

PHARMACOLOGICAL AND NON-PHARMACOLOGICAL INTERVENTIONS IN MATERNAL AND NEUROLOGICAL HEALTH

Biofarma Study Center

Cochrane Reviews

In this edition of Biofarma Perspectives, we will provide an in-depth analysis of emerging research with summaries of relevant studies, highlighting their clinical and practical implications for healthcare professionals. This new initiative aims to provide readers with a comprehensive understanding of the latest scientific innovations and their potential impacts on clinical practice, always aiming to improve the quality of patient care.

1. What are the benefits and risks of different non-pharmacological treatments for managing constipation and fecal incontinence in individuals with central neurological disease? This summary addresses healthcare treatment options related to the impact of biology and pharmacology on chronic conditions.

2. What are the benefits and risks of medications for retained placenta after vaginal delivery? Research on medications in maternal health situations is crucial for gaining a better understanding of postpartum treatments and their implications.

3. What are the benefits and risks of different treatments that may delay or slow the progression of progressive multiple sclerosis? This summary addresses healthcare treatment options related to the impact of biology and pharmacology on chronic conditions.

Keywords: treatments, pharmacological, non-pharmacological, health, constipation, incontinence, maternal health, multiple sclerosis, retained placenta, risks.



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1. What are the benefits and risks of different non-pharmacological treatments for managing constipation and fecal incontinence in individuals with central neurological disease?

Introduction: Managing constipation and fecal incontinence (FI) in patients with central neurological diseases is complex, where non-pharmacological approaches become essential. Although there are various interventions, such as probiotics and abdominal massage, the effectiveness of these options still lacks robust evidence to help determine their true benefits and risks.

Development:

1. Non-Pharmacological Interventions: The review assessed 25 studies involving 1,598 participants, revealing that interventions like probiotics and holistic nursing assessment methods could alleviate constipation and FI. Conservative treatments have shown a significant reduction in FI and constipation symptoms; however, evidence regarding their efficacy in improving patients' quality of life and reducing bowel care time is uncertain.

2. Physiotherapy: A total of 12 studies compared physiotherapeutic interventions with usual care. Despite some moderate improvements in constipation, results regarding FI were scarce, with insufficient evidence to conclude their effectiveness in improving bowel dysfunction in patients with neurological diseases. Additionally, the lack of uniformity in measurements and reporting of outcomes hampers comparisons between studies.

3. Limitations and Research Needs: The methodological quality of the studies is generally low, with many presenting significant risks of bias. The lack of standardized measurements



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and core outcome sets suggests that future research should focus on developing these measures and conducting long-term controlled trials.

Explanation: Constipation and FI directly impact the lives of individuals with central neurological diseases, necessitating approaches that extend beyond medications, such as behavioral strategies and physiotherapy.

The Evidence: The available evidence is limited and of low confidence due to methodological flaws in many studies and the urgent need to develop consistent outcome measures.

Testing and Conclusion: While some non-pharmacological interventions may be promising, they lack validation in well-designed trials. Research should focus on patients' acceptance of treatments and their effectiveness in improving quality of life and managing symptoms.

Technical References: The review includes 25 studies published up to March 27, 2023, focusing on conservative interventions and physiotherapy. The authors, Todd CL et al., emphasize the need for future investigations prioritizing relevant outcomes for the quality of life of patients with constipation and FI. The analysis can be consulted in the Cochrane Library, published on October 29, 2024.



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2. What are the benefits and risks of medications for retained placenta after vaginal delivery?

Introduction: Retained placenta after vaginal delivery is a concerning condition that can lead to serious complications such as hemorrhage. Uterotonics, such as misoprostol and oxytocin, are often used to induce uterine contractions; however, their efficacy and safety in preventing manual removal of the placenta and reducing hemorrhagic complications have been questioned.

