Quality of Life in Chronically Ill Children: first results from clinical application of the computer adaptive test Kids-CAT

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1. Background
Patient reported outcomes (PRO) can aid screening and treatment in pediatric health care. However, pediatric PRO measures assessing Health-Related Quality of Life (HRQoL) are far from being used routinely in clinical practice. Assessment of HRQoL via Computerized Adaptive Tests (CATs) promises to provide greater measurement precision coupled with a lower test burden for patients. Furthermore, CATs make feedback-reporting of the HRQoL-scores for clinicians immediately available. However, there is still a lack of assessing HRQoL via CATs in chronically ill children.

2. Aims
This project aims at evaluating the usefulness and feasibility of the first German-speaking CAT to assess HRQoL of chronically ill children: the Kids-CAT.

3. Methods
The Kids-CAT was developed along the European KIDSSCREEN-27 QoL domain structure and five Kids-CAT item banks were built (26 to 46 items per bank). Those item-banks assess five dimensions of HRQoL namely ‘physical well-being’, ‘psychological well-being’, ‘parent relations’, ‘social support & peers’, and ‘school well-being’. The Kids-CAT was applied in a multi-centered prospective longitudinal study to a clinical sample of 300 children (aged 7-11 years) and adolescents (aged 12-17 years) suffering from chronic diseases (asthma, diabetes, and rheumatoid arthritis) at two German pediatric medical centers. Focus groups with pediatricians and children were conducted in order to evaluate the usefulness and user-friendliness of the Kids-CAT.

4. Results
The median item response time varied according to age and reading abilities (2 to 3 minutes per item bank) while the average numbers of presented items did not differ. In focus groups, N=9 pediatricians gave feedback concerning the usefulness and feasibility of the Kids-CAT-report containing feedback-reporting of the HRQoL-scores. Pediatricians stressed the benefit of the structured and systematic feedback-reporting of the HRQoL-scores provided by the Kids-CAT-report for daily clinical routine, emphasizing the enhanced communication with the children. Focus groups conducted with children demonstrated high user-friendliness of Kids-CAT.

4. Conclusions
The newly developed Kids-CAT seems to be an innovative approach for assessing HRQoL in routine pediatric care since it allows a very precise and efficient way of measurement and simultaneously reduces the test burden for patients.