
POSTER ABSTRACT**Pain@home: An integrated, holistic, multimodal, digital approach to the prevention of chronic pain.**

23rd International Conference on Integrated Care, Antwerp, Flanders, 22-24 May 2023

Guy Hans^{1,2}, Davina Wildemeersch^{1,2}, Ine Meeus¹, Bruno Louies¹, Reinhart Maertens¹

1: Antwerp University Hospital (UZA), Edegem, Antwerp, Belgium

2: University of Antwerp (UA), Wilrijk, Antwerp, Belgium

Chronic pain is one of the most debilitating medical conditions and one of the greatest medical challenges globally. In Western countries, almost 25% of adults are suffering from recurrent and prolonged pain symptoms. Chronic pain has a huge negative impact on the quality of life of patients, such as sleep disturbances, limitation in daily activities, and prolonged sick leaves.

The best treatment for chronic pain is preventing it from occurring in the first place through an aggressive and multimodal approach to acute pain conditions. Such an approach has been previously described as pre-emptive analgesia. Despite multiple previous research projects, the ideal approach to the prevention of chronic pain has still not been identified. We hereby propose an integrated, multidisciplinary approach to the prevention of long-lasting pain syndromes.

This innovative approach was previously tested and refined in patient populations at high risk of developing chronic pain, such as adolescents undergoing pectus operations, and young adults undergoing scoliosis correction procedures. Its rationale is based on the early activation of a digital follow-up before the nociceptive insult has even occurred. At the moment a potential future pain-inducing medical act has been identified (eg surgical procedure, initiation of chemotherapy or radiotherapy, traumatic injury) inclusion in digital long-term monitoring is initiated. The first step in the follow-up consists of the identification of patient-specific risk factors through the application of a validated nociceptive risk identification survey. After an individual risk profile has been completed a daily follow-up is initiated through the application of diaries.

After that, a personalized anti-nociceptive approach is conceptualized. One of the major risk factors for the chronification of pain is the presence of fear or catastrophizing behavior. If these are identified during the pre-operative screening process, an integrated and multidisciplinary approach will be tailored to tackle these problems at the individual level. In addition, the interval between the initiation of the follow-up and the start of the medical treatment is used to start a pre-emptive treatment (in most cases gabapentin). Furthermore, educational material is provided to the participating patients in order to educate them on crucial matters such as the pathophysiology of pain, the importance of physical activities, and training in coping strategies.

At the moment of hospitalization, patients receive a personalized pain treatment regimen based on the pre-op home-based assessment. Experience has learned us that this improves the health-related quality of life of patients while reducing length of stay significantly.

After discharge from the hospital, remote monitoring is reinitiated. Patients are kept under digital supervision during the entire postoperative period, with multidisciplinary support and a strong focus on the functional reintegration of the concerned patients. When functional outcomes are obtained and the use of analgesics is stopped then the remote follow-up is discontinued.

The described care pathway is an innovative approach to the prevention of chronic pain. All healthcare providers are gathered around the patient, who is treated as much as possible in a trusted home environment. The application of digital technologies creates a unique opportunity for this long-term interdisciplinary approach.