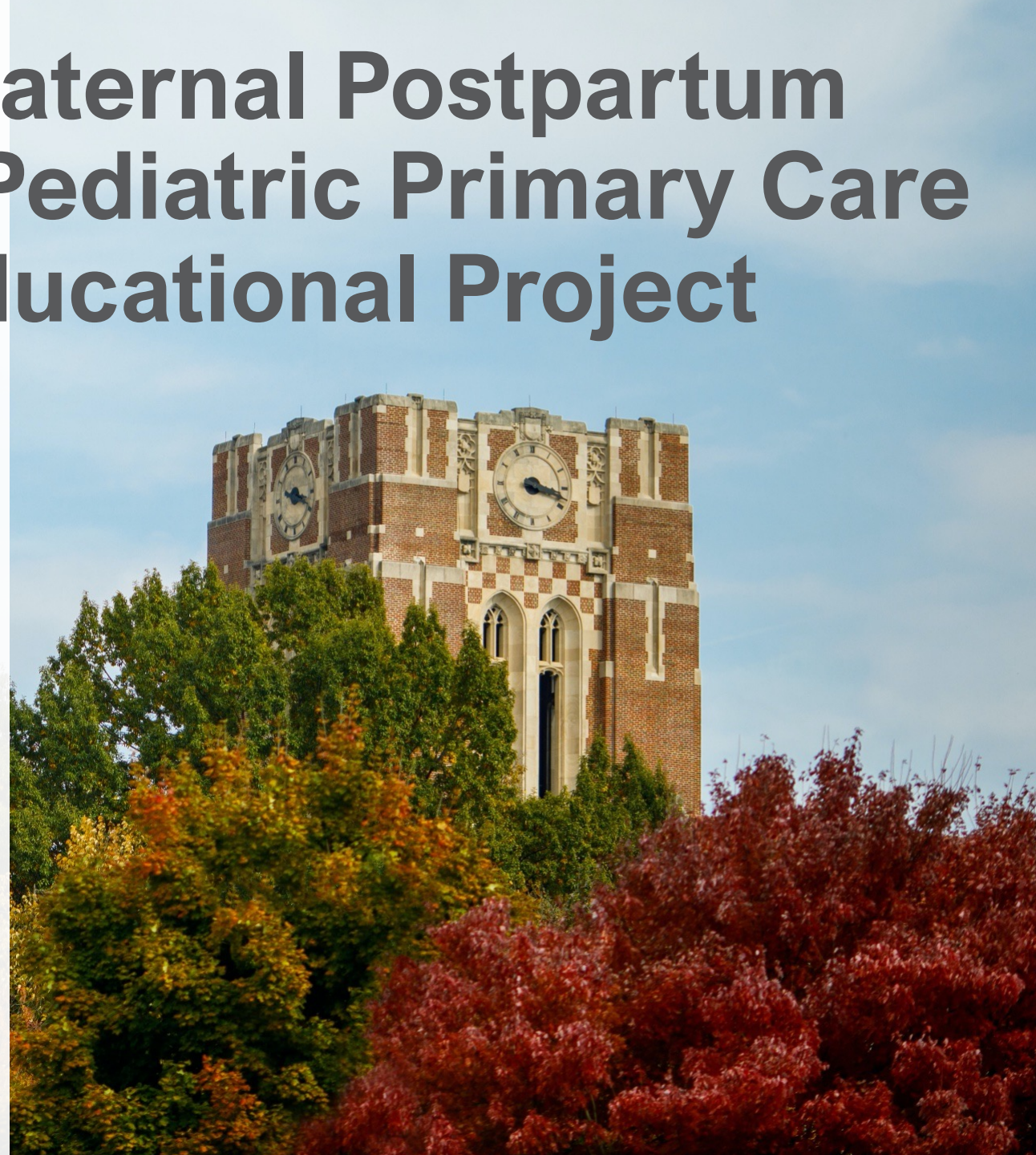


Screening for Maternal Postpartum Depression in the Pediatric Primary Care Setting: An Educational Project

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Background

- Postpartum depression affects one in seven women
- PPD can be caused by changes in hormone levels, having a history of depression, an unwanted or unplanned pregnancy, fatigue, and numerous lifestyle factors
- 40% of women do not attend their follow-up postpartum appointments with their obstetrician
- Postpartum diagnoses can easily be missed which can lead to adverse health outcomes in mothers and infants

Significance of the Problem

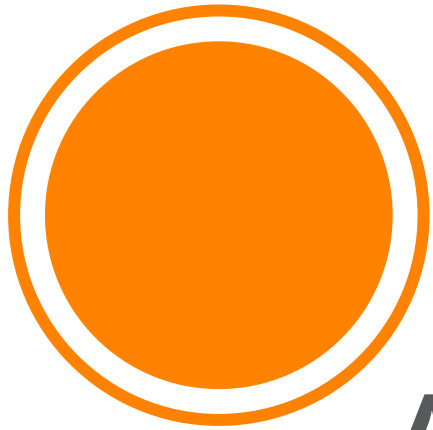
- Untreated PPD can cause severe adverse effects on maternal and infant bonding and infant development
- Symptoms include mood swings, sleep disturbances, anxiety, fatigue, and feelings of panic and irritability
- Maternal side effects include a poor diet, substance abuse, a lack of self care, suicidal ideations/suicide, and less likely to adhere to health recommendations
- Infanticide

Significance Cont.

