

The Psychological Effects of COVID-19 on Pediatric Frontline Nurses

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Background

- COVID-19 is the worst pandemic in scale and speed of this century, including the 2003 Severe Acute Respiratory Syndrome (SARS) epidemic, associated with the highest number of global deaths.¹
- COVID-19 resulted in high infection rates, death, financial hardship, uncertainty, stress of the known and unknown, and fear.
- SARS impacted health care workers who reported lasting negative psychological effects.² Nurses have been at the frontline of patient care during this COVID-19 pandemic.
- Pediatric nurses faced several unique challenges. The CDC COVID-19 Response Team reported less than 2% of confirmed COVID-19 cases occurred in children and of those children with COVID-19 only a small number required hospitalization. Therefore, the role of pediatric nurses in the COVID-19 pandemic changed quickly.³
- To assist and alleviate the demands on adult nurses, pediatric nurses were frequently redeployed to function in various areas including adult COVID-19 units, employee health, the discharge call center, COVID-19 testing centers and patient/visitor screening roles.
- Advocate Children's Hospital (ACH) is a two-campus pediatric hospital (Oak Lawn & Park Ridge). It is one of the largest network providers of pediatric services in Illinois with 434 beds and over 900 pediatric nurses. ACH is part of Advocate Aurora Health (AAH), an integrated health systems in Illinois and Wisconsin with more than 22,000 nurses.

Purpose

- This IRB exempt quantitative descriptive study examined the impact of the initial COVID-19 pandemic outbreak (March – September 2020) on nurses' psychological well-being by measuring depression, anxiety and distress, work experiences, stressors, and coping strategies of nurses at a pediatric hospital within a large health system.



Methods

- Design:** AAH conducted a cross sectional descriptive study to examine the impact of the COVID-19 pandemic with support for site-based data collection.
- Subjects:** Employed RNs, LPNS, and APRNs in clinical and non-clinical roles were recruited October–November 2020 via e-mail and the healthcare system's intranet nursing page. Throughout the open survey, reminder emails were sent with participation rates along with flyers and purposeful shared governance and leadership rounding.
- Data Collection:** An anonymous self-reported 105-item Health Care Worker Impact on-line survey (Survey Monkey) measured seven domains on a Likert scale to assess perceptions of risk to self and others, confidence in infection control information, confidence in COVID-19 information, impact on personal/work life, and depressive affect; demographics; and embedded reliable/valid scales for nurses' self-reported levels of depression (PHQ-9), anxiety (GAD-7) and distress (IES-R).
- Analysis:** Responses were analyzed using descriptive statistics and regression modeling to identify predictors for negative psychological outcomes.

Results

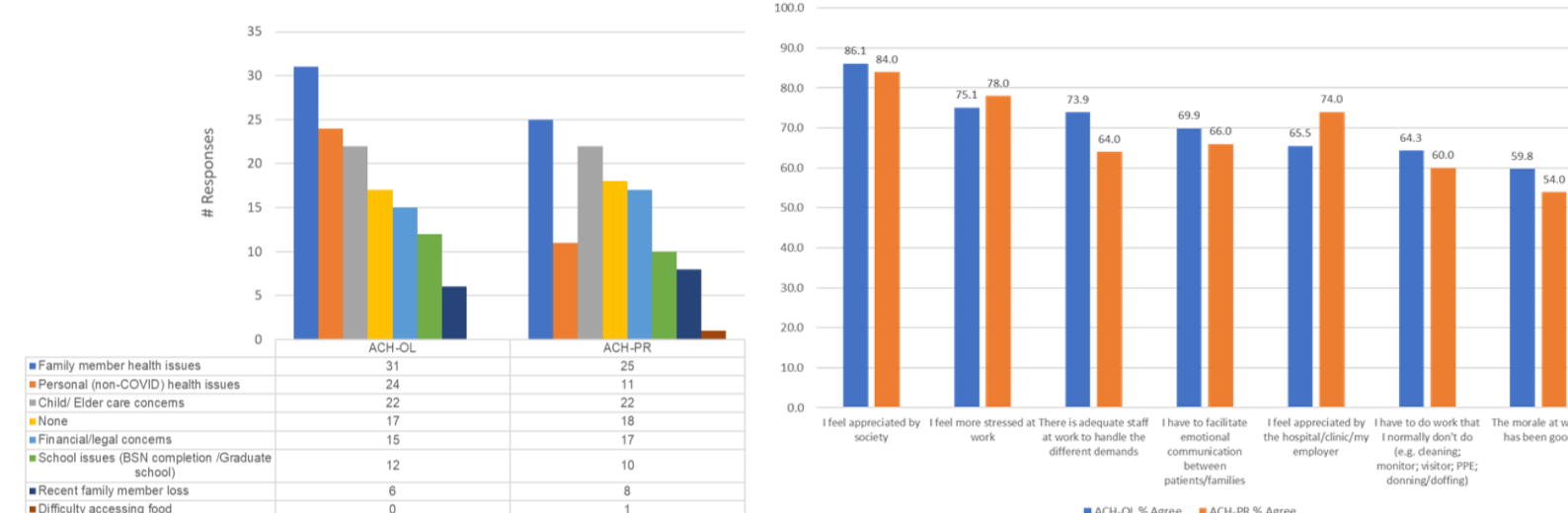
- One hundred and fifty ACH nurses (n=150) completed the survey.
- Most ACH participants in the study were fulltime clinical nurses in direct-patient care and advanced practice nurses who are married, age 26-35 and have 1-5 years of nursing experience.
- There were no major differences in the nurse characteristics between the AAH and ACH data sets.
- The percent of COVID-19 pediatric units (17%) was much lower than the percent of COVID-19 adult units (30%). However, the percent of fluctuating units was 40% higher in pediatrics.

