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ORIGINAL ARTICLE

Testing the Arabic short form versions of the Parental-Caregivers Perceptions Questionnaire and the Family Impact Scale in Oman

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Abstract Short form versions of the Parental-Caregivers Perception Questionnaire (P-CPQ) and Family Impact Scale (FIS) have been developed for use as measures of oral health-related quality of life in dental research.

Objectives: (1) To translate the original English short form versions of the P-CPQ and FIS and examine their validity, and (2) to describe the impact of early childhood caries on oral health-related quality of life in young Omani children and their families.

Methods: Parents/caregivers of children awaiting treatment for early childhood caries completed the P-CPQ and FIS at the Military Dental Center in Oman. Data were obtained from 191 families (representing a 94.1% participation rate). A global Oral Health Quality of Life (OHRQoL) item was used concurrently to examine the scales' validity.

Results: The cross-sectional concurrent validity of the short form version of the P-CPQ was apparent in the significant gradient across the response categories of the global OHRQoL item, but the FIS short form version did not perform as well.

Conclusion: The P-CPQ appears to be valid, but further investigation of the FIS is required, along with examination of the scales' responsiveness to change.

1. Introduction

Children's oral and oro-facial conditions affect both their quality of life and that of their families. The Child Oral Health Quality of Life (COHQoL) set of scales is the most commonly used instrument for measuring this impact (Locker et al., 2002; Jokovic et al., 2003). Used in a number of important studies to date (reviewed in Gilchrist et al., 2014), the scales include the Child Perceptions Questionnaire (which has age-specific

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versions), the Parental-Caregivers Perceptions Questionnaire (P-CPQ), and the Family Impact Scale (FIS). The reliability and validity of the P-CPQ component have been demonstrated previously (Jokovic et al., 2003; Do and Spencer, 2008), and it and the FIS have been shown to be valid and responsive in longitudinal research (Malden et al., 2008; Gaynor and Thomson, 2012).

Short form versions of the P-CPQ and FIS have recently been developed and validated, and they have been shown to be responsive in longitudinal research (Thomson et al., 2013). The development of short form versions of these instruments is important because of their lower respondent burden. As a result, they are more likely to be used routinely by clinicians and researchers, and there is a lower risk of incomplete data from respondents.

The aim of this study was to translate the original English short form versions of the P-CPQ and FIS into Arabic and to evaluate their properties and validity in a consecutive clinical sample of Omani patients undergoing dental treatment.

2. Methods

In January 2013, the Armed Forces Hospital Ethics Committee gave ethical approval for this study. Data were obtained from people attending the Military Dental Center in Oman. The participants were a consecutive clinical convenience sample of parents/caregivers of children receiving treatment for early childhood caries during a 5-week period. All such parents/caregivers were invited to participate in the study, but those with dental trauma or severe malocclusion as the primary reason for presenting were excluded from the study, along with parents/caregivers who could not read or write. An information sheet containing information on the study was given to potential participants, with further verbal information being provided when it was needed. Written consent was obtained from all participants.

The sample size was determined based on similar data collected in Auckland, New Zealand (Gaynor and Thomson, 2012). It was based on an expected effect size of 0.5 for the difference in mean FIS score between those reporting 'A lot/very much' and those reporting 'Some' in response to the question "How much is your child's overall well-being affected by the condition of his/her teeth, lips, jaws or mouth?" For 95% power to detect such a difference, a total of 176 families was needed. This number was rounded up to 200 to ensure that enough families were included.

The short form versions of the P-CPQ and FIS questionnaires (the P-CPQ-8 and the FIS-8, respectively) were translated to Arabic using standard methods (Beaton et al., 2000). The English short form versions of the P-CPQ and FIS questionnaires were translated into Arabic by asking three professionals—whose native language was Arabic—to independently translate it into Arabic. The three Arabic versions were then compared, and the best translation was chosen. That version was then back-translated into English to check the translation, and a comparison between the original and back-translated forms was undertaken. The final Arabic version was sent to a sample of Omani participants to check its acceptability.

Self-administered questionnaires were used to collect the data. The parents/caregivers completed the Arabic versions of the C-PCQ and FIS while the child was receiving the dental treatment. If the family failed to complete all of the questions, they were phoned later and asked to respond to the missing items. Each item sought information on the frequency of impacts. For example, the baseline questionnaire asked, "In the past 3 months, how often has your child had...pain in the teeth, lips, jaws or mouth?" The responses were scored using a 5-point Likert scale (response options: 'Never' = 0; 'Once or twice = 1; 'Sometimes' = 2; 'Often' = 3; 'Every day or almost every day' = 4). A 'Don't know' response option was also provided, and this was scored as 0 to prevent the loss of valuable information, which would occur if complete data from participants with non-responses to some items were deleted. Also included in the questionnaire was the global oral health rating item, "How much is your child's overall wellbeing affected by the conditions of his/her teeth, lips, jaws or mouth?" This response was scored on a 5-point scale ranging from 'Very much' to 'Not at all'.

Standard socio-demographic data on the participants and their children were collected, including the child's age, sex, and the status of the responding adult (i.e., mother, father, grandparent, etc.). At the analysis stage, children were allocated by age to one of three groups: 'Pre-school' (2–4 years old), 'Early school' (5–6 years old), or 'Older' (7–9 years old). Parents/caregivers were categorized according to their education level into one of three education level groups: primary only, secondary only, or higher.

2.1. Statistical analyses

The collected data were analyzed in Dunedin (New Zealand) using SPSS for Windows, version 20.0 (SPSS Inc., Chicago, USA). After the generation of descriptive statistics, Chi-square tests and analysis of variance (ANOVA) were used to test the statistical significance of observed differences, with the former being used for categorical dependent variables and the latter for continuous ones. The alpha value was 0.05. The psychometric properties of the Arabic P-CPQ and FIS were evaluated in terms of their cross-sectional construct validity. Construct validity was assessed by examining the association between the mean scale scores and the responses to the global question on oral health and overall wellbeing.

3. Results

The parents/caregivers of 203 children were recruited during the study period and asked to complete questionnaires. Nine completed questionnaires were excluded because they contained many incomplete items. Three of the caregivers/parents were too busy to complete the questionnaires. Therefore, 191 questionnaires with complete data were available, representing a 94.1% participation rate.

Summary data on the participants are presented in Table 1. There were approximately equal proportions of males and females. The children's ages ranged from 2 to 9 years old, with 82.7% being older than 4 years. A high proportion of caregivers/parents had been educated to at least the secondary education level.

The Cronbach's alpha values for the short form versions of the P-CPQ-8 and the FIS-8 were 0.53 and 0.52, respectively. Data on the concurrent validity of the scales are presented in Table 2. There were statistically significant gradients in mean P-CPQ scores across the response categories for the global item, "How much is the child's