- Infants need nurturing caregivers in order to thrive
- At risk for developmental delays and impaired social development
- A million new neural connections are developed every second in the brain
- PPD interferes with these connections leading to infant toxic stress
- The health of the infant strongly relies on the health of the mother

Financial Impact

- Healthcare costs for mothers with PPD are 90% higher than those who are postpartum, but do not have a diagnosis of PPD
- The difference is attributed to an increase in psychiatric services and maternal and infant emergency department visits
- PPD accounts for \$12.4 billion a year
- Worker absence and lost productivity costs employers \$44 billion a year



American Academy of Pediatrics Recommendation

The American Academy of Pediatrics (AAP) recommends that pediatric providers screen for maternal PPD at the infant's one, two, four, and sixth month well-child pediatrician visits

Purpose and Goals

- The purpose of this evidence-based Doctor of Nursing Practice (DNP) Scholarly Project is to evaluate the effectiveness of an educational postpartum depression PowerPoint presentation, aimed at pediatric providers, utilizing both a pre-test and a post-test survey.
- The goals of this evidence-based practice (EBP) project are to see an increase in the percentage of pediatric providers that intend to screen for PPD and an increase in provider PPD knowledge based on the educational presentation.

Setting and Population

- Two local pediatric clinics in East Tennessee with 13 total pediatricians and 9 partner physicians
- Most providers have roughly 1200 patients in their practice
- Each office sees between 30-40 newborns a month
- Clinical staff consists of registered nurses, licensed practical nurses, medical assistants, and radiology technicians
- Both clinics offer well-child visits, sick visits, x-ray services, phone nurse triage, referrals, lactation consults, and nurse only visits

Project Team and Stakeholders

Project Team Members

- DNP Student
- Faculty Committee Chair- Dr. Cornette
- Community Committee Member- Dr. Padgett