Development:

1. Evidence and Studies: The review of five studies involving 560 women demonstrated that uterotonics are no more effective than placebo in reducing the need for manual placenta removal. The varying results among studies and the low number of participants limited the reliability of the evidence. Further examination of the impact of different medications and their methods of administration is required for better understanding.

2. Side Effects and Safety: In addition to the apparent ineffectiveness in reducing the need for manual removal, the uterotonics' impact on postpartum bleeding remains uncertain. There was no substantial evidence regarding the safety of the medications, including side effects such as tremors associated with misoprostol. Greater focus on adverse events and maternal safety is needed in future research.

3. Recommendations for Future Research: The review concludes that large-scale studies are needed to compare the efficacy of different uterotonics versus placebo and to investigate



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maternal satisfaction, breastfeeding rates, and postpartum anemia. Reducing uncertainty around the effects of uterotonics and their safety is essential for improving maternal care.

Explanation: Retained placenta is a critical condition that requires immediate medical attention. The literature review indicates that current treatments (uterotonics) may not provide the expected benefits, raising questions about their widespread use in clinical practice.

The Evidence: Data collected from various studies, analyzed until April 2024, indicate a lack of efficacy of uterotonics, resulting in a reliability assessment of the evidence ranging from low to moderate.

Testing and Conclusion: The use of uterotonics for managing retained placenta after vaginal delivery may not be the ideal solution. Additional research is necessary to find effective and safe options for mothers, aiming to minimize postpartum hemorrhage and improve clinical outcomes.

Technical References: Article reviewed by Sothornwit J, Ngamjarus C, Pattanittum P, and others, published on October 28, 2024, in the Cochrane Library, funded by UNDP, UNFPA, UNICEF, WHO, and the World Bank; protocol registration in PROSPERO (CRD42024564386).



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3. What are the benefits and risks of different treatments that may delay or slow the progression of progressive multiple sclerosis?

Introduction: Progressive multiple sclerosis (PMS) is a challenging condition that causes damage to the central nervous system, resulting in progressive disability. Despite advancements in disease-modifying treatments, there remains uncertainty regarding their effectiveness in reducing relapses and the progression of disability. The aim of this study was to compare different treatments to assess their benefits and risks.

Development:

1. Evidence of Efficacy: Analyzing 23 studies with 10,167 participants, the research revealed that rituximab, after two years, and interferon beta-1b, after three years, resulted in a slight reduction in relapses. However, most treatments did not show significant efficacy in delaying disability progression. Moreover, treatment discontinuation due to adverse effects was slightly more common with several of the evaluated medications.

2. Safety and Side Effects: The analysis indicated that 39% of the studies had a high risk of bias, primarily due to the influence of pharmaceutical sponsors. This raises concerns about the reliability of the data. Although some treatments showed a slight propensity for adverse events and discontinuation, evidence regarding serious adverse events was considered very uncertain.

3. Need for Future Studies: It is evident that long-term and more rigorous studies are necessary to establish direct comparisons between treatments, as well as to evaluate important aspects such as quality of life and cognitive function in PMS patients.



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Explanation: Progressive multiple sclerosis represents a significant clinical challenge, with treatments that still do not demonstrate clear and measurable benefits concerning relapses and progressive disability.

The Evidence: The level of certainty of the evidence varied, with some conclusions based on data from short and potentially biased studies. The uncertainty regarding the efficacy of various treatments highlights the need for more comprehensive research.

Testing and Conclusion: Current empirical evidence suggests that while rituximab and interferon beta-1b may offer some advantages, the overall efficacy of treatments for PMS remains limited. Future research should emphasize collecting data on quality of life and patient safety in extended follow-ups.

Technical References: The study included 23 randomized clinical trials, with an updated search until August 8, 2022, utilizing databases such as CENTRAL, MEDLINE, and Embase. The authors, with evidence compiled by Cochrane, indicate the necessity for more independent and long-term research to formulate a coherent understanding of the benefits and risks of treatments for PMS.



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