Characteristics	ACH-Oak Lawn(n=84)		ACH-Park Ridge (n=66)	
	N	(%)	N	(%)
Nurse Type				
RN	77	92%	62	94%
APRN	7	8%	4	6%
Sex				
Female	78	96.3%	66	100%
Male	2	2.5%	0	0.05
No response given	1	1.2%	NA	NA
Age (years)				
18-35	36	42.8%	31	46.9%
36-55	35	41.6%	29	44.0%
56-75	9	11.3%	6	9.1%
RN Nursing Experience				
0 – 5	23	28.0%	25	37.8%
6 – 20	36	44.0%	24	31.8%
21 – 40	22	26.9%	16	24.2%
41 – 50+	1	1.1%	0	0.0%
Unit Designation				
Covid	13	16.3%	12	18.2%
Non-Covid	30	37.5%	20	30.3%
Fluctuating	37	46.2%	32	48.5%
Marital Status				
Married	51	63.8%	35	53.0%
Unmarried	29	36.3%	31	47.0%
Employed				
Full Time	73	86.9%	55	83.3
Part Time	11	13.1%	11	16.7

Table 1. Characteristics of ACH Nurse Respondents

PERSONAL STRESSORS

- For ACH nurses, the three highest number of personal stressors were family health, child/elder care and their own health.



IMPACT on PERSONAL and WORK LIFE

- ACH nurses felt more stress at work with lower morale.

PERCEPTION of RISK

- ACH nurse perceptions of risk were no different from nurses caring exclusively for adults except in the category of looking or consider resigning because of COVID. Only 4% of pediatric nurses were looking or considering resigning compared to 12% of adult nurses.

Results (cont'd)

DEPRESSION – PHQ-9

- Overall AAH Nurses Mean 6.27 (n=3087, Range 0-27, SD 6.03)
- Oak Lawn Mean 4.92 (n=71, Range 0-23, SD 5.44)
- Park Ridge Mean 6.31 (n=41, Range 0-26, SD 5.29)

