Patient characteristics associated with a poor response to non-surgical multidisciplinary management of knee osteoarthritis
A multisite prospective longitudinal study in an advanced practice physiotherapist-led tertiary service

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Background
While evidence supports non-surgical interventions such as exercise and weight loss for the management of knee osteoarthritis (KOA), individual patient responses may vary. The aim of the study was to explore patient characteristics recorded at the initial consultation associated with a poor response to non-surgical multidisciplinary management of KOA in tertiary care.

Methods
Design: Prospective longitudinal study conducted during routine care (multidisciplinary as required; physiotherapy, occupational therapy, dietetics, and/or psychology) within an advanced practice physiotherapist-led orthopaedic service across 8 Queensland Health hospitals.
Participants: 238 individuals managed within the service for their KOA.
Criteria for a Poor Response: Responses between -7 (A very great deal worse) and +1 (Almost the same, hardly any better at all) on a 15 point Global Rating of Change scale.

Procedure: Patient characteristics (demographic, condition specific, general health, psychosocial, physical, radiological) recorded at the initial consultation were examined (generalised linear models) for their relationship with a poor response to management, estimated by the Odds Ratio and 95% Confidence Interval (OR 95%CI).

Results
Overall 114/238 (47.9%) participants recorded a poor response. Four patient characteristics were retained in the final model observed to be independently associated with a poor response.

Odds of a poor response reduced with:

- Every 1/10 point increase in Patient Expectation of Benefit
  = OR 0.74 (0.63 – 0.87), p < 0.001

Every 10/100 point increase in Knee Function, Daily Living KOOS subscale
  = OR 0.67 (0.51 – 0.89), p < 0.01

Odds of a poor response increased with:

- A severe (compared to mild) radiological rating of Medial Knee Compartment Degeneration
  = OR 3.11 (1.04 – 9.3), p = 0.04

- Every 5° increase in Varus Knee Angle measured with a goniometer
  = OR 1.35 (1.03 – 1.78), p = 0.03

Conclusion
Identification of these patient characteristics may potentially better inform patient centred management, and flag the need for judicious monitoring of outcomes. Further study is required to prospectively evaluate the capacity of identified patient characteristics to predict a poor outcome in KOA within this service. (contact: s.oleary@uq.edu.au)

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