Strengthening Pediatric Telehealth Simulation Pedagogies in Family Nurse Practitioner Curricula

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Abstract

Introduction Telehealth is a core advanced practice nursing competency (NONPF, 2017) and an integral component of pediatric primary care. A curricular review of the NYU Meyers Family Nurse Practitioner (FNP) program revealed a gap in the provision of pediatric telehealth didactic. This curricular gap undermined student self-efficacy and preparedness during simulated pediatric telehealth visits.

Purpose The purpose of this curricular quality improvement project was to increase students' self-efficacy during pediatric telehealth simulation and prepare them for pediatric clinical placements by introducing pediatric telehealth didactic prior to the simulation experience and concurrently with clinical rotations.

Methods The educational intervention was guided by Bandura's Social Cognitive Theory. The pediatric telehealth module included a brief history of telehealth use in pediatric primary care, best practices in conducting pediatric telehealth visits, and a simulated pediatric telehealth sick visit emphasizing evidence-based methodologies, including introduction, consent, history and physical examination, counseling, and documentation.

A demographic survey measured sample characteristics. Self-efficacy was measured by repeated, adapted pediatric telehealth self-efficacy surveys pre- and post- pediatric telehealth module and again post-simulation. Pre- and post- pediatric telehealth module knowledge assessments were also measured. Additionally, a semi-structured, qualitative questionnaire provided descriptive context to survey responses.

Results Pre- and post-module pediatric telehealth self-efficacy survey scores showed significant improvements ($p=<0.001$) as did post-simulation scores ($p=<0.001$). Significant improvement in pediatric telehealth knowledge assessments ($p=<0.001$) was noted. Qualitative trends added insight into student perceptions of the pediatric telehealth educational intervention.

Limitations Limitations of the curricular quality improvement project included use of a non-validated, adapted self-efficacy survey and inability to psychometrically test knowledge assessment questions prior to administration.

Conclusion This curricular quality improvement project successfully integrated a pediatric telehealth module prior to pediatric primary care telehealth simulation with significant improvements in student self-efficacy and knowledge. Inclusion of pediatric telehealth didactic in FNP curricula strengthens simulation pedagogies.