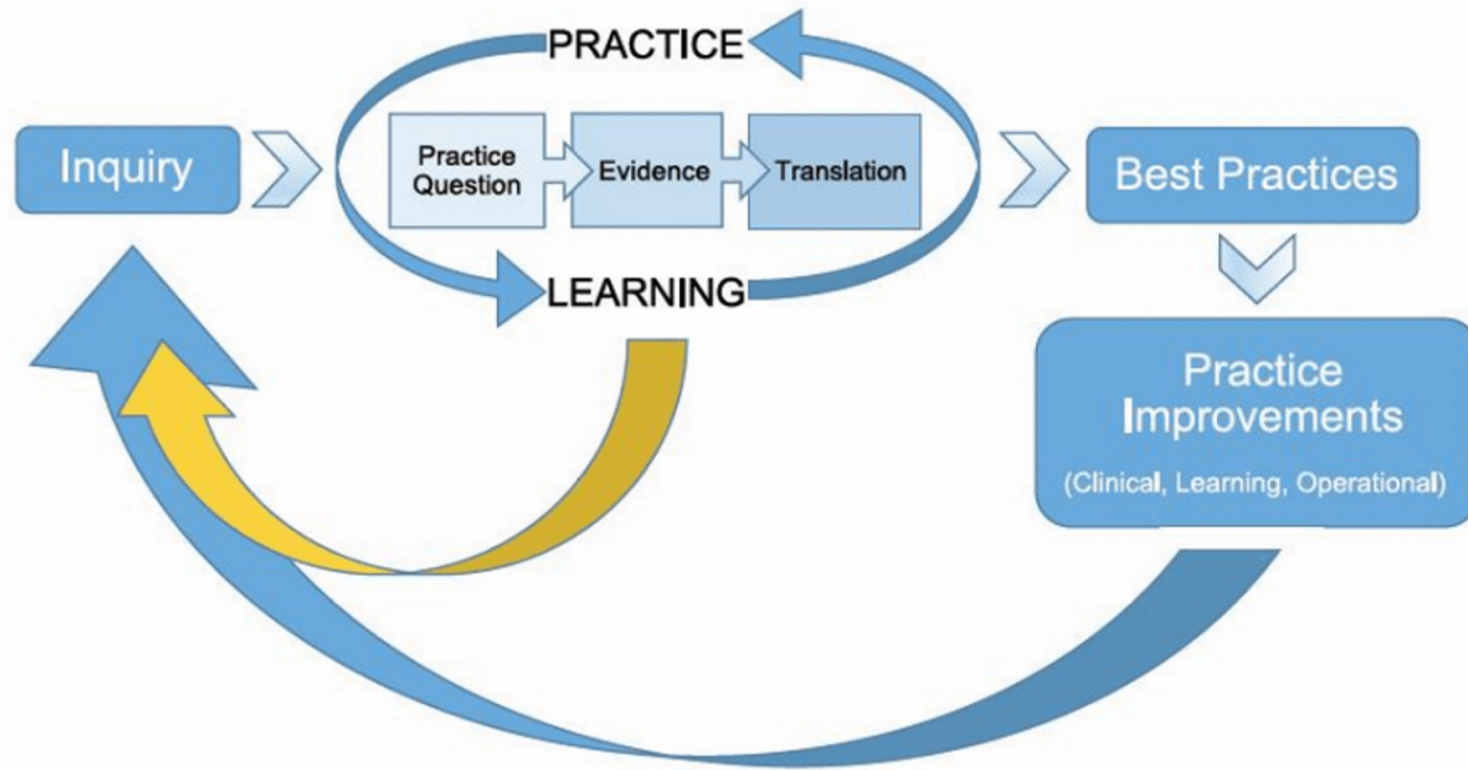
Additional Stakeholders

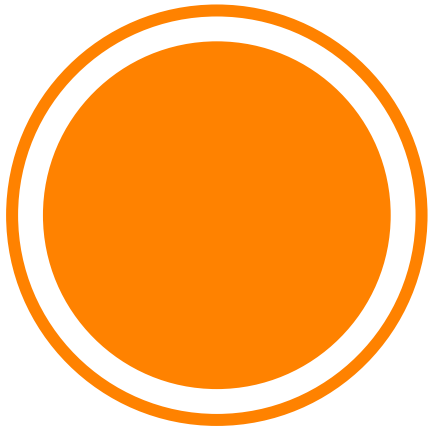
- Nursing Manager
- Statistician
- Pediatricians

Facilitators and Barriers

- Time to critically appraise and synthesize studies
- Relevance (PPD is still a global issue)
- Supportive nursing manager
- Organization's mission statement is aligned with project
- Community member is supportive and willing to teach and provide feedback
- Full and busy schedules
- Liability concerns regarding screening mothers, which could cause change resistance

The Johns Hopkins Nursing Evidence-based Practice Model





PICO Question

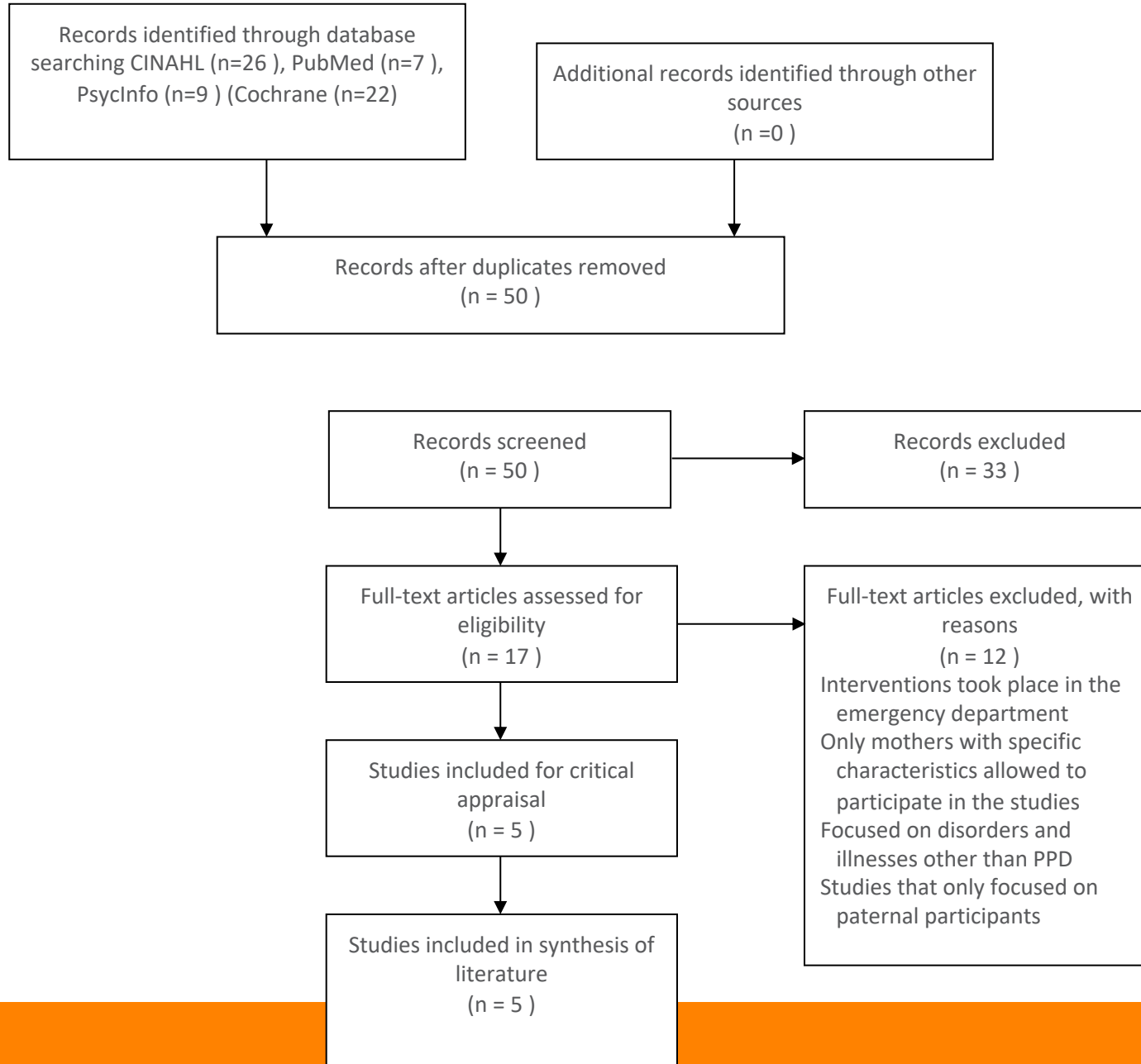
In pediatric primary care providers, how does education about PPD screening at well-baby visits compared to no education affect provider knowledge and intent to screen?

