

Mar 31st, 10:30 AM - 12:30 PM

UP-02 Pharmacological and Non-pharmacological Interventions for the Treatment of Neonatal Abstinence Syndrome

Taylor Meetze

University of South Carolina - Spartanburg

Reagan Bradley

University of South Carolina - Spartanburg

Peyton Smith

University of South Carolina - Spartanburg

Emily Sisk

University of South Carolina - Spartanburg

Ryan Crawford

University of South Carolina - Upstate

Follow this and additional works at: <https://scholarcommons.sc.edu/scurs>



Part of the [Critical Care Commons](#), [Other Pharmacy and Pharmaceutical Sciences Commons](#), and the [Primary Care Commons](#)

Meetze, Taylor; Bradley, Reagan; Smith, Peyton; Sisk, Emily; and Crawford, Ryan, "UP-02 Pharmacological and Non-pharmacological Interventions for the Treatment of Neonatal Abstinence Syndrome" (2023). *SC Upstate Research Symposium*. 50.

<https://scholarcommons.sc.edu/scurs/2023symposium/2023posterpresentations/50>

This Poster is brought to you by the The Office of Sponsored Awards and Research Support at Scholar Commons. It has been accepted for inclusion in SC Upstate Research Symposium by an authorized administrator of Scholar Commons. For more information, please contact digres@mailbox.sc.edu.

Abstract

Background: Pharmacological and non-pharmacological treatments are used to treat symptoms of Neonatal Abstinence Syndrome (NAS).

Methods: The researchers completed a search in the Cumulative Index of Nursing and Allied Health Literature (CINAHL) to identify literature focused on the effects of pharmacological and non-pharmacological intervention on the length of hospitalization of neonates with NAS.

Results: Studies were identified that accredited each intervention type with better outcomes and shorter lengths of hospitalization.

Conclusion: Non-pharmacological treatment improves symptoms of withdrawal and decreases hospitalization stays for neonates.

Introduction

NAS is defined by signs and symptoms of withdrawal in neonates (Mangat et al. 2019).

- NAS can occur following maternal use of addictive substances of both illicit opioids and prescription opioids (Chu et al. 2022).
- Diagnosis of NAS usually occurs within 3 days of birth when a neonate exhibits significant withdrawal symptoms, including high-pitched crying, tremors, fever, excessive sucking, poor feeding, vomiting, and diarrhea (Williams et al, 2020).
- The Finnegan Neonatal Abstinence Scoring System Tool ([FNAST], Figure 1) is used in the United States healthcare system to assess withdrawal symptoms and quantifies the severity of withdrawal.
 - Mild to moderate will score 7 or less and may or may not require pharmacological interventions.
 - Severe withdrawal is defined by a score of 8 or more and will require pharmacological interventions to prevent seizures and death.
- Neonates with severe NAS are excluded from this specific study.

Research Question

In neonates who have mild/moderate Neonatal Abstinence Syndrome (NAS) as measured on the Finnegan scoring system, how does pharmacological intervention compared to non-pharmacological intervention affect the length of hospitalization of the neonate?

SYSTEMS	SIGNS AND SYMPTOMS	SCORE
CENTRAL NERVOUS SYSTEM DISTURBANCES	High Pitched Cry	2
	Continuous High Pitched Cry	3
	Sleeps < 1 Hour After Feeding	3
	Sleeps < 2 Hours After Feeding	2
	Hyperactive Moro Reflex	2
	Markedly Hyperactive Moro Reflex	3
	Mild Tremors Disturbed	2
	Moderate Severe Tremors Disturbed	3
	Mild Tremors Undisturbed	1
	Moderate Severe Tremors Undisturbed	2
	Increased Muscle Tone	2
	Excoriation (specify area): _____	1
METABOLIC VASOMOTOR/ RESPIRATORY DISTURBANCES	Myoclonic Jerks	3
	Generalized Convulsions	3
	Sweating	1
	Fever < 101°F (39.3°C)	1
	Fever > 101°F (39.3°C)	2
	Frequent Yawning (> 3-4 times/interval)	1
	Mottling	1
	Nasal Stuffiness	1
	Sneezing (> 3-4 times/interval)	1
	Nasal Flaring	2
GASTROINTESTINAL DISTURBANCES	Respiratory Rate > 60/min	1
	Respiration Rate > 60/min with Retractions	2
	Excessive Sucking	1
	Poor Feeding	2
	Regurgitation	2
	Projectile Vomiting	3
SUMMARY	Loose Stools	2
	Watery Stools	3
TOTAL SCORE		
SCORER'S INITIALS		
STATUS OF THERAPY		

