

Association of Health-Related Quality of Life (HRQoL) with the Severity of Intermittent Exotropia (IXT) in Children and Their Parents



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INTRODUCTION

Background:

- Children with intermittent exotropia and their parent would experience negative impact on their health-related quality of life.

Objective:

- To evaluate the relationship of Health-Related Quality of Life (HRQoL) with the severity of intermittent exotropia (IXT) in children and their parents.

METHODOLOGY

- 44 children (aged 5-17 years) with IXT and one parent (proxy) for each child were recruited.
- The severity of IXT (magnitude of IXT, stereovision, sensory fusion, and the Newcastle Control Score (NCS)) were measured.
- HRQoL of IXT children and their parents were assessed using the Intermittent Exotropia Questionnaire (IXTQ - Child, Proxy, Parent Psychosocial, Parent Function, and Parent Surgery subscales).
- All IXTQ questionnaires were scored using an established Rasch look-up table and converted to a 0-100 scale.

Research design: prospective cohort study

Sampling technique: universal sampling

Method of analysis:

- Descriptive statistics
- A Spearman's rho correlation was run to determine the relationship between the severity of IXT and IXTQ scores.

RESULTS

- Gender:** 21 Boys (47.7%), 23 Girls (52.3%)
- Mean Age (years):** 8.18 ± 2.54

- Ethnicity:** 33 Malays (75.0%), 9 Chinese (20.5%), 1 Indians (2.3%), 1 Other (2.3%)
- Mean Magnitude of IXT (PD):** Near (33.55 ± 16.28), Distance (34.18 ± 13.37)

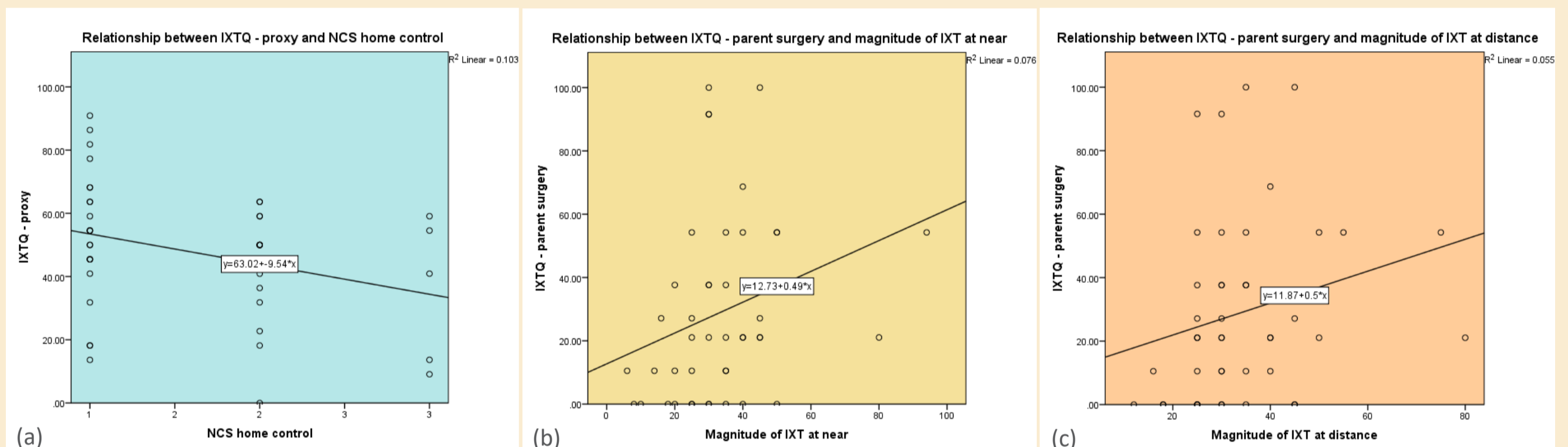


Figure 1: Correlation between (a) IXTQ proxy (proxy HRQoL) & NCS home control; (b) IXTQ parent surgery & magnitude of IXT at near; (c) IXTQ parent surgery & magnitude of IXT at distance

Table 1: Correlation between IXTQ score (HRQoL) and severity of Intermittent Exotropia