Identification

Screening

Eligibility

Included



Literature Search

Critical Appraisal

- Johns Hopkins Nursing Evidence-Based Practice Research Evidence Appraisal Tool
- Johns Hopkins Nursing Evidence-Based Practice Non-Research Evidence Appraisal Tool
- Johns Hopkins Nursing Evidence-Based Practice Evidence Level and Quality Guide
- Appraisal of Guidelines for Research and Evaluation II (AGREE-II)

Research Evidence

- The occurrence of suspected PPD diagnoses were noted and referral assistance was given more (2.4%) in the intervention groups than in the control group (1.2%)
- PPD was identified through a chart review after providers went through an educational conference regarding PPD in the pediatric primary care setting
- General knowledge of PPD increased from 55% to 70% after the educational conference and self-reported screening by pediatric providers increased from 22% to 60% after the conference
- Most common screening barriers were limited PPD knowledge and lack of available referral resources

Synthesis Outcomes Table

Outcome	Carrol et al., 2013	Friedman et al., 2016	Docherty et al., 2019
Identification of Suspected PPD Diagnoses	↓ ^s ↑ ^c	↑ ^s ↑ ^c	Ø
Pediatric Provider Education	Ø	↑ ^s ↑ ^c	↑ ^s
Pediatric Providers	Yes	Yes	Yes
Sample Size	N= 3520	N=40	N=55
Level of Evidence	II	III	III
Quality of Evidence	A	A	B
Measuring Tool Used	CHICA	Pre and Post Lecture Survey and Chart Review	REDCap

↑ = increase; ↓ = decrease; c = clinical significance; s = statistical significance Ø = not addressed N = total sample size; CHICA = child health improvement through computer automation; REDCap = research electronic data capture

Non-Research Evidence

Quality Improvement Project

- Although not statistically significant ($p=0.096$), an improvement in screening rates from 83% to 88% was found in post-intervention group
- Supports the use of a screening tool in the pediatric setting

Systematic Literature Review

- 75% out of 1,933 pediatric providers felt a responsibility to identify PPD but were the least confident to do so
- 60% reported that inadequate education and training regarding PPD were barriers

AAP Guideline

- Routine maternal PPD should be integrated into well-child visits at 1, 2, 4, and 6 months
- Guideline is consistent with the recommendation made by the U.S. Preventative Services Task Force

Recommendations for Practice Change

- 1. Implementation of a provider educational program to improve knowledge regarding screening for postpartum depression in the pediatric primary care setting
- 2. Implement a standardized maternal postpartum depression screening in the pediatric primary care setting at the 1, 2, 4, and 6- month well-child checkups

Implementation Timeline

Essential Steps	Stakeholder/Team Member Responsibilities	Projected Time Frame
Step 1: Recruit Interprofessional Team Identify key team members to guide in developing and implementing DNP scholarly project	DNP Student	January 2021
Step 2: Define the Problem - Recommended AAP guideline regarding screening for maternal PPD is not being followed at two local pediatric primary care practices - Gather narrative and numerical information to prove why the lack of maternal PPD screening is a problem and describe the issues that are related to the practice problem	DNP Student	January 2021- February 2021
Step 3: Develop and Refine the EBP Question - Develop a PICO question - Identify key PICO question components	DNP Student and Project Chair	February 2021
Step 4: Identify Stakeholders Identify a variety of stakeholders that have an interest in the project proposal	DNP Student	March 2021
Step 5: Determine Responsibility for Project Leadership Identify a leader for the EBP project	DNP Student	March 2021

Essential Steps	Stakeholder/Team Member Responsibilities	Projected Time Frame
Step 6: Schedule Team Meetings Confirm potential meeting times and dates with project mentor	DNP Student, Nursing Manager, Community Committee Member	April 2021
Step 7: Conduct Internal and External Search for Evidence - Develop search terms based off of PICO question - Conduct literature searches in multiple databases based off of key search terms - Search clinical practice guidelines and seek opinions of experts	DNP Student, Community Committee Member, and Pediatric Providers	May 2021-July 2021
Step 8: Appraise the Level and Quality of Each Piece of Evidence Appraise research and nonresearch evidence for level and quality using the rapid critical appraisal method	DNP Student	May 2021-July 2021
Step 9: Summarize the Individual Evidence Identify the relevant findings that answer the PICO question and sum up the evidence using the synthesis process	DNP Student	May 2021-July 2021
Step 10: Synthesize Overall Strength and Quality of Evidence Make a determination of the overall strength and quality by reviewing the level, quality/quantity, consistency, and applicability	DNP Student	May 2021-July 2021