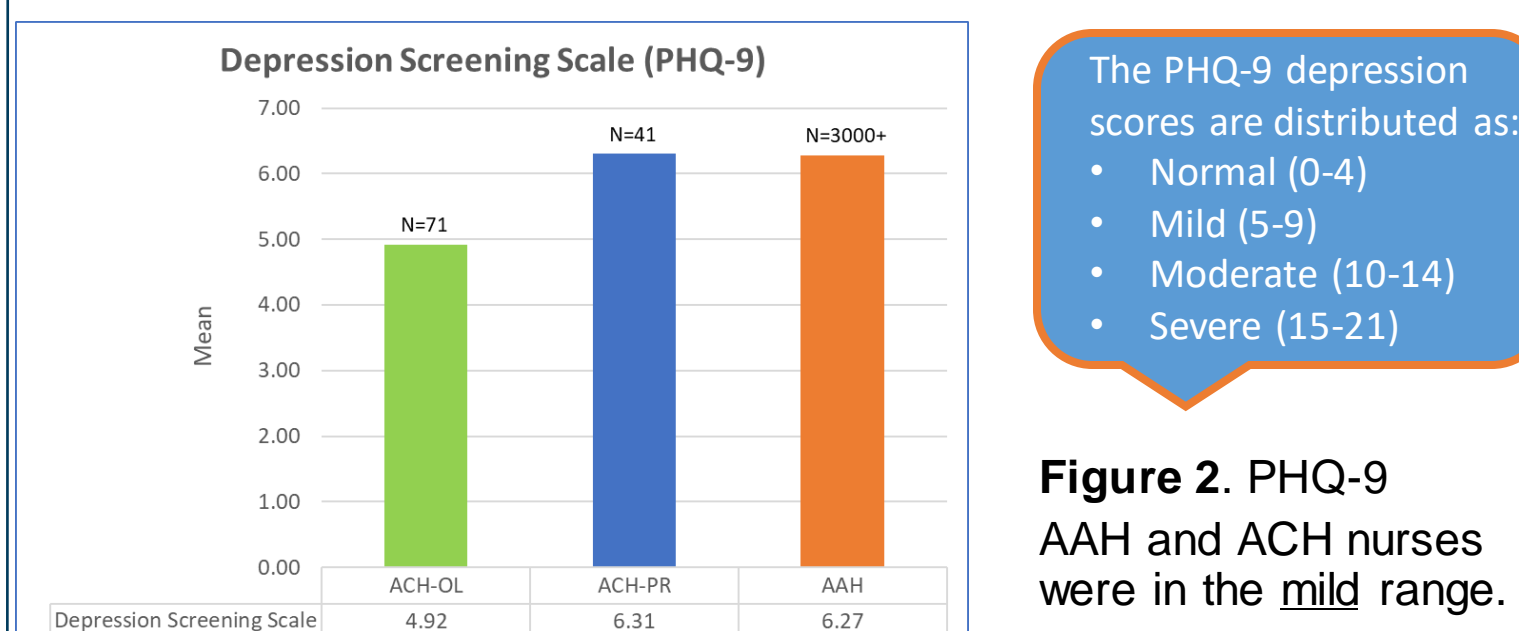


Figure 2. PHQ-9 AAH and ACH nurses were in the mild range.

ANXIETY – GAD-7

- Overall AAH Nurses Mean 5.77 (n=3069, Range 0-21, SD 5.5)
- ACH-Oak Lawn Mean 4.20 (n= 71, Range 0-18, SD 4.6)
- ACH-Park Ridge Mean 6.0 (n=49, Range 0-21, SD 5.0)

