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### Ketamine for Postpartum Depression: A Systematic Review

Jaylyn Thompson  
*Rowan University*

David F. Lo  
*Rowan University*

Alexis Foschini  
*Rowan University*

Suvan Sundaresh  
*Rowan University*

Don D. Shamilov  
*Rowan University*

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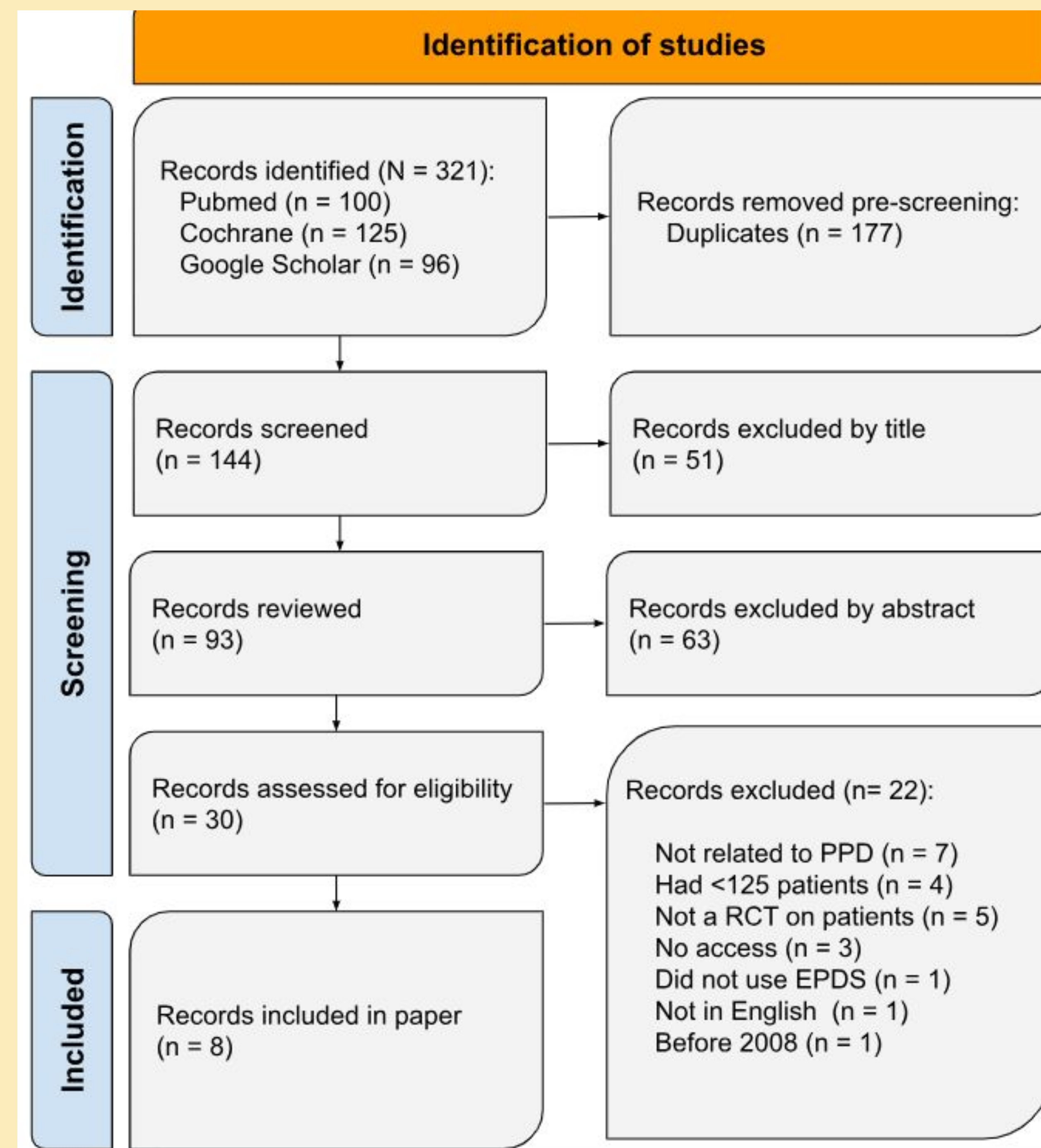
## Abstract

- The purpose of this review is to explore perinatal ketamine’s potential for reducing Postpartum Depression after Cesarean Section
- Articles reviewed from Pubmed, Cochrane, and Web of Science using specific search terms
- 8 final papers were used for review after excluding duplicates and irrelevant titles and abstracts
- Ketamine showed potential in reducing postpartum depression symptoms post C-section, although some studies reported no significant effects
- All studies were randomized control trials
- Ketamine may help prevent or lessen postpartum depression symptoms post C-section, but more research is needed to understand dosing and its casual relationship with PPD in this context

## Introduction

- Postpartum depression is a major depressive episode occurring post-childbirth, affecting 10-15% of mothers and leading to emotional, social, and financial burdens
- Current management of postpartum depression includes nonpharmacologic and pharmacologic options including SSRIs
- Postpartum depression after cesarean section affects over 30% of women, emphasizing the need for alternative treatments like ketamine, known for its rapid antidepressant action and multiple administration routes
- Ketamine’s efficacy in reducing postpartum depression is explored, considering its isomers, administration methods, and side effects, however research lacks consensus due to methodological variations
- The paper aims to fill the knowledge gap regarding ketamine’s role in postpartum depression treatment, offering a potential rapid relief and longer duration of action compared to conventional approaches

## Materials and Methods



- This systematic review followed PRISMA guidelines but lacked sufficient studies for meta-analysis
- Literature search conducted using specific MeSH terms across databases from March 2017 to September 2023
- Screening process involved two stages, 1. titles and abstracts and 2. full text review, with discrepancies resolved through discussion or involving a third reviewer
- Data extraction focused on randomized control trials and included studies from the last 15 years, ensuring consistency and relevance
- Inclusion criteria prioritized RCTs using EPDS for depression assessment post C-section with IV ketamine administration
- Exclusion criteria focused on study quality, language, sample size, and relevance to ketamine and postpartum depression

## Results

- Eight randomized control trials were included in the systematic review, with varying sample sizes ranging from 134 to 1138 participants across studies conducted in China, the United States, and Iran
- The demographic focus was on birthing people aged 18 to 45 years scheduled for cesarean section delivery
- Intravenous ketamine during cesarean delivery was found in six out of eight studies to effectively prevent postpartum depression within 3 days to 1 month post-delivery, with potential benefits including reduced morphine use and improved recovery quality
- Safety considerations recommended low-dose ketamine for pregnant women undergoing cesarean section due to known adverse effects

## Discussion

- Future directions suggest exploring alternative ketamine administration methods, expanding research to non-English studies, including larger sample sizes, and investigating ketamine's effects on postpartum depression symptoms in different demographic populations and time intervals pre-, peri-, and postpartum

## Conclusion

- Ketamine, particularly S-ketamine as an adjuvant, shows promise in reducing postpartum depression incidence and relieving pain after delivery, highlighting the need for further research on different administration methods and potential side effects, especially in the context of rising postpartum depression rates amid the COVID-19 pandemic

## Acknowledgments

APSEA - American Preventative Screening and Education Association