Essential Steps	Stakeholder/Team Member Responsibilities	Projected Time Frame
Step 11: Develop Recommendations for Change Based on Evidence Synthesis - Based on the critical appraisal and synthesis processes, make a recommendation for practice change - Determine which pathway is appropriate	DNP Student	July 2021
Step 12: Determine Fit, Feasibility, and Appropriateness of Recommendation(s) for Translation Pathway Communicate and receive feedback from certain team members and stakeholders that will be affected by the recommendation(s)	DNP Student, Community Committee Member, and Pediatric Providers	July 2021
Step 13: Create Action Plan - Develop an educational program accompanied by a pre- and post-test for practicing pediatric providers based on evidence findings - Project proposal defense and IRB submission	DNP Student and Project Chair	July 2021-September 2021
Step 14: Secure Support and Resources to Implement Action Plan Secure dates and times for when educational program will take place	DNP Student and Nurse Manager	August 2021

Essential Steps	Stakeholder/Team Member Responsibilities	Projected Time Frame
Step 15: Implement Action Plan • Provide provider with a pre-test to evaluate baseline knowledge • Present educational program based on the best available evidence regarding maternal PPD in the pediatric primary care setting • Provide providers with a post-test one to two weeks following education to evaluate knowledge and intent to initiate screenings	DNP student, Community Committee Member, Pediatric Providers	March-April 2022
Step 16: Evaluate Outcomes • Utilize a statistician to perform data analysis on pre- and post-test findings	DNP Student and Statistician	April 2022
Step 17: Report Outcomes to Stakeholders • Share both favorable and unfavorable results to stakeholders and obtain feedback	DNP Student, Community Committee Member, Pediatric Providers	April-May 2022
Step 18: Identify Next Steps • Team members to review the findings and determine lessons learned and evaluate if any additional steps need to be taken	DNP Student and Community Committee Member	May 2022
Step 19: Disseminate Findings • Publish and present findings through final defense of DNP project proposal	DNP Student and Project Chair	November-December 2022

Note. Adapted from “The Revised Johns Hopkins Nursing Evidence-Based Practice (JHNEBP) Model” by D. Dang and S.L. Dearholt, 2018, Johns

Ethical Considerations

- The University of TN has an Institutional Review Board (IRB) that regulates projects and activities involving human subjects
- The purpose of the IRB is to ensure human subject rights, safety, and welfare as well as ensuring compliance with all federal and state laws and regulations

Economic Considerations

- No costs to implement
- The pre- and post-test surveys will be delivered via Qualtrics
- PowerPoint software program previously purchased
- SPSS was offered through the University of Tennessee

Data Collection and Security

- Baseline data was collected one to two weeks before intervention implementation and post-test survey data was collected one to two weeks after intervention implementation
- Remain anonymous, confidential, and was de-identified
- Password-protected Microsoft-Excel file, which will be stored in the UTK's OneDrive Business Account
- OneDrive Business Account is secured

Evaluation

Variable Name	Variable Code	Variable Description	Data Source	Possible Range of Values	Level of Measurement	Time Frame of Collection
Years Since Residency	RES	Residency	Survey	1= 0-5 years 2= 6-10 years 3= 11-15 years 4= 16-20 years 5= 21-25 years 6= >26 years	Ordinal	Pre-Intervention
Gender Identity	GEN	Gender Identity	Survey	1= Male 2= Female 3= Non-Binary	Nominal	Pre-Intervention
Postpartum Depression Screening Survey Questionnaire (PPDSQ)	PPDSQ-1	How much are you aware of the recommended AAP guideline regarding screening for maternal postpartum depression (PPD) in the pediatric primary care setting?	Survey	1= Not Aware 2= Slightly Aware 3= Somewhat Aware 4= Aware 5= Very Aware	Ordinal	Pre- & Post-Intervention
PPDSQ	PPDSQ-2	Do you currently screen for maternal PPD?	Survey	1= Never 2= Sometimes 3= Often 4= Always	Ordinal	Pre- & Post-Intervention

Evaluation

Variable Name	Variable Code	Variable Description	Data Source	Possible Range of Values	Level of Measurement	Time Frame Collection
PPDSQ	PPDSQ-3	How would you rate your level of knowledge regarding the epidemiology of PPD?	Survey	1= Very Poor 2= Poor 3= Average 4= Good 5= Very Good	Ordinal	Pre- & Post-Intervention
PPDSQ	PPDSQ-4	How would you rate your level of knowledge about available screening tools?	Survey	1= Very Poor 2= Poor 3= Average 4= Good 5= Very Good	Ordinal	Pre- & Post-Intervention
PPDSQ	PPDSQ-5	Do you believe it is within your scope of practice to screen (not treat) for PPD?	Survey	1= Not within the scope 2= Slightly within the scope 3= Somewhat within the scope 4= Within the scope	Ordinal	Pre- & Post-Intervention
PPDSQ	PPDSQ-6	Do you intend to screen for maternal PPD?	Survey	1= No, I do not intend to screen 2= Maybe, I will screen 3= Yes, I intend to screen 4= Already screening	Ordinal	Pre- & Post-Intervention