	Severity of Intermittent Exotropia (IXT)									
	Stereovision		Sensory Fusion		IXT Magnitude		Newcastle Control Score (NCS)			
	Near	Distance	Near	Distance	Near	Distance	Home	Clinic (Near)	Clinic (Distance)	Total
IXTQ - Child	$r_s = -0.227$ $p = 0.138$	$r_s = -0.102$ $p = 0.510$	$r_s = 0.279$ $p = 0.066$	$r_s = 0.180$ $p = 0.242$	$r_s = 0.208$ $p = 0.175$	$r_s = 0.101$ $p = 0.513$	$r_s = -0.033$ $p = 0.829$	$r_s = 0.152$ $p = 0.325$	$r_s = 0.020$ $p = 0.900$	$r_s = 0.047$ $p = 0.759$
IXTQ - Proxy	$r_s = -0.084$ $p = 0.589$	$r_s = 0.039$ $p = 0.804$	$r_s = 0.103$ $p = 0.507$	$r_s = 0.031$ $p = 0.841$	$r_s = 0.204$ $p = 0.185$	$r_s = 0.013$ $p = 0.935$	$r_s = -0.299^*$ $p = 0.048$	$r_s = -0.036$ $p = 0.816$	$r_s = -0.229$ $p = 0.135$	$r_s = -0.231$ $p = 0.132$
IXTQ - Parent Psychosocial	$r_s = -0.129$ $p = 0.402$	$r_s = -0.189$ $p = 0.220$	$r_s = 0.119$ $p = 0.441$	$r_s = 0.175$ $p = 0.256$	$r_s = 0.112$ $p = 0.467$	$r_s = -0.033$ $p = 0.834$	$r_s = -0.136$ $p = 0.377$	$r_s = 0.062$ $p = 0.689$	$r_s = -0.089$ $p = 0.564$	$r_s = -0.044$ $p = 0.775$
IXTQ - Parent Function	$r_s = -0.258$ $p = 0.091$	$r_s = -0.139$ $p = 0.368$	$r_s = 0.210$ $p = 0.170$	$r_s = 0.240$ $p = 0.116$	$r_s = 0.288$ $p = 0.058$	$r_s = 0.234$ $p = 0.127$	$r_s = -0.025$ $p = 0.873$	$r_s = 0.047$ $p = 0.760$	$r_s = -0.121$ $p = 0.435$	$r_s = -0.026$ $p = 0.869$
IXTQ - Parent Surgery	$r_s = -0.128$ $p = 0.407$	$r_s = -0.216$ $p = 0.159$	$r_s = 0.094$ $p = 0.542$	$r_s = 0.364^*$ $p = 0.015$	$r_s = 0.365^*$ $p = 0.015$	$r_s = 0.322^*$ $p = 0.033$	$r_s = 0.326^*$ $p = 0.031$	$r_s = 0.049$ $p = 0.750$	$r_s = 0.136$ $p = 0.378$	$r_s = 0.188$ $p = 0.223$
IXTQ - Parent Overall	$r_s = 0.084$ $p = 0.589$	$r_s = -0.157$ $p = 0.309$	$r_s = -0.060$ $p = 0.701$	$r_s = 0.309^*$ $p = 0.041$	$r_s = 0.026$ $p = 0.868$	$r_s = 0.121$ $p = 0.432$	$r_s = 0.046$ $p = 0.766$	$r_s = -0.096$ $p = 0.536$	$r_s = -0.027$ $p = 0.861$	$r_s = -0.023$ $p = 0.880$

*. Correlation is significant at the 0.05 level (2-tailed).

- Lower proxy HRQoL was significantly associated with poorer IXT control at home in children with IXT.
- Parent surgery IXTQ score increased as the magnitude of IXT (near & distance) increased.



DISCUSSION

- Our study found that children's HRQoL was not significantly correlated to the severity of IXT, which was consistent with Lim et al (2015) finding.
- Parents' (proxy) HRQoL was significantly associated with the severity of IXT, which was consistent with study by Lim et al (2015), and Wang et al (2019).

CONCLUSION

- Parents' (proxy) Health-Related Quality of Life was associated with severity of intermittent exotropia.
- Our study suggest that parents preferred squint surgery to be performed if their child has a larger magnitude of intermittent exotropia.