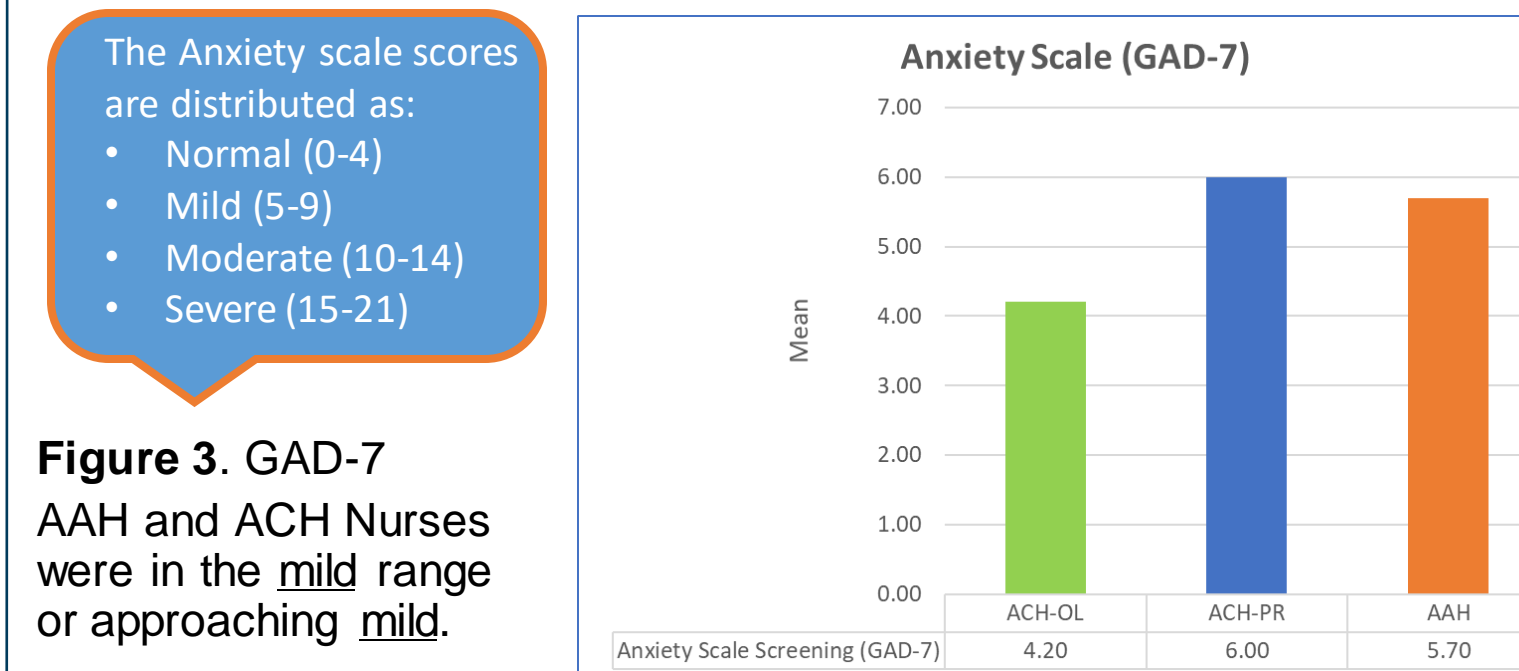


Figure 3. GAD-7 AAH and ACH Nurses were in the mild range or approaching mild.

IMPACT of EVENT - IES

- Overall AAH Nurses Mean 23.19 (n=3154) Range 0-88)
- Oak Lawn Mean 17.0 (n=73, Range, 0-61, SD 14.85)
- Park Ridge Mean 22.08 (n=49, Range 0-62, SD 14.9)