Introduction

New York City was at the epicenter of the first wave of the COVID-19 pandemic in the United States, with officials reporting 800 fatalities daily by April 2020.
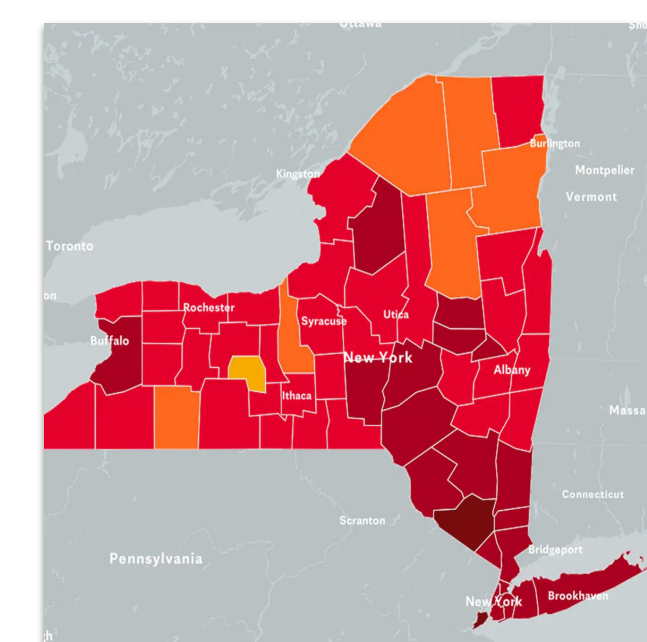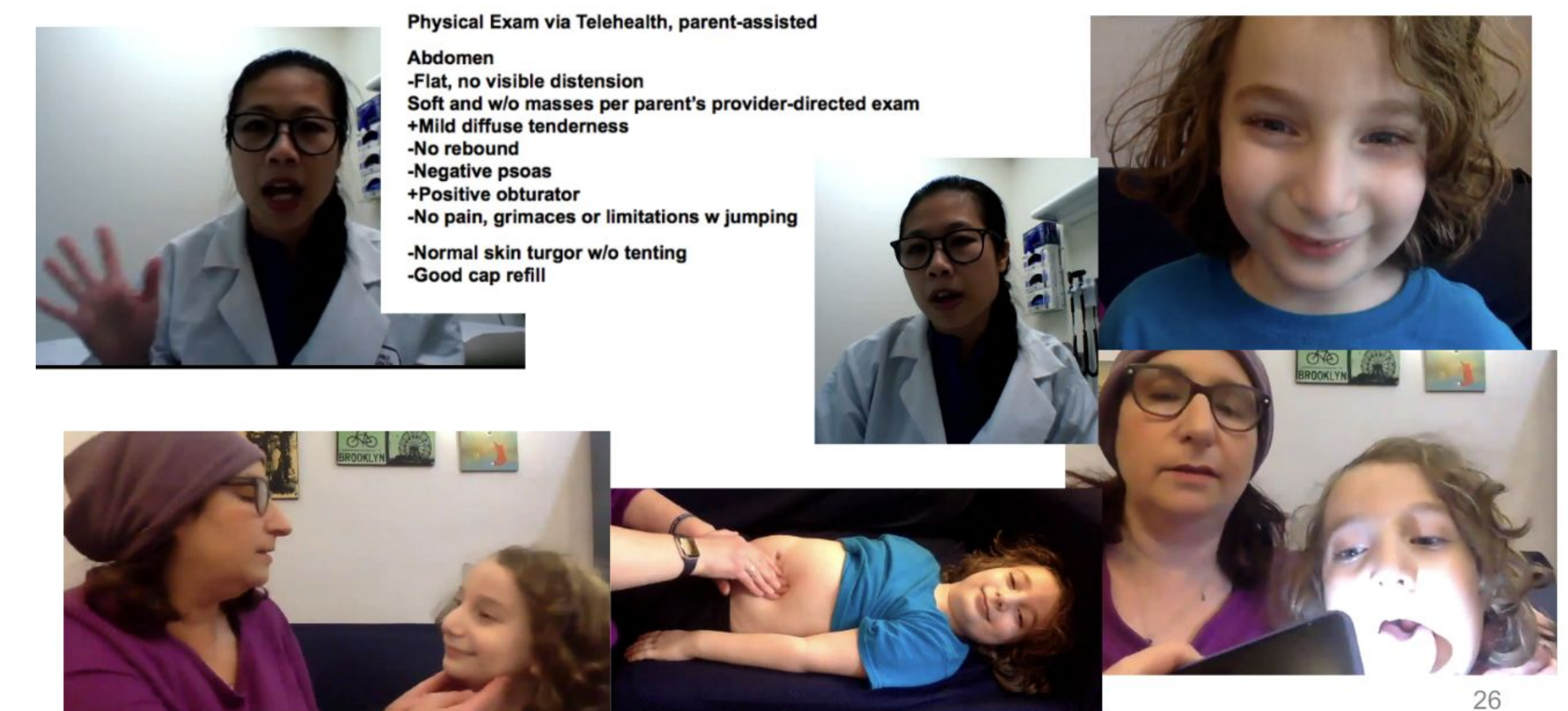
Healthcare providers were urged to offer telehealth visits to curb the spread of COVID-19. Demand for telehealth services sky-rocketed, now a staple of outpatient pediatric primary care.

There is an urgent need to incorporate or expand pediatric telehealth curriculum in FNP programs. High-fidelity simulation is a viable pedagogy that uses standardized patients and advanced technology to imitate realistic clinical scenarios, effectively translating theoretical management of pediatric patients to simulated telehealth settings.