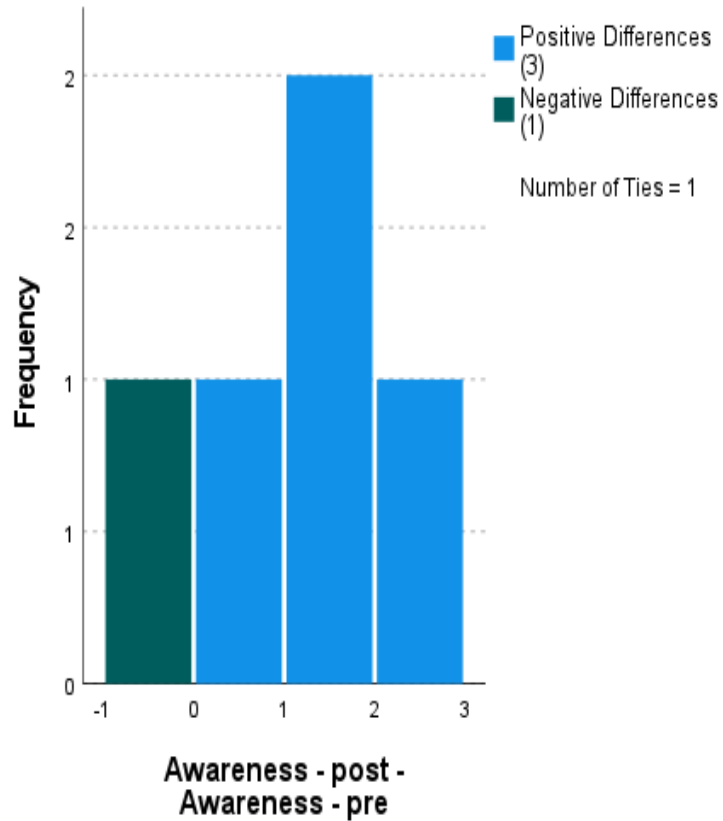
Postpartum Depression Educational Presentation Components

- Background
- Significance/Relevance of the Problem
- Maternal/Infant Adverse Affects
- Baby Blues and Postpartum Psychosis
- American Academy of Pediatrics Recommendation
- Screening Tools
- PPD Toolkit from the Kansas Chapter of the AAP
- PPD Journey

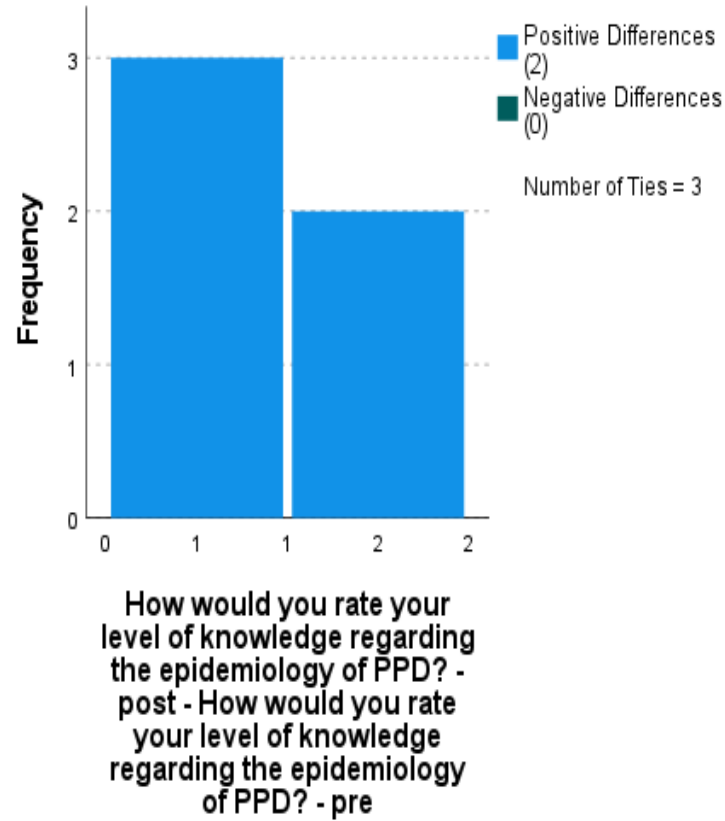
Question	Value Ranges	Pre-Test	Post-Test	p-values
How much are you aware of the recommended AAP guideline regarding screening for maternal PPD in the pediatric primary care setting?	Not Aware	N= 0 (0.0%)	N= 0 (0.0%)	.257
	Slightly Aware	N= 0 (0.0%)	N= 0 (0.0%)	
	Somewhat Aware	N= 2 (33.3%)	N= 2 (33.3%)	
	Aware	N= 4 (66.7%)	N= 2 (33.3%)	
	Very Aware	N= 0 (0.0%)	N= 3 (42.9%)	
Do you currently screen for maternal PPD?	Never	N= 2 (33.3%)	N= 4 (57.1%)	.157
	Sometimes	N= 3 (50.0%)	N= 3 (42.9%)	
	Often	N= 1 (16.7%)	N= 0 (0.0%)	
	Always	N= 0 (0.0%)	N= 0 (0.0%)	
How would you rate your level of knowledge regarding the epidemiology of PPD?	Very Poor	N= 0 (0.0%)	N= 0 (0.0%)	.157
	Poor	N= 1 (16.7%)	N= 0 (0.0%)	
	Average	N= 5 (83.3%)	N= 5 (71.4%)	
	Good	N= 0 (0.0%)	N= 2 (28.6%)	
	Very Good	N= 0 (0.0%)	N= 0 (0.0%)	
How would you rate your level of knowledge about available screening tools?	Very Poor	N= 0 (0.0%)	N= 0 (0.0%)	.414
	Poor	N= 2 (40.0%)	N= 1 (14.3%)	
	Average	N= 2 (40.0%)	N= 3 (42.9%)	
	Good	N= 1 (20.0%)	N= 3 (42.9%)	
	Very Good	N= 0 (0.0%)	N= 0 (0.0%)	
Do you believe it is within your scope of practice to screen (not treat) for PPD? Do you intend to screen for maternal PPD?	Not within the scope	N= 0 (0.0%)	N= 2 (28.6%)	.414
	Slightly within the scope	N= 5 (83.3%)	N= 1 (14.3%)	
	Somewhat within the scope	N= 0 (0.0%)	N= 2 (28.6%)	
	Within the scope	N= 1 (16.7%)	N= 2 (28.6%)	
Do you intend to screen for maternal PPD?	No, I do not intend to screen	N= 2 (33.3%)	N= 1 (14.3%)	1.000
	Maybe, I will screen	N= 3 (50.0%)	N= 5 (71.4%)	
	Yes, I intend to screen	N= 0 (0.0%)	N= 1 (14.3%)	
	Already screening	N= 1 (16.7%)	N= 0 (0.0%)	

