

Examination of Gender Differences in Return to School and PROMIS-25® Outcomes for Pediatric Burn Survivors

Stockly OR¹, Wolfe AE¹, Gibran, NS², Ryan CM^{3,4}, Schneider JC¹

¹Department of Physical Medicine and Rehabilitation, Harvard Medical School, Spaulding Rehabilitation Hospital, Boston, MA, ²Department of Surgery, University of Washington, Seattle, WA,

³Department of Surgery, Massachusetts General Hospital, Harvard Medical School, Boston, MA, ⁴Shriners Hospitals for Children—Boston, Boston, MA

Introduction

- Gender differences in pediatric burn outcomes are not well-known.
- Long-term physical and mental health outcomes, in addition to school status, serve as important markers in recovery for school-aged burn survivors.
- This study examined the impact of gender on school status and health outcomes in pediatric burn survivors.

Methods

- Burn Model System National Database data (2015-2019) from burn survivors, aged 8-17 years at time of injury were analyzed.
- Descriptive statistics were generated for demographic and clinical characteristics. PROMIS-25® scores and school status at 12 months post-injury were examined.
- Linear regressions assessed the association between PROMIS-25® domains and gender; logistic regression assessed the association between school status and gender. All models controlled for demographic and clinical factors.

Results

Table 1. No significant differences in PROMIS-25® outcomes at 12 months post injury by gender (p<0.05)

PROMIS-25 Domain	Male	Female
Physical Function	46.0 (11.3)	44.7 (12.6)
Anxiety	44.5 (12.4)	49.1 (14.1)
Depression	47.6 (11.5)	46.7 (11.4)
Fatigue	50.1 (14.5)	48.5 (14.6)
Peer Support	53.7 (9.6)	51.1 (11.1)
Pain Interference	44.7 (11.5)	44.4 (11.3)
Pain Intensity	2.2 (2.7)	1.6 (2.4)

Higher PROMIS-25 scores are associated with higher function. Scores are standardized to a mean of 50 and standard deviation of 10 and are based on US population.

Results

- Linear and logistic regressions exhibited no significant associations between gender and PROMIS-25® domains or school status. Regression models were unstable due to small sample size.
- Raw scores show male and female pediatric burn survivors exhibit lower physical functioning, anxiety, depression, and pain; similar amounts of fatigue; and more peer support compared to their non-burn injured counterparts.

Table 2. No differences in demographic or clinical characteristics of the study population at discharge (p<0.05)

Variable	Male (n=76)	Female (n=28)
Age, mean (SD)	12.7 (2.7)	12.9 (2.7)
Race/ethnicity, % (n)		
Black/African-American	4.0 (5)	7.1 (2)
White, non-Hispanic	24.0 (18)	10.7 (3)
American Indian/Alaskan Native	1.3 (1)	-
Hispanic or Latino	70.7 (53)	82.1 (23)
Psych treatment in the past year	15.7 (8)	14.3 (2)
Etiology of injury		
Fire/flame	75.0 (57)	78.6 (22)
Scald	5.3 (4)	3.6 (1)
Contact with hot object	-	3.6 (1)
Grease	-	3.6 (1)
Electricity	18.4 (14)	10.7 (3)
Flash burn	1.3 (1)	-
Burn size, mean % (SD)	41.3 (19.8)	39.6 (21.1)
Head/neck burn, % (n)	81.6 (62)	71.4 (20)
In school		
6-months (n=75), % (n)	61.8 (34)	60.0 (12)
12-months (n=64), % (n)	76.6 (36)	88.2 (15)
24-months (n=62), % (n)	90.9 (40)	77.8 (14)

Conclusions

School-aged burn survivors exhibited no differences by gender in PROMIS-25® scores or return to school.

Future work may benefit from more granular outcomes and larger sample sizes.