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Health and Quality of Life of Children Undergoing Elective Surgery

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INTRODUCTION

- Poorer health is associated with significantly lower quality of life. For example, children and adults with health conditions such as cancer, diabetes, asthma, and ADHD experience lower quality of life compared to their normal healthy counterparts (Nazari et al., 2017; Coghill & Hodgkins, 2015; Kouzegaran et al., 2018).
- The relationship between health and quality of life, however, has yet to be examined in children who have undergone elective surgery.
- More than 5 million children in the U.S. undergo surgery each year (Kain et al., 2006). These children are often undergoing surgery for a number of health issues that may impede quality of life.
- The most common procedure these participants underwent were tonsillectomies. Tonsillectomies can be used to treat various health issues, such as enlarged adenoid tonsils (adenotonsillar hypertrophy), which can cause difficulty breathing and swallowing. This condition can significantly affect quality of life and even cause obstructive sleep apnea, which affects 2-3% of children (Shu, Yao, Yang, & Wang, 2018).

We propose that better health will be associated with higher quality of life for children who have undergone elective surgery.

METHOD

Participants: 112 patients from the Children's Hospital of Orange County between the ages of 2 and 12 ($M_{age} = 5.79$, $SD_{age} = 2.738$). 59% male and 41% female. 47% Hispanic, 25% White, and 28% other.

Procedures:

- Surveys were distributed both preoperatively and again seven days after surgery.
- Child's health and child's quality of life were assessed through parent report.
- At baseline (before surgery), parents completed online surveys through Qualtrics survey software in the hospital.
- Then, 7 days after surgery, parents were emailed a Qualtrics survey link and completed a survey at home on their own devices.

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MEASURES

Health

Before surgery: "Overall, how would you rate your child's health during the *past four weeks*?"

7 days after surgery: "Overall, how would you rate your child's health *since the surgery*?"

(1 = Poor, 3 = Good, 5 = Excellent)

Quality of Life

Measured using the Pediatric Quality of Life Inventory (PedsQL; Varni, Seid, & Rode, 1999)

Measures child's quality of life *overall* and by dimensions.

Split into dimensions:

Physical e.g. "problem with participating in active play or exercise"

Emotional e.g. "problem with feeling afraid or scared"

Social e.g. "problem with getting along with other children"

School e.g. "problem with keeping up with school activities"

(0 = Never, 4 = Almost Always)

Reverse coded so that higher scores = higher quality of life. Overall score was calculated by taking the mean.

RESULTS

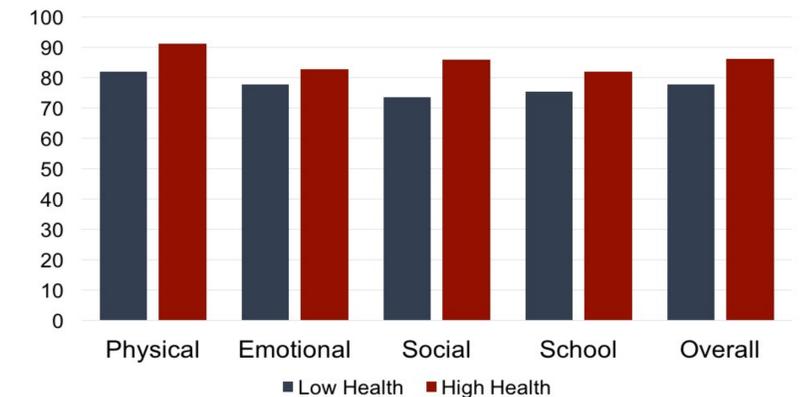
- Health was found to be significantly positively correlated with the child's overall quality of life both before ($r(86) = .348$, $p = .001$) and after ($r(51) = .472$, $p < .001$) surgery.
- This association between health and quality of life was significant for **all** the quality of life dimensions both before and after surgery (see Table 1).

Pearson Correlations between Health and Quality of Life for Each Dimension

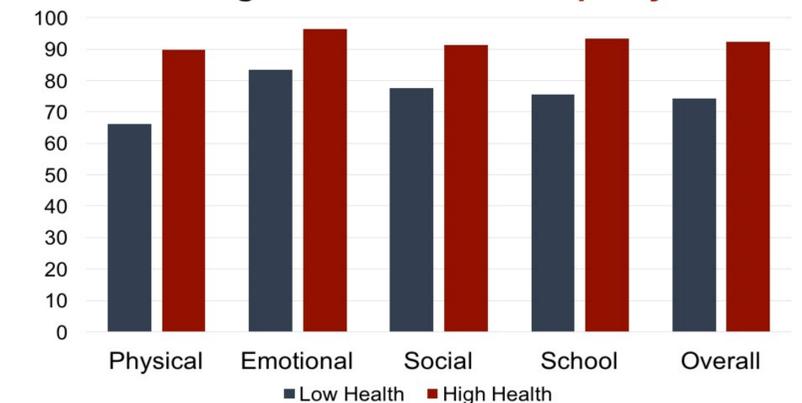
Dimension	Before Surgery	After Surgery
Physical	$r(86) = .289$, $p = .007$	$r(51) = .403$, $p = .003$
Emotional	$r(86) = .227$, $p = .037$	$r(51) = .582$, $p < .001$
Social	$r(86) = .294$, $p = .007$	$r(51) = .309$, $p = .027$
School	$r(86) = .227$, $p = .039$	$r(51) = .338$, $p = .015$

RESULTS

Quality of Life of Patients with Low and High Health at Baseline



Quality of Life of Patients with Low and High Health at Follow Up Day 7



CONCLUSION

- Children who were healthier had higher levels of quality of life. This was true both before and after surgery.
- Poor health can harm all dimensions of quality of life. More specifically, it can affect a child's energy level (physical), tendency to worry (emotional), ability to keep up when playing with other children (social), and ability to pay attention in class (school).
- These findings further emphasize the importance of treating pediatric patients holistically, in which physical, emotional, and social health are all monitored along with school functioning.
- Clinicians may want to consider following up on pediatric patients' quality of life in the recovery process, as their follow-up quality of life could be linked to their health status following surgery.
- Future studies could observe this association in teenagers.