Measuring the impact of feeding covariates on health-related quality of life in children with autism spectrum disorder

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ABSTRACT

Purpose: The purpose of the study was to examine the impact of feeding covariates (feeding problems, mealtime problems and feeding strategies/practices) on the health-related quality of life (HRQoL) in children with autism spectrum disorder (ASD).
Method: The valid data were obtained from a convenience sample of 379 mothers, on behalf of their children with ASD. Four assessment tools were used to collect data: KIDSCREEN health-related quality of life questionnaire short version (KIDSCREEN-SV), to assess HRQoL; screening tool of feeding problems (STEP), to assess the feeding problems; brief autism mealtime behaviour inventory (BAMBI), to assess mealtime problems; and feeding strategies questionnaire (FSQ), to assess parental feeding strategies/practices. A stepwise multiple regression analysis was run to determine the effects of predictor parameters (feeding problems, mealtime problems and feeding strategies/practices) on the HRQoL of children with ASD.
Results: The multiple-regression analysis yielded three regression models. BAMBI (mealtime problems), FSQ (feeding strategies) and STEP (feeding problems) explained 11% of the total variance of HRQoL in a significant way. The amount of explained variance, beta score and correlation value suggest that BAMBI (mealtime problems) is the most significant predictor of HRQoL of children with ASD.
Conclusion: The study provides evidence that feeding problems, mealtime problems and feeding strategies, play a significant and predictive role on HRQoL. Consequently, eliminating feeding and mealtime problems and ameliorating parental feeding strategies/practices may promote the HRQoL of children with ASD.

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1. Introduction

Health-related quality of life (HRQoL) has been identified as a multi-dimensional concept in assessing the physical, social and psychological functions of health and general well-being, and refers to perceived physical or mental health over time (Centers for Disease Control and Prevention (CDC), 2000; Cui, Zack, & Wethington, 2014). HRQoL measurements involve subjective perceptions of individuals on their objective conditions related to health outcomes such as psychological, social functioning, emotional and physical well-being (Leidy, Rich, & Geneste, 1999; WHOQOL Group, 1995).

There has been a significant increase in the utilization of HRQoL measurements (Limbers, Heffer, & Varni, 2009) due to a growing consensus that HRQoL measurements may improve an individual's health outcomes and the efficacy of healthcare services (Limbers et al., 2009; Matza, Swensen, Flood, Secnik, & Leidy, 2004; Varni, Burwinkle, & Lane, 2005). Although several studies have used HRQoL measurements to assess the health outcomes of children with both developmental and psychiatric disorders, as well as typically developing children, the HRQoL of children with autism spectrum disorder (ASD) has received scant attention in the literature (Kamp-Becker, Schröder, Remschmidt, & Bachmann, 2010; Kuhlthau et al., 2010; Lee, Harrington, Louie, & Newschaffer, 2008). Studies on HRQoL showed a higher rate of dissatisfaction about HRQoL among children with ASD compared to typically developing children, or children with other types of disabilities (Cottenceau et al., 2012; Dey, Landolt, & Mohler-Kuo, 2012; Ikeda, Hinckson, & Krageloh, 2014; Jennes-Coussens, Magill-Evans, & Koning, 2006; Kamp-Becker et al., 2010; Khanna, Jariwala-Parikh, West-Strum, & Mahabaleshwarkarb, 2014; Kuhlthau et al., 2010).

Autism spectrum disorder (ASD), as a new and more accurate term, is a single diagnostic category that encompasses four previously separate disorders (i.e. autistic disorder, Asperger's disorder, childhood disintegrative disorder, or the catch-all diagnosis of a pervasive developmental disorder not otherwise specified) (Huerta, Bishop, Duncan, Hus, & Lord, 2012). The diagnosis of ASD is based on deficits in social communication and social interaction as well as restricted repetitive behaviours, interests and activities (American Psychiatric Association (APA), 2013). The dramatic rise in the diagnosis of ASD has constituted a source for increased knowledge and awareness about ASD (Jensen and Spannagel, 2011), or vice versa. Furthermore, there is an on-going discussion about whether some traits, including the feeding problems, are part of ASD diagnosis (Grzadzinski, Huerta, & Lord, 2013). In recent years, an increasing number of studies have examined the feeding covariates as comorbid symptomatology of individuals with ASD. Feeding covariates associated with a diagnosis of ASD might be evaluated within three topics: feeding problems (Fodstad & Matson, 2008; Ledford & Gast, 2006; Matson & Fodstad, 2009), mealtime problems (Kodak & Piazza, 2008; Lukens & Linscheid, 2008; Nadon, Feldman, Dunn, & Gisel, 2011; Provost, Crowe, Osbourn, McClain, & Skipper, 2010), and feeding strategies/practices (Meral, in press; Seiverling, Williams, & Sturmey, 2010). Although healthy feeding is one of the important indicators of paediatric health outcomes, the association between problematic feeding covariates experienced by children with ASD and HRQoL has not explicitly been examined.

To our knowledge, this is the first study to determine the effects of feeding covariates on HRQoL in children with ASD. This study aims to measure the impact of feeding covariates on proxy-reported HRQoL in children with ASD. The research question is how children with ASD deal with feeding covariates, and which may have an impact on their HRQoL. Accordingly, the hypothesis of the current study was that feeding and mealtime problems are negatively linked with the HRQoL of children with ASD, while feeding strategies/practices are positively linked with the HRQoL of children with ASD. This is depicted with a hypothetical model in Fig. 1.

2. Method

2.1. Participants and procedure

Three hundred and seventy-nine mothers, on behalf of their children with ASD, took part in the current study that was conducted based upon parental proxy-reports. Data were collected from participants in accordance with their consent by mail survey (Dillman, Smyth, & Christian, 2009). The participants were composed of a convenience sample of 379 children with ASD who were recruited from ten autistic children education centres, three private special education centres, and one early childhood education centre providing services in eight different provinces in Turkey (Bursa, Denizli, Diyarbakir, Istanbul, Kutahya, Sakarya, Trabzon, and Van). All of children with ASD were diagnosed or confirmed by Guidance and Research Centres (GRCs) who were authorized to provide educational diagnostic services for children with special education needs. The diagnostic processes were fulfilled based on the international diagnostic criteria of the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV-TR) (APA, 2000).

The basic characteristics of the children with ASD are displayed in Table 1. The majority of children were male (78.6%), which is consistent with their diagnosis category. Their age ranged between 1 and 28 years old, with a mean of 9.57
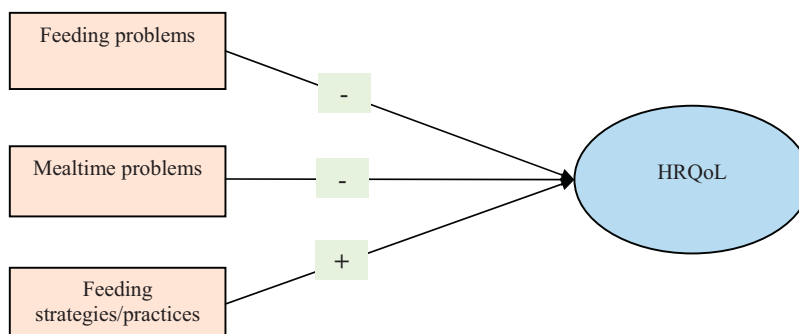
Fig. 1. Hypothetical model for predicting HRQoL.