Methods

Intervention A pediatric telehealth module included a simulated pediatric telehealth sick visit emphasizing evidence-based methodologies. Students then completed pediatric telehealth simulations.
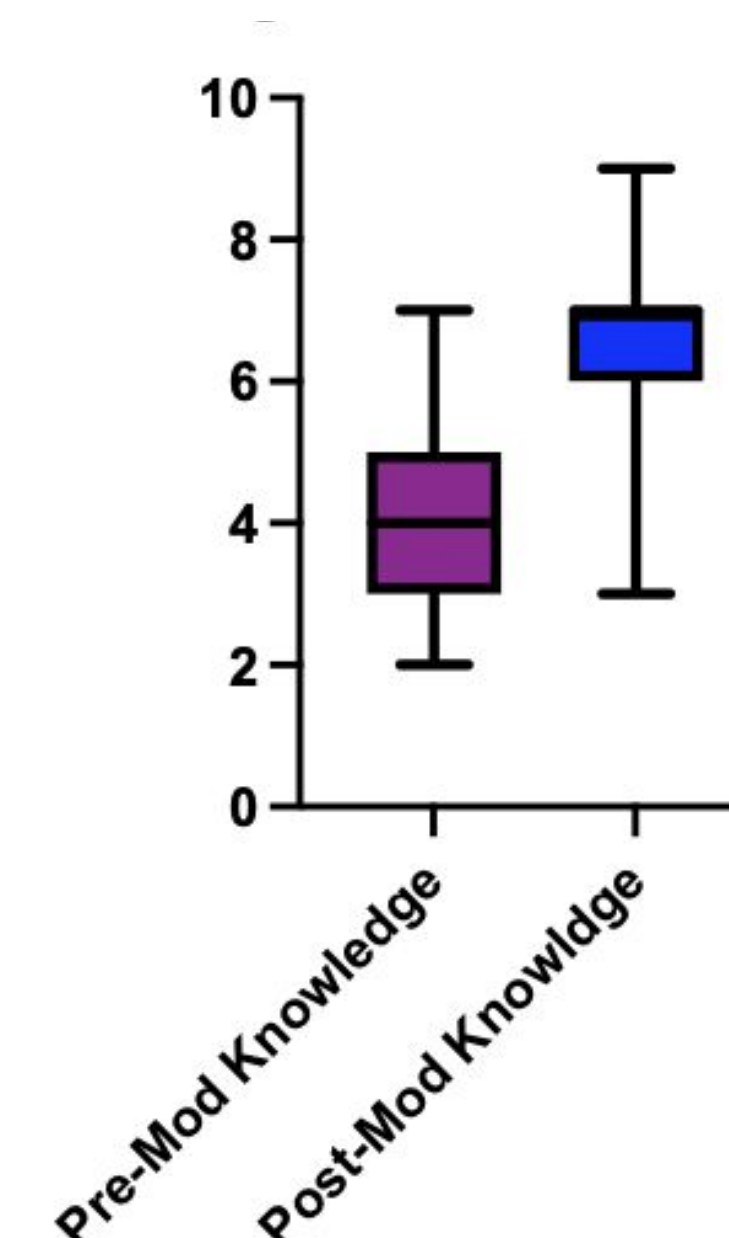