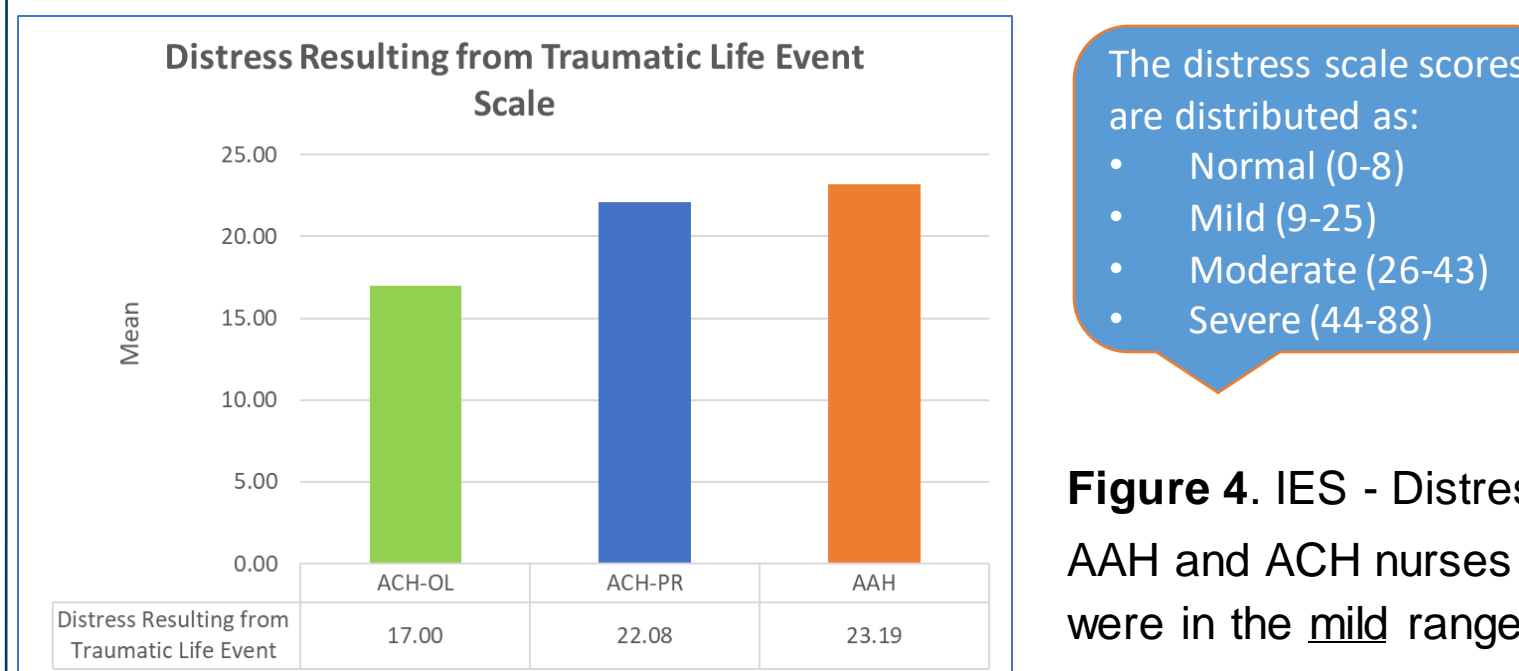


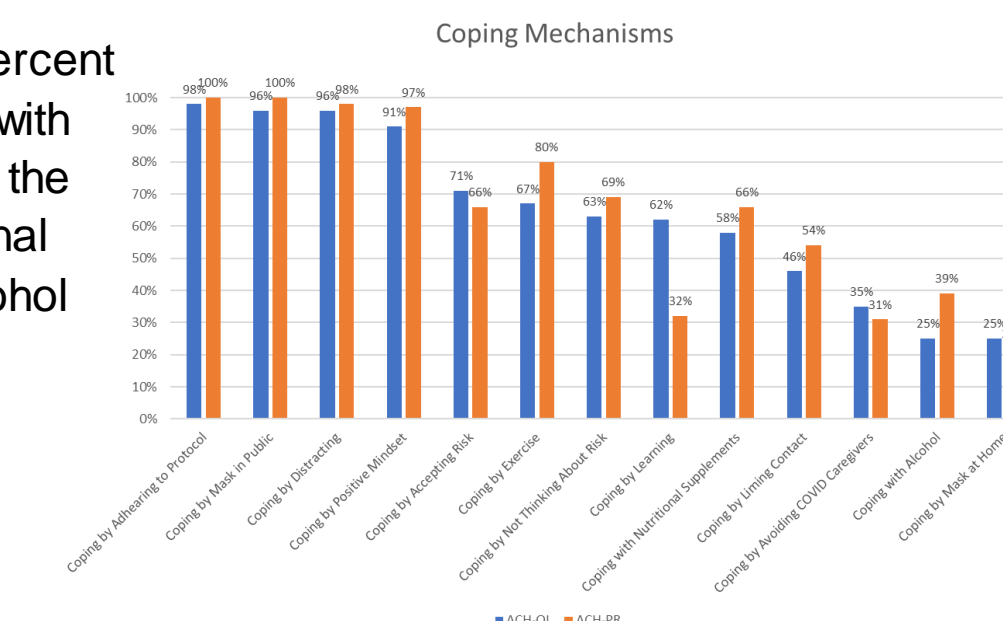
Figure 4. IES - Distress AAH and ACH nurses were in the mild range.

- Results suggest that pediatric RNs experienced similar levels of depression, anxiety, and distress as AAH adult RNs.

Results (cont.)

COPING

- Most ACH nurses coped by using positive strategies such as adhering to protocols, positive mindset, masking in public and using distraction followed by exercise, nutritional supplements and learning.
- ACH nurses also reported coping with alcohol. The percent of pediatric nurses coping with alcohol was similar to both the AAH data (33%) and national statistics for increased alcohol consumption during the pandemic.



Conclusions & Implications for Practice

- This study documents the psychological burden COVID-19 had on pediatric nurses during the first wave of the global pandemic.
- Regression analysis of the Advocate Aurora data set identified working on a COVID-19 unit was not predictive for adverse psychological outcomes suggesting the psychological impact was universal.
- Study findings confirmed that support needs are broad and may be needed long term.
- The site implemented strategies to support staff to cope and address stressors including Employee Assistance Program (EAP) outreach, Mission and Spiritual Care assistance, development of Nursing Well-being & Resilience resources, and a Together as One Peer Support Program.
- The self-reported 105-item Health Care Worker Impact survey tool was modified with reassessment in progress.

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Acknowledgements

- Thank you to all the Advocate Aurora nurses and leaders who drive excellence, support patient care, answer the call in the face uncertainty and participated in the study.
- A special thanks to AAH Drs. Vida Vizgirda PhD, JD, RN, ONC – Study PI; Deb Gentile, PhD, RN-BC and Mary Hook, PhD, RN-BC – Study Co-investigators; and Shelly Lancaster, PhD, RN – ACH Statistical Analysis for designing and implementing the study and mentoring the site-based co-investigators.
- Dr. MaryBeth Kingston, PhD, RN, NEA-BC, AAH Chief Nursing Officer, Dr. Sharon Quinlan, DNP, RN, AAH Vice President for Nursing Practice and Michelle Tracy, MPH, MBA, BSN, RN, CPN, ACH Vice President and Chief Nursing Officer for their leadership, encouragement of nursing research and their pursuit to elevate nursing.



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