



Pediatric allied healthcare professionals' knowledge and self-efficacy regarding ASD



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ABSTRACT

Background: Outdated knowledge regarding autism spectrum disorder (ASD) can compromise service providers' ability to address this population's needs. An adapted ASD knowledge and self-efficacy questionnaire was developed, validated, and used to assess clinicians' ASD knowledge and self-efficacy as a function of ASD experience and profession.

Method: 234 clinicians including 82 physical therapists, 85 occupational therapists, and 67 speech-language pathologists completed the survey. Thirty-five professionals had ASD experience.

Results: The questionnaire showed high internal and test-retest reliability. Factor analysis demonstrated good construct validity. Clinicians demonstrated adequate knowledge of basic assumptions related to the course and nature of ASD, and its phenotypic heterogeneity. Clinicians generally rejected statements describing misconceptions about the etiology, prognosis, and treatment of ASD. Knowledge gaps were found with regards to comorbid conditions and specific interventions. Knowledge about early ASD markers was independent of pediatric or ASD experience. Clinicians appeared to have more accurate knowledge about the core diagnostic features than they did about the helpful and irrelevant features. A moderate level of clinical self-efficacy regarding the ability to screen, and treat children with ASD was reported. The ASD experienced professionals had significantly higher mean knowledge and self-efficacy scores, apart from confidence in parent communication, than the inexperienced professionals. No substantial differences in ASD knowledge were found between professions.

Conclusions: The questionnaire developed showed promising psychometric properties for measuring both current ASD knowledge pertaining to a broad range of areas and clinical self-efficacy in the field. Knowledge gaps should be addressed in the professional training of clinicians who treat children with ASD and encounter children who are at risk of developing ASD.

1. Introduction

Autism spectrum disorder (ASD) is a developmental disorder with early-childhood onset and heterogeneous severity and symptoms (Geschwind & Levitt, 2007). The pervasive nature of ASD requires a multi-disciplinary team approach for screening, diagnosis, and intervention (Dillenburger, McKerr, Jordan & Keenan, 2016; National Research Council, 2001). Early diagnosis and intervention for children with ASD is critical for obtaining adequate services and better outcomes (Dawson, 2008; Dawson, Rogers, Munson, Smith, Winter, Greenson, & Varley; Dillenburger et al., 2016; Rhoades, Scarpa, & Salley, 2007). All professionals involved in

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ASD care, need to be knowledgeable and well-trained in the various aspects of ASD and its manifestation across the spectrum and different ages in order to meet the needs of this population. Gaps in knowledge regarding ASD (particularly early signs of ASD) may delay diagnosis and intervention (Bakare et al., 2008; Filipek et al., 2000; Rhoades et al., 2007).

1.1. The state of ASD knowledge

Poor knowledge and lack of proper training across various professions impede early screening, accurate identification and early referral of children with ASD for a diagnostic assessment and specific intervention (Dillenburger et al., 2016; Harrison, Slane, Hoang, & Campbell, 2017). Among the professions at the forefront of early diagnosis of at-risk children are speech-language pathologists, occupational therapists, and physical therapists (Bhat, Landa, & Galloway, 2011; Dillenburger et al., 2016; Filipek et al., 2000; Volkmar et al., 1999). Allied health professionals receive insufficient basic and advanced ASD specific training which highlights the need for educational and clinical training programs that are tailored to their specific education and clinical rolls (Burnett, 2014; Cascella, & Colella, 2004; Dillenburger et al., 2016; Dillenburger et al., 2014; Schwartz & Drager, 2008). Quantification of ASD knowledge may aid the design of training programs that target specific areas of gap, the allocation of educational resources and the evaluation of the training effectiveness (Cascella, & Colella, 2004; Harrison, Slane, et al., 2017; Harrison, Bradshaw, Naqvi, Paff, 2017; Schwartz & Drager, 2008).