Physical Exam via Telehealth, parent-assisted
Abdomen
-Flat, no visible distension
-Soft and w/o masses per parent's provider-directed exam
+Mild diffuse tenderness
-No rebound
-Negative psoas
+Positive obturator
-No pain, grimaces or limitations w jumping
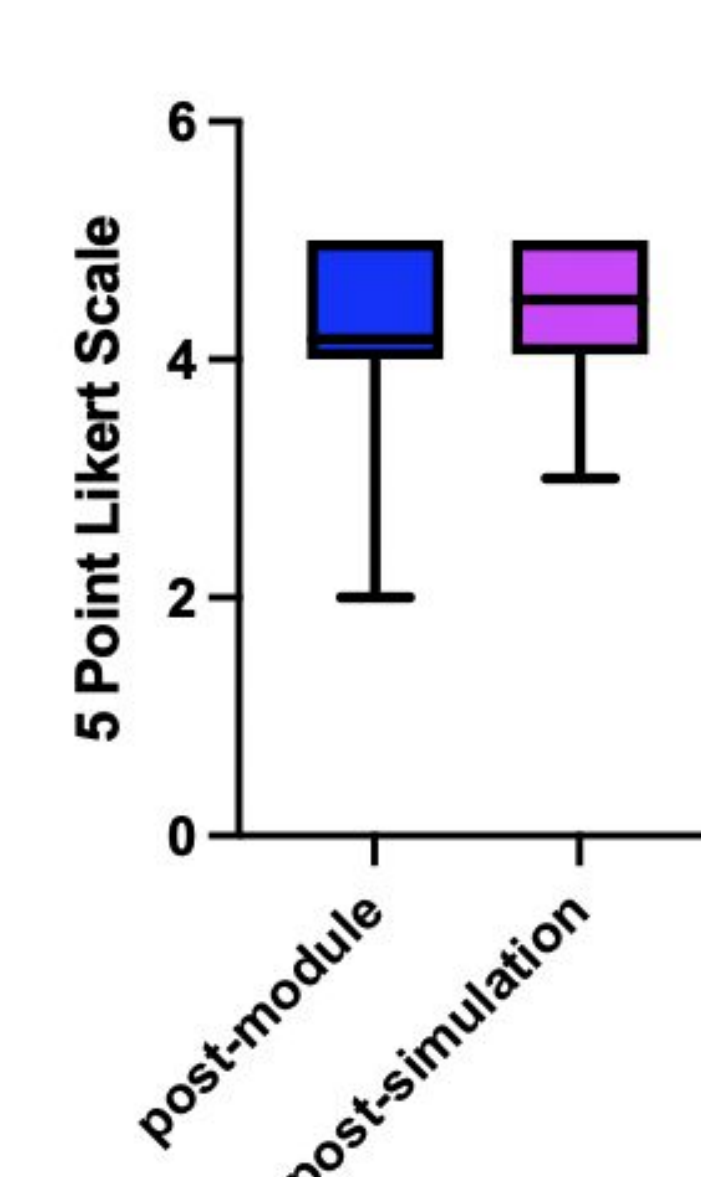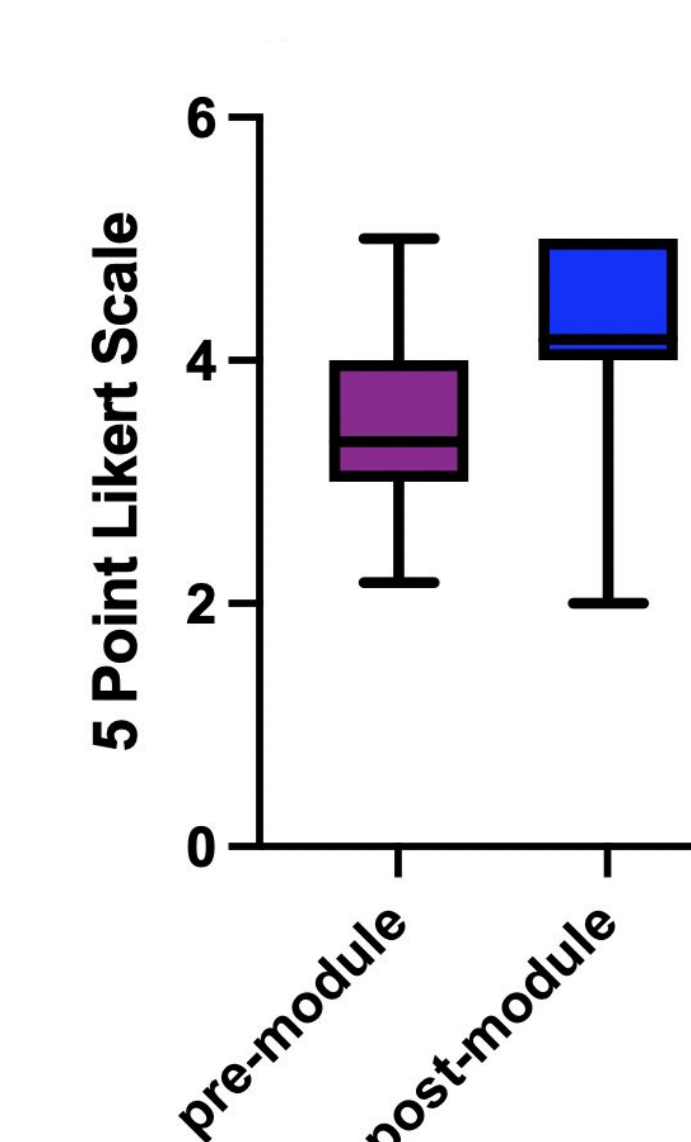-Normal skin turgor w/o tenting
-Good cap refill

Measurement
- Demographic survey
- Repeated, adapted pediatric telehealth self-efficacy surveys
- Repeated knowledge assessments
- Semi-structured qualitative questionnaire

Results

Knowledge

Self Efficacy

Mean Self-Efficacy Scores Across Implementation

pre-module: 3.53
post-module: 4.32
post-sim: 4.47

Conclusion

This curricular quality improvement project significantly increased student self-efficacy and knowledge. A presimulation pediatric telehealth module strengthened simulation performance.