Patient-Centred Pain Management: Evaluating Scoring System in Selection

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Background

The Chronic Pain team in Aberdeen employs a locally devised scoring system, informed by factors pertinent to recovery as identified in existing literature. Patents undergo an assessment, where they receive scores across three domains:

- **Pain Intensity** assessed using the Brief Pain Inventory
- The presence of **Chronic Overlapping Pain Conditions**
- **Body Mass Index** (BMI)

When the cumulative score surpasses a threshold of five, an interventional procedure is not recommended. This project was undertaken with the objective of ascertaining the extent to which patients offered interventional procedures over a 12-month period adhered to our local scoring system.

Methods

A retrospective review of 703 patient records was performed to assess their scores in three categories. The combined score was then compared to our local scoring system.

Pain Intensity

14.1% of patients had a self-reported maximum pain intensity score of <5 or 10. 49.9% gave their maximum score between 5 and 9 while the remaining 253 patients (36%) did not have their score recorded. In each of these 253 cases, even if they had scored the maximum 1 point in this domain, their overall maximum score would still have been 5 and therefore they were not excluded from this review.

Max pain intensity score	Score assigned	No. patients
<5 or 10	1	99
5 to 9	0	351
Not recorded		253

Chronic Overlapping Pain Conditions

Chronic Overlapping Pain Conditions (COPC) are conditions such as fibromyalgia, endometriosis, TMJ disorders and interstitial cystitis.
98.6% of the patients had up to 2 COPCs with the remaining 1.4% having between 3 and 5 COPCs. None of the patients who underwent an interventional procedure in the 12-month period had more than 5 COPCs.

COPC	Score assigned	No. patients
Up to 2	1	693
3 to 5	2	10
More than 5	3	0

BMI

52.2% of the 703 patients had a BMI of <30. 22% were between 30-35, 20.5% between 35-45 and 2% >45. 23 (3.3%) patients did not have their BMI recorded. In these 23 cases, even if they had scored the maximum 3 points in this domain, their overall maximum score would still have been 5 and therefore they were not excluded from this review.

BMI	Score assigned	No. patients
<30	0	367
30-35	1	155
35-45	2	144
>45	3	14
Not recorded		23

Overall score

100% of the patients had a maximum overall score of 5.

Discussion

The decision-making process for offering interventional procedures for chronic pain necessitates a comprehensive understanding of various factors contributing to the patient's condition. The integration of the three domains offers a more nuanced approach to patient care.

The relationship between obesity and chronic pain is well-documented. Studies such as that reported by Basem JI et al. reveal the association between obesity and a spectrum of pain conditions[1]. Research demonstrates the impact of obesity on chronic pain severity, which is often exacerbated in individuals with higher BMI[1]. The excess adipose tissue acts as an active endocrine organ, releasing proinflammatory cytokines that contribute to a chronic low-grade inflammatory state. This systemic inflammation[2] may disrupt pain modulation mechanisms. Consequently, considering BMI in the decision-making process acknowledges the role of adipose tissue as an active contributor to chronic pain.

The concept of nociplastic pain highlights chronic pain states not directly tied to nociceptor activation or neuropathy but instead suggests altered nociceptive function[3]. In the context of COPC, the nervous system becomes sensitised to a degree where altering the source of pain may yield limited or minimal effects. This suggests that in the presence of COPC, the effectiveness of interventional procedures targeting a specific source of pain might be hindered.

The consideration of pain intensity as a factor in determining the suitability of interventional procedures for chronic pain lacks a robust level of empirical evidence. Pain intensity, while subjectively reported by individuals, might not consistently reflect the actual pathological state or severity of the underlying condition. The reliance on self-reported pain intensity measures may pose challenges due to the subjective nature of pain perception, individual differences in pain tolerance, and the influence of psychological and emotional factors on pain experience.

Therefore, a scoring system integrating BMI, COPCs, and Pain Intensity enables a more personalised and effective treatment strategies for patients.

Conclusion

In this review of 703 patients, it was observed that all individuals met the criteria outlined in our local scoring system. This suggests that the scoring system effectively guided patient selection. The next steps will include the validation of the scoring system and identification of the sensitivity and specificity which will provide a deeper understanding of its capacity to accurately identify suitable candidates and minimise the likelihood of unnecessary interventions, thereby contributing to improved patient care and optimised outcomes.

References
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3: Fitzcharles MA, Cohen SP, Clauw DJ, Littlejohn G, Usui C, Häuser W. Nociplastic pain: towards an understanding of prevalent pain conditions. The Lancet [Internet]. 2021 May 29

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