

Commentary

Wider considerations following evaluation of the STAR care pathway for patients with painful knee replacement

The first point of note for this quality new RCT exploring best care for patients with ongoing pain after total knee replacement (TKR) is the research question and design – it is an excellent example of a pragmatic, pathway-based design (management or “package of care” comparison) rather than the more standard head-to-head comparison of two highly prescriptive and specific treatments. This is a relatively new approach to testing the efficacy of complex interventions and one that usefully accounts for the real-world variation in treatment content and fidelity. It is likely we shall see more of these types of comparisons as it is increasingly recognized that RCTs with tightly defined complex treatments, and their associated mixed fidelity, are both difficult to conduct, interpret and sadly can be unrepresentative.^{1 2} Clarification and understanding of this issue also assists the (MSK) research community on defining what an “intervention” (for an RCT) really is. A colleague recently highlighted that “physiotherapy” (or any same such broad therapeutic treatment label), is too vague to be of any real use in defining treatment for RCTs. It refers only to the profession itself or a global notion of an intervention. Unlike evaluations of prescribed drugs (for example), treatment involving behaviour modifications, practitioner skill and experience, with high levels of content/delivery heterogeneity (as described in this paper) are not helped by such general labels.

With regard to the research findings themselves, the clinical problem addressed by Wylde et al is important. Having established that TKR works overall,³ a substantial number of patients do have pain issues after knee replacement and this is acknowledged by the UK NIHR.⁴ The cause of this residual or latent pain after TKR, and any subsequent solution, has escaped unpicking to date, and dealing with it on a personal level has lagged behind other areas of orthopaedic practice – a personalised approach chosen is creeping into orthopaedic medicine on many fronts.⁵ For example a more personalised co-ordinated care pathway has been implemented for chronic low back pain pathways for some time.^{6 7} Whilst the research topic is devoid of life saving/threatening issues and not necessarily the most pressing contemporary issue in knee surgery (perhaps that dubious honour goes to current under resourcing and access of TKR), there is no doubt that ongoing pain after TKR is a serious problem. Any attempt to improve the situation is laudable. Moreover, orientation of the problem around a pain management/behavioural aspect is refreshing and swerves much of the technical operative issues that usually concern knee surgeons. Despite this trumpet blowing and novelty, one necessary caveat is that the technical aspect of TKR does remain a critical component - performing a good operation is just as important as any post-surgical management or intervention.

The study assessed the value of a more personalised approach to pain management in troublesome TKR patients. Such an approach here was found to be both efficacious and cost-effective. As expected from this research group the RCT had been conducted meticulously and with rigour. Outside a reasonably large attrition rate (for which there is rarely a solution in these populations), there seems little to criticise in terms of conduct or

method. Furthermore, the public and patient involvement in the study was first class. Therefore, the remainder of this commentary is devoted to interpretation and implementation of the findings.

There are various aspects that warrant consideration, including three intervention content issues.

Firstly, on the content of the STAR pathway. Being a package of care or management trial, (as previously described), there is an inability to delineate what specific aspect of the intervention has produced the added benefit. This may leave the scientist a little short on mechanistic detail, but overall it is not problematic in terms of impact as the pragmatic model is sufficiently robust to guide on public health. However, without knowledge of the most beneficial aspect, or the most needed personnel requirements, it will be difficult to employ any modified form of the STAR model, which may perhaps be required if resources are limited. Secondly, it may also be difficult to exactly replicate the personalised intervention as described in the study. The expertise and skill levels employed in the study intervention cannot be assumed across the entire healthcare system. Thirdly, whilst the “intervention” consisted of extra telephone calls and the potential for one additional appointment, we should consider that it may be the reshaping and structuring of the entire pathway that was responsible for the added benefit.

A further implication, and as correctly alluded to by the authors, involves process and roll out. There may be challenges in getting patients such timely interventions. In the study only 71% of the patients attended by 4 months post-operation. This could well compromise efficacy in any wider roll out.

One final point is that one could argue that the STAR pathway is merely representing best practice and (personalised) interventions which ideally should be in place already and considered standard practice. Should we not be practicing “personalised medicine” in every quarter? Highlighting this point does not denigrate the value of the trial, but quite the opposite. The study now provides strong evidence of what a personalised model can bring and the quantification of the benefit, in terms of cost efficacy, is welcomed.

Overall, the positive findings warrant the conclusion that a multifaceted and personalised care pathway for chronic pain after knee replacement is cost-effective and should be employed. It could be essential in preventing transition from immediate post operation pain to a chronic condition by adapting behaviour. The study provides high quality evidence and we look forward to more critical evaluations of this type for current or innovative practices for musculoskeletal conditions.

References

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