EDITORIAL

Why Europe needs a pain research strategy

The European Pain Federation (EFIC) is finalizing a research strategy to communicate a clear set of pain priorities to research stakeholders. The aim of the Strategy is to optimize understanding and management of pain in Europe through promoting high-quality, multiprofessional and collaborative basic, translational and clinical research. It has four steps:

1. Identification of needs and bottlenecks by a Committee comprising 14 members through discussion and analysis of published literature;
2. Cross-sectional survey of ~700 European clinicians and researchers from ~40 countries, who suggested priorities, and prioritized the Committee proposals;
3. Consultation with patient representatives (expertise from Pain Alliance Europe) to obtain patient-oriented priorities;
4. Consultation meetings with the European Pain Forum.

We identified three axes:

1 | NEED FOR BASIC AND TRANSLATIONAL RESEARCH TO PRODUCE NOVEL TREATMENTS

The importance of basic and translational research is universally acknowledged, but many experimental pain models remain focused on reflexive responses, which are largely irrelevant to human pain. Animal models of transition from acute to chronic pain are virtually absent—a crucial problem in human pain research, and back-translational research remains underdeveloped (Mouraux et al., 2021). Improving methods to mimic aspects of pathological pain in humans is urgent to understand pathophysiology and to back translate to animal research with translatable biomarkers for treatment development (Quesada et al., 2021).

2 | NOT ONLY BETTER TREATMENTS, BUT ALSO BETTER ASSESSMENT AND PROGNOSTIC METHODS ARE NEEDED, BECAUSE DELAY IN DIAGNOSIS IS A DELAY IN THERAPY

Despite significant therapeutic advances in the last decade (CGRP inhibitors in chronic migraine, topical procedures for peripheral neuropathic pain, intrathecal ziconotide in malignant and non-malignant pain), most pharmacological pain interventions have been in use for decades, and provide limited long-term benefits (Mouraux et al., 2021). For most treatments, we do not know why they work or fail, and this black box needs to be addressed by examining mechanisms through which interventions exert effects on outcomes. By identifying mechanisms, we can refine interventions to improve their effectiveness and implementation.

Predictive factors have been validated regarding chronic pain after neural lesions, surgical trauma or psychological distress; however, their clinical implementation is unsatisfactory, partly because lack of translation to the clinics of the procedures on which adequate predictors rely. European consortia such as IMI-PainCare aim at profiling functional indicators of pain development and drug effects using biomarkers derived from pain descriptors, non-invasive neurophysiological procedures and imaging measurements. While the Dolorisk consortium aims at analysing potential predictors of chronic pain and response to therapy towards personalized medicine.

Better treatments will only emerge when we have a better understanding of pathophysiology of different pain types in specific populations (e.g. those with cognitive impairment, mental health disorders) across the lifespan. Non-pharmacological treatments such as neuromodulation, manual therapy and exercise have shown efficacy in a variety of pain conditions, but in the absence of personalization, they will remain confronted with ceiling effects.

Psychological approaches have demonstrated efficacy but barriers to uptake, including stigma, need to be addressed.

There is great enthusiasm for digital approaches such as smartphone apps and virtual reality, but we need to robustly test their benefits and harms. Artificial intelligence is getting more popular, but we have yet to unlock its potential to aid appropriate diagnosis and prognosis. Focus on cutting-edge digital techniques may underlie some neglect of the 'social' in the biopsychosocial model—and there is a great need to both understand the mechanisms by which social factors contribute to pain, and how we can tackle them.

3 | APPROPRIATE VERSUS INAPPROPRIATE CARE, AND REAL-LIFE PATIENT-ORIENTED RESEARCH

A major issue is closing the large evidence-practice gaps that persist in the management of pain. The attempts worldwide to improve uptake of evidence have yielded disappointing results. What we consider 'optimal' evidence often stems from clinical trials that may not represent the actual patients healthcare professionals treat. For instance, excluding subjects from trials due to co-morbidities and demographics is common practice that severely reduces generalizability of results. Understanding interactions between pain disorders and their co-morbidities and the effect of targeting co-morbidities on pain-related disability is crucial (Voute et al., 2023). Ineffective and often aggressive treatments are still overused, for example, in musculoskeletal pain conditions, while effective and safe treatments remain underused (Maher et al., 2019). Patients are largely absent from care decisions. Providing appropriate care needs to consider patients' health literacy, values, expectations, culture, and preferences to ensure shared decisions are made. Research questions and interventions—where possible, should be codesigned with patients, target patient important outcomes and support their self-management efforts.

This Strategy aims not only to enable high-quality and meaningful research, but also maximize its translation into European policy and practice. Thanks to EFIC's leadership, collaborations and communication infrastructure, we believe it will herald better treatments for pain, increase the profile of European pain research and advocate for pain research funding.

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