

INPLASY

Is there evidence to support a link between pelvic visceral structures and pelvic and musculoskeletal low back pain?

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Corresponding author:

Megan Steele

msteele20@apu.edu

Author Affiliation:

Azusa Pacific University.

Steele, M¹; Dias, M².

ADMINISTRATIVE INFORMATION

Support - NA.

Review Stage at time of this submission - Preliminary searches.

Conflicts of interest - None declared.

INPLASY registration number: INPLASY202370048

Amendments - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 13 July 2023 and was last updated on 13 July 2023.

INTRODUCTION

Review question / Objective This systematic review examines the phenomenon of referral of visceral organ pain to the musculoskeletal system. The review aims to analyze the underlying mechanisms of this phenomenon, including nociceptive and neuropathic pain pathways, central sensitization, and somatosensory system functional changes. Furthermore, the review will explore the impact of visceral organ referral on musculoskeletal symptoms and dysfunction, such as decreased range of motion and functional impairment. Additionally, the review will discuss the clinical implications of understanding visceral organ referral to the musculoskeletal system and its relevance for diagnosis and treatment.

Rationale To date there has not been definitive evidence to support the causal relationship between visceral dysfunction of pelvic organs and non-specific low back pain.

Condition being studied Non-specific low back pain caused by referral from visceral structures in the pelvic region.

METHODS

Search strategy This systematic review was completed according to PRISMA guidelines. To ensure comprehensive information on the topic, randomized controlled trials (RCT's) as well as case studies, case series and systematic reviews will be included. Due to the recent advancements in magnetic resonance imaging (MRI), the review will be limited to the last 10-15 years. The search will be performed in July 2023. The following single or combination of search terms will be used: visceral or viscera, somatic, pain, low back, referred pain, pelvis or pelvic. The following electronic medical databases were searched: Medline, Academic Search Premier, APA Psycinfo, CINAHL, OpenDissertations. Articles will then be limited by peer reviewed criteria only.

Additionally, reference lists of articles retrieved will be searched individually to ensure complete data retrieval.

Participant or population Human subjects with low back pain.

Intervention Not an interventional study.

Comparator Not an interventional study.

Study designs to be included Randomized controlled trials, systematic reviews, case studies, cohort studies, cross sectional studies, narrative reviews, scoping reviews, descriptive studies.

Eligibility criteria Inclusion criteria: Studies performed in the last 15 years, Published in English. Studies performed on human subjects, Studies that include organs of the pelvis which include uterus, ovaries, bladder, colon and prostate, Studies that looked at the connection between visceral and musculoskeletal/somatic pain, Exclusion criteria: Studies that do not include musculoskeletal pain, Studies on non-pelvic visceral structures, Studies involving Pregnancy, Studies performed on animals, Studies performed prior to 15 years ago.

Information sources The following electronic medical databases were searched: Medline, Academic Search Premier, APA Psycinfo, CINAHL, OpenDissertations. Articles will then be limited by peer reviewed criteria only. Additionally, reference lists of articles retrieved were searched individually to ensure complete data retrieval. Authors will be contacted in the event of incomplete data to retrieve full information.

Main outcome(s) To compile the evidence demonstrating a causal relationship between pelvic visceral structures and non-specific low back pain.

Quality assessment / Risk of bias analysis PEDro will be used for randomized controlled trials, PRISMA will be used for systematic reviews, JBI tool will be used to assess case studies and case series.

Strategy of data synthesis For each study included in the review, data were extracted relating to the methods used to assess referral mechanisms, type of subjects included (animal vs human), inclusion and exclusion criteria, physiological mechanisms of referral from visceral structures.

Subgroup analysis No subgroup analysis is applicable for this study.

Sensitivity analysis Inclusion and exclusion criteria will be strictly applied to all articles in this study. No animal studies will be included, studies without a visceral component will be excluded, studies not involving low back pain will not be included. Studies conducted prior to 2008 will not be included. The RoB 2 risk of bias tool will be used to assess each article for potential biases.

Language restriction The study will be limited to English.

Country(ies) involved United States.

Keywords visceral or viscera; somatic; low back; referred pain; pelvis or pelvic; visceral referral; non-specific low back pain.

Dissemination plans We plan to submit this article for publication in a peer reviewed journal.

Contributions of each author

Author 1 - Megan Steele - Author 1 drafted manuscript, conducted background research, designed search strategy, performed search and study selection via agreed up analysis technique. Email: msteele20@apu.edu

Author 2 - Michelle Dias - Author 2 edited manuscript, formulated PICO question, performed search and study selection via agreed up analysis technique. Email: mdias.mvmt@gmail.com