Descriptive Statistics

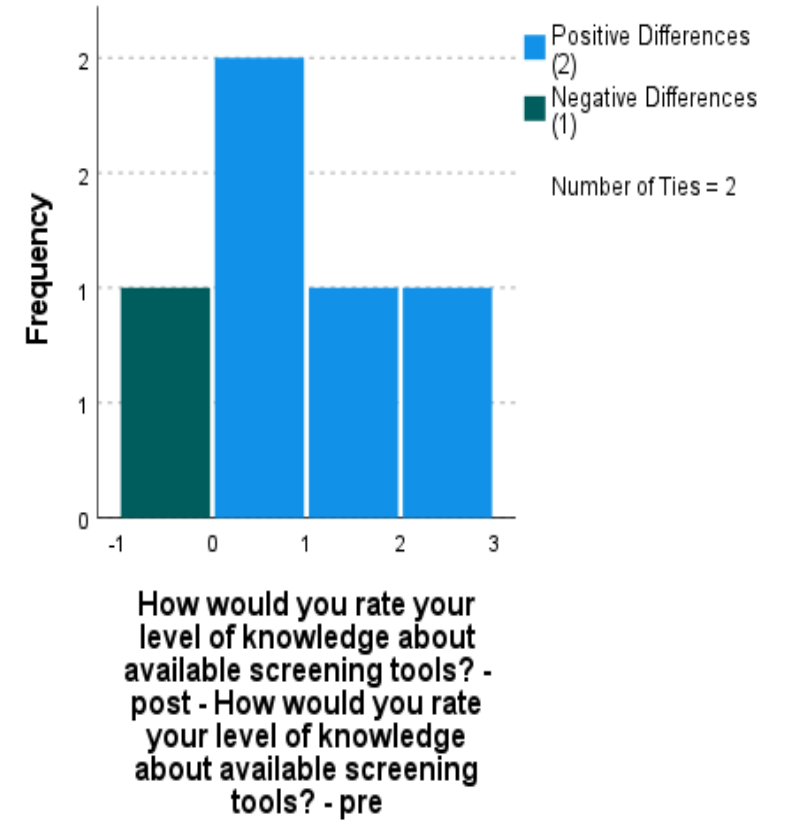
Related-Samples Wilcoxon Signed Rank Test