Figure 1

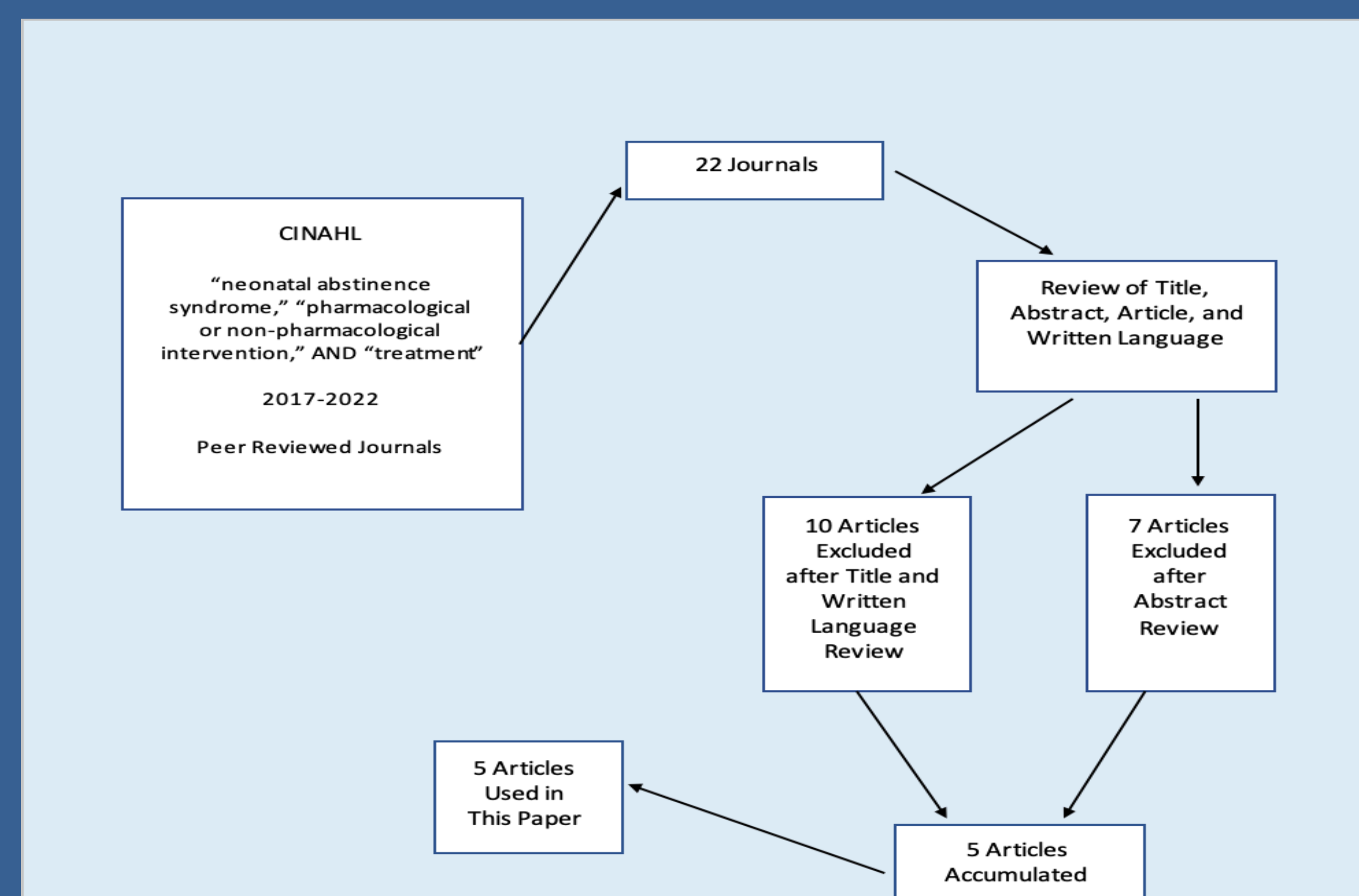


Figure 2

Methods

The methods of this study included a systematic review of the literature identified in the Cumulative Index of Nursing and Allied Health Literature CINAHL database. Refer to the Figure 2.

Results

The literature found using the CINAHL database was analyzed. Based on the findings:

- Two studies identified the effectiveness of non-pharmacological treatment resulting in a shorter length of stay by stating that a medicated treatment plan increases the length of stay due to the slow weaning process, potentially limiting parent–neonate bonding in the first few weeks of their life (Williams et al. 2020; Chu et al. 2022).
- Two articles stated that babywearing was a confounding factor for attachment purposes along with decreasing the heart rate and stimulating lactation (Williams et al. 2020; Chu et al. 2022).
- One article discusses that a 0.25 mg/kg dosage of Morphine yields a twenty-two-day hospitalization after birth. Another article discusses the 0.07 mg/kg dosage of Morphine yields a twenty-eight-day hospitalization after birth (Mangat et al. 2019).
- Our results allude to an outcome of pharmacological interventions having a short hospital stay, and non-pharmacological interventions having an even shorter hospital stay (about thirteen days).

Conclusion

Although research shows that neonates with a Finnegan score of eight or more must receive pharmacological treatment, the supporting evidence of non-pharmacological treatment suggests a decreased hospitalization stay for neonates by relieving their symptoms faster than pharmacological interventions.

References

See attached.