



If Knowledge Is Power, Why Don't Rheumatoid Arthritis Education Programs Show Better Outcomes?

Patient education is considered an essential component to arthritis care^{1,2}, but the current evidence on education programs suggests that the benefits to people with rheumatoid arthritis (RA) are modest and short-lived^{3,4}. These observations are confirmed by Giraudet-Le Quintrec and colleagues who, in this issue of *The Journal*, report a randomized controlled trial (RCT) on the longterm effects of an 8-week intensive education program, plus a booster session at 6 months, for people with RA⁵. Compared to the usual medical care group, patients who received additional education were found no better in physical function at 12 months, although they were more knowledgeable about RA, coped better, and were more satisfied with their care. If knowledge is power, one may then wonder why patient education programs do not yield more substantial and sustainable health outcomes. While interpreting these findings, one needs to consider the challenges associated with research in this field, some of which relates to the selection of participants, the timing of the intervention, and the choice of outcome measures.

Not all RA education interventions are created equal. In a Cochrane systematic review, Riemsma, *et al* concluded that only interventions that involved behavioral change techniques provided a significant short-term effect on physical function, while those that offered counseling or “information only” showed no additional benefit³. It should be noted that only a few of the included studies considered factors such as previous participation in education programs, the baseline knowledge, or the availability of social support, all of which might confound the outcome of the education intervention. This has been further illustrated in a meta-analysis of preoperative education programs for people awaiting hip or knee arthroplasty. Compared to the control, McDonald, *et al* found no differences in the length of hospital stay, pain, or mobility⁶. However, they highlighted one RCT that used a tailored education approach for patients who were admitted with poor mobility, limited social support, and/or comorbid medical conditions⁷. Contrary to the

findings of studies that involved patients with less complication, this RCT showed a substantially shorter length of stay in the hip-education group — 6.8 days versus 12.9 days in the usual-care group. Little is known about the influence of baseline health status and social support on the outcome of RA education programs; hence it is difficult to determine the characteristics of patients who are likely to benefit from a particular type of education intervention. Addressing this issue using an RCT, such as the one reported by