A striking number (over 40) of ASD knowledge assessment measures targeting community, clinical and educational settings are described in the literature (for a review see Harrison, Slane, et al., 2017; Harrison, Bradshaw, et al., 2017). One of the first cross-disciplinary and commonly studied measures assessing knowledge and beliefs concerning ASD is the Autism Survey (Harrison, Slane, et al., 2017; Stone, 1987). The Autism Survey was developed according to the DSM–III and was found to be a valid and reliable questionnaire (Campbell, Schopler, Cueva, & Hallin, 1996; Harrison, Slane, et al., 2017). The Autism Survey contains two sections. The first section evaluates beliefs regarding the social, emotional and cognitive features of ASD, its treatment, and its prognosis; the second section evaluates knowledge regarding the classification of diagnostic features of ASD. The Autism Survey has since been adapted to reflect changes in the DSM-IV diagnostic criteria and up-to-date knowledge regarding ASD, and has been modified for administration in special clinical settings (e.g., Heidgerken, Geffken, Modi, & Frakey, 2005; Helps, Newson-Davis, & Callis, 1999; Swiezy, 2005; Tipton & Blacher, 2014). Other tools have been developed to assess professionals' ASD knowledge (e.g., Bakare et al., 2008; Haimour & Obaidat, 2013; Schwartz & Drager, 2008; Shah, 2001) or to measure ASD knowledge and attitudes among the general population including parents and stakeholders (Harrison, Bradshaw, et al., 2017). Of the existing tools, only a few have validated psychometric properties, or address sub-domains in ASD knowledge including early ASD signs (Harrison, Slane, et al., 2017).

Previous studies of healthcare providers' ASD knowledge have highlighted misconceptions and outdated views regarding diagnostic criteria, etiology, comorbidities, onset of the disorder in childhood, prognosis, and interventions (Daley & Sigman, 2002; Eiseigbe et al., 2015; Hartley-McAndrew et al., 2014; Heidgerken et al., 2005; Igwe et al., 2011; Rahbar, Ibrahim, & Assassi, 2011; Rhoades et al., 2007; Shah, 2001; Stone, 1987). There is need for ongoing investigation of ASD knowledge to account for the continuous and rapid changes in ASD diagnostic criteria, and in practice and evidence, including early ASD markers and risk factors.

1.2. ASD knowledge and work experience

Knowledge about ASD can be enriched by work experience in diagnosing and managing children with AS Stone (1987) compared the knowledge and beliefs of professionals from diverse disciplines (i.e. psychologists, pediatricians, and speech-language pathologists) with those of eighteen ASD specialists. The specialists had a greater understanding of ASD diagnostic criteria and fewer misconceptions, e.g. the belief that ASD is a temporary condition. Experts in ASD, in contrast with primary providers (Heidgerken et al., 2005) or educational staff (Helps et al., 1999), did not endorse several outdated beliefs – e.g. children with ASD have learning difficulties; most children with ASD have special abilities; or ASD is an emotional disorder. Teachers with more teaching experience, more contact with ASD students, and training as special needs educators also showed higher levels of ASD knowledge (Haimour & Obaidat, 2013). It is plausible that the relationship between experience and knowledge relates to the experienced clinician's increased exposure to patients with ASD as well as more clinical supervision and training in the field.

1.3. ASD knowledge and professional background

Different training backgrounds and professional orientations were found to affect views regarding assessment, diagnosis, and management of ASD (e.g. Stone, 1987). Of the pediatric allied healthcare professions, speech-language pathology is the most commonly reported profession serving children with ASD (above 80%; McLennan, Huculak, & Sheehan, 2008), followed by occupational therapy (above 60%; Bitterman et al., 2008; McLennan et al., 2008; Thomas et al., 2007) and physical therapy (14%; McLennan et al., 2008). These healthcare professions are also involved in early screening of children at developmental risk. Three studies examined ASD knowledge and training among speech-language pathologists (Cascella & Colella, 2004; Heidgerken et al., 2005; Schwartz & Drager, 2008). ASD knowledge of occupational and physical therapists has been scarcely mapped. It would be valuable to know whether these three groups share similar knowledge regarding ASD, so as to determine whether training for these professional groups can be similar or whether they require separate lines of professional training.

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