

## **The role of task- and context-specific fear of movement in the development and persistence of pregnancy-related lumbopelvic pain: a study protocol**

Peuskens E.<sup>1,2</sup>, Goossens N.<sup>2</sup>, Bogaerts A.<sup>3,4</sup>, De Baets L.<sup>5,6,7,8</sup>, Aldabe D.<sup>9</sup>, Gyselaers W.<sup>10</sup>, Geerits E.<sup>2,3</sup>, Gregoor M.<sup>2</sup>, Geraerts I.\*<sup>1,7</sup>, Janssens L.\*<sup>2</sup> (\*shared last author)

<sup>1</sup>Dept. of Rehabilitation Sciences, Research Unit Rehabilitation in Internal Disorders, KU Leuven, Leuven Belgium;

<sup>2</sup>REVAL Rehabilitation Research Center, UHasselt, Diepenbeek, Belgium;

<sup>3</sup>Dept. of Development and Regeneration, Research unit Woman and Child, KU Leuven, Leuven, Belgium;

<sup>4</sup>Faculty of Health, University of Plymouth, Devon, United Kingdom;

<sup>5</sup>Dept. of Rehabilitation Sciences, Research Unit Musculoskeletal Rehabilitation, KU Leuven, Leuven, Belgium;

<sup>6</sup>Dep. of Physiotherapy, Human Physiology and Anatomy, Research Unit Pain in Motion (PAIN), Faculty of Physical Education & Physiotherapy, Vrije Universiteit Brussel, Brussels, Belgium;

<sup>7</sup>Dept. of Physical Medicine and Rehabilitation, University Hospitals Leuven, Leuven, Belgium;

<sup>8</sup>Leuven Algologic Center, University Hospitals Leuven, Leuven, Belgium;

<sup>9</sup>Faculty of Health Sciences, Curtin University, Perth, Australia;

<sup>10</sup>Faculty of Medicine and Life Sciences, UHasselt, Diepenbeek, Belgium

### **Background**

Pregnancy-related lumbopelvic pain (PLPP) affects 50-90% of pregnant women and can persist for years postpartum. PLPP limits daily activities and is a leading cause of sick leave. Prevention and treatment are hampered by a limited understanding of its multifactorial causes<sup>1</sup>.

Adopting a biopsychosocial perspective may provide valuable insights into the development and persistence of PLPP. The Fear-Avoidance Model of pain suggests that pain-related beliefs, rather than pain itself, influence recovery. In non-pregnant persons with low back pain, fear of movement (FoM) has been identified as a key mechanism in pain persistence. FoM has also been associated with PLPP prevalence, with studies mainly relying on generic questionnaires investigating this construct<sup>2</sup>. Recent evidence suggests that FoM is often task- and context-specific: individuals may only fear certain activities in certain contexts, which generic questionnaires may fail to capture<sup>3</sup>.

This study aims to (1) characterise the activities pregnant women with PLPP are reluctant to perform compared to pregnant women without PLPP, (2) examine associations between task- and context-specific FoM, fear-avoidance beliefs, pain catastrophising, depression, and anxiety, and (3) investigate whether task- and context-specific FoM predicts the onset and persistence of PLPP.

### **Methods**

This protocol is part of the PROFit study (G0A1N24FWO/S69463). We will recruit 211 pregnant women without PLPP and assess them in the first and third pregnancy trimester, and at six weeks and nine months postpartum. PLPP will be assessed via self-report and clinical tests; task- and context-specific FoM by scoring the level of reluctance to perform self-listed activities; and (pain-related) psychological factors using validated questionnaires. Descriptive statistics and group comparisons, correlations, and logistic regression will address the three objectives.

### **Results**

As of Oct 8, 2025, 19 participants (mean age=31.7, SD=3.9) have been included.

### **Conclusion**

This study will help clarify the role of task- and context-specific FoM in PLPP, supporting better prevention and treatment strategies.

## References

<sup>1</sup>Wuytack F, Begley C, Daly D. Risk factors for pregnancy-related pelvic girdle pain: a scoping review. *BMC Pregnancy Childbirth*. 2020 Dec 1;20(1).

<sup>2</sup>Fernando M, Nilsson-Wikmar L, Olsson CB. Fear-avoidance beliefs: A predictor for postpartum lumbopelvic pain. *Physiotherapy Research International*. 2020 Oct 1;25(4).

<sup>3</sup>de Baets L, Meulders A, van Damme S, Caneiro JP, Matheve T. Understanding Discrepancies in a Person's Fear of Movement and Avoidance Behavior: A Guide for Musculoskeletal Rehabilitation Clinicians Who Support People with Chronic Musculoskeletal Pain. Vol. 53, *Journal of Orthopaedic and Sports Physical Therapy*. Movement Science Media; 2023. p. 307–16.