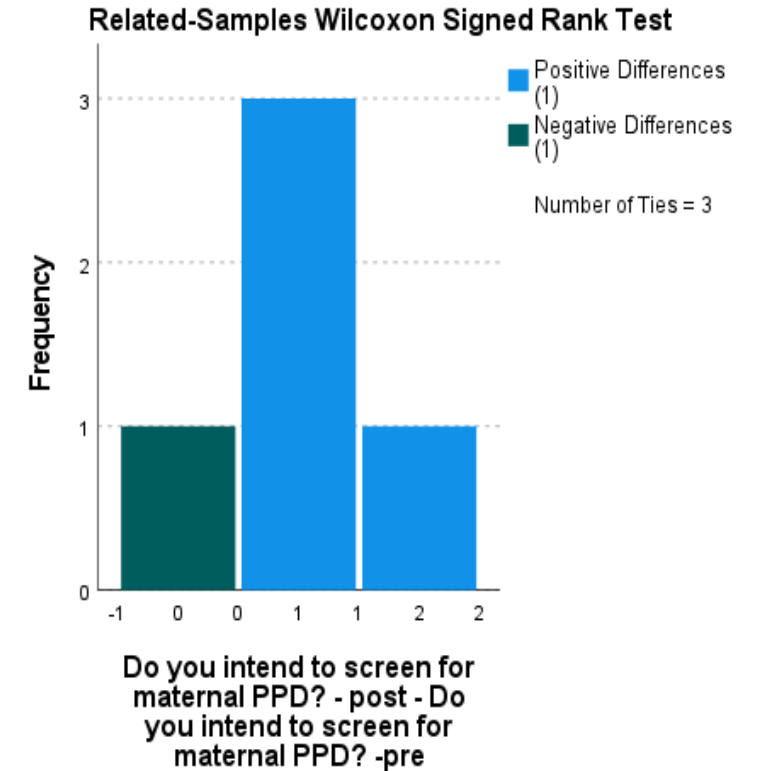
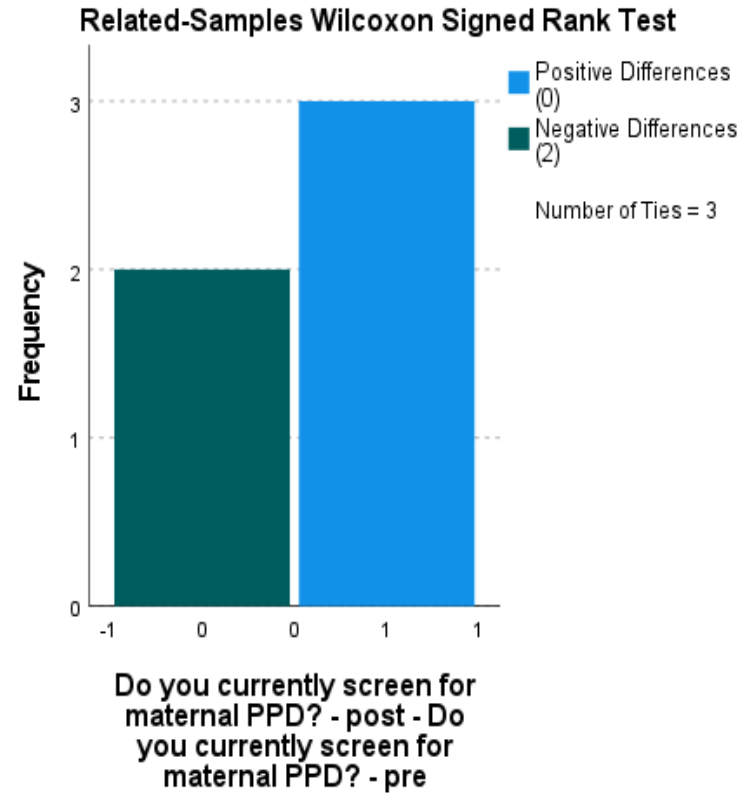
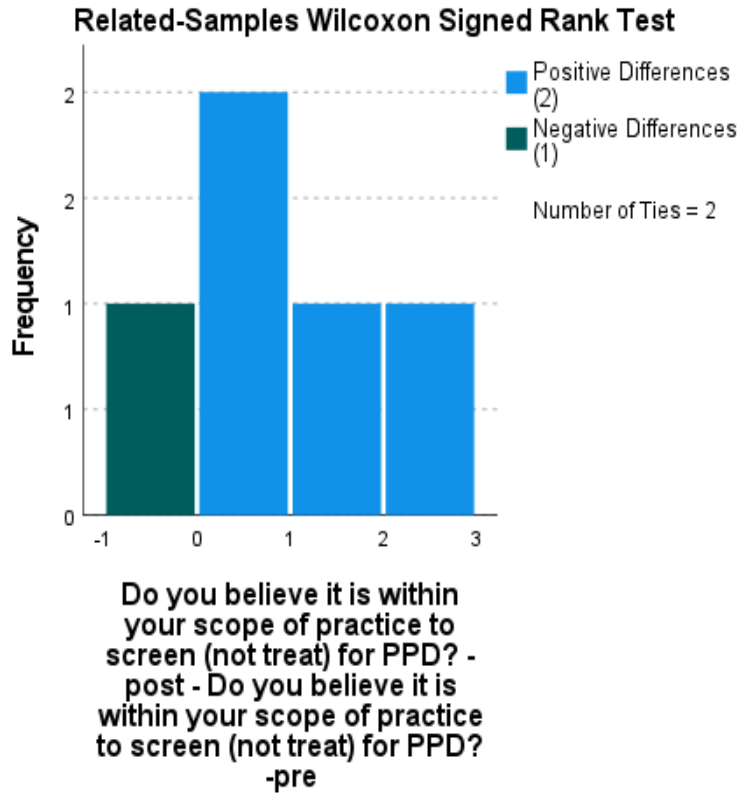


Related-Samples Wilcoxon Signed Rank Test



Related-Samples Wilcoxon Signed Rank Test





Strengths and Limitations

- Intervention increased provider knowledge about PPD
- Supportive staff members
- Small sample size
- 6/9 completed the pre-test, 7/9 completed the post-test, and only 5 completed both surveys
- Limited time to present (less than 10 minutes)

Dissemination Plan and Sustainability

- Two Dissemination Plans:

- Poster presentation at The University of Tennessee's research day

- Write a project report for all the participants to share key findings from the data analysis of the project

- The two offices are not implementing the screening at this time, however, they have increased knowledge and awareness of the adverse effects that PPD can have on mothers and their children and how PPD can present in mothers.

References

Please refer to project
proposal document