder (ASD) is limited. This study explored the perceived advantages and disadvantages of a follow-up early intervention service delivered via remote technology, as compared to previous face-to-face services. The remote technology service focused on parent coaching rather than direct intervention with the child. A generic method of qualitative enquiry involving semi-structured interviews was used to explore the experiences of four rurally-based parents of children with ASD, eight rurally-based service providers, and a metropolitan-based ASD-specialist in regards to their participation in remote technology and face-to-face services. Qualitative content analysis revealed that the parents, service providers and the ASD-specialist perceived remote technologies to be beneficial in: (a) upskilling of parents and local service provider; (b) reducing cost, time and travel; (c) flexible, regular, ongoing support; (d) enabling families to access support from home, and (e) enhancing connections between team members. However, the participants were often frustrated by technical difficulties, and all agreed that remote technology should augment rather than replace face-to-face contact. This study provides preliminary support for the use of remote technologies to extend early intervention services for children with ASD.

1. Introduction

The "tyranny of distance" (Smith & Gray, 2009, p. 15) in Australia presents significant challenges for individuals and families with disabilities accessing health care services. This is particularly apparent in rural and remote areas of Queensland, Australia, where communities are widely dispersed and access to health care services is limited (Smith & Gray, 2009). In Queensland, 48% of the population live in rural and remote areas and yet only 34% of the allied health workforce live there (Services for Australian Rural and Remote Allied Health (SARRAH), 2000). Access to health care services in rural and remote areas is affected by urbanisation of health services, the need to travel long distances to access these services, lack of transportation, and difficulties recruiting and retaining health professionals in these areas (Hoffmann & Cantoni, 2008).

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1.1. The provision of services to children with ASD in rural Australia

Dew et al. (2013) explored the experiences of the parents of 14 young children with developmental disabilities (including 13 who had Autism Spectrum Disorder or ASD) who lived in rural and remote locations, and 53 of their service providers. At the time of writing, The Australian Government (2015) provides individual funding packages to families of young children (0–6 years old) with ASD. Both the parents and service providers in study by Dew et al. (2013) described limited local service options in rural and remote locations with many services having insufficient capacity to meet to the need. Where services existed, the specialist therapy required was often beyond the expertise of the generalist services available in rural towns. In many cases, the only options available to families were to travel to larger cities for appointments, or have specialist providers travel to them on a fly-in, fly-out basis. Families also reported that there was a lack of choice of services on which they could spend their individual funding packages or they spent it on things that were not their highest priorities. In addition to the financial costs, accessing services in the city entailed personal costs for families including the need to access to time-off work and childcare for their other children, distance from emotional supports, and stress when their children did not cope well in unfamiliar environments. Service providers reported that fly-in services were often not financially viable.

1.2. The use of telehealth services for people in rural areas

Telehealth which is defined as the delivery of health services through the use of information and communication technologies (Moffatt & Eley, 2010), has been widely utilised for the treatment of a range of health conditions (Cason, Hartmann, Jacobs, & Richard, 2013; Gray et al., 2011). Reported benefits to rural patients include the augmentation of existing services, reduced travel costs, increased convenience, improved access to services, and the introduction of previously unavailable services (Moffatt & Eley, 2010). A position paper by the Services for Australian Rural and Remote Allied Health (Services for Australian Rural and Remote Allied Health (SARRAH), 2012) cautions, however, that telehealth should not be used as a substitute for face-to-face health services where direct intervention is available, particularly if better health outcomes are achieved through face-to-face contact.

Evidence suggests that telehealth has the potential to enhance the skills of rural service providers. A review of telehealth in rural Australia by Moffatt and Eley (2010) reported on telehealth's support and up-skilling of rural practitioners through professional development and education, experiential learning by observing urban specialists, networking, and collaboration. A policy review by Bywood, Raven, and Butler (2013) noted that a key benefit of telehealth for primary health care providers was that their presence at telehealth consultations with a specialist enhanced their understanding of specialty areas.

Telehealth has also been found to enhance teamwork. Careau, Vincent, and Noreau (2008) observed that video conferencing enables real-time discussion between specialists, local service providers and clients. When Day and Kerr (2012) examined the implementation of a telehealth service in a remote area of New Zealand, they found that providing opportunities for the local general practitioner and nurse to virtually attend specialist appointments allowed them to participate more fully in their patients' care.

A study by Smith, Scuffham, and Wootton (2007) demonstrated that the use of telemedicine in regional Queensland resulted in substantial government savings. Smith and Gray (2009) calculated a 37% reduction in costs through the use of a telepaediatric service to support rural and remote families.

1.3. Early intervention and parent education programs for young children with ASD

Research has demonstrated that intervention for children with ASD should ideally be implemented at an early age to achieve optimal outcomes (Rogers & Vismara, 2008). A review of effective models of practice in early intervention for children with ASD by Prior, Roberts, Rodger, Williams, and Sutherland (2011) recommended that children with ASD receive a total of 15–25 h of early intervention per week over a period of 2–3 years. Given that services of this level of intensity are often not available in rural and remote areas, the notion of supporting parents to be the primary agents of early intervention is becoming increasingly important. Furthermore, Prior et al. (2011) highlighted the importance of providing parents with emotional support, information and training in working with their children.

There is some evidence to support the use of parent education as a component of intervention programs for young children with ASD. A review by McConachie and Diggle (2007) suggested that parent training can lead to reduced maternal depression and improvements in child communicative behaviour, maternal knowledge of ASD, maternal communication style and parent-child interaction. Farmer and Reupert (2013) also found that an education program for parents of children with ASD living in rural Australia resulted in significant increases in parental understanding of ASD, understanding of their own child, parental confidence and reduced parental anxiety. In contrast, two recent randomised controlled trials failed to demonstrate that parent-delivered interventions improved child outcomes. Green et al. (2010) found that a parent-mediated communication-focused intervention was not effective in reducing the symptoms of ASD, although parent-child dyadic social communication improved. Oosterling et al. (2010) also found parent training focused on stimulating joint attention and language to be ineffective. Overall, research indicates that while the effectiveness of parent education on child outcomes is equivocal, these programs can be effective in improving parent outcomes, including parents' understanding of ASD, skills in working with the child, confidence, and emotional wellbeing. Keen, Couzens, Muspratt, and Rodger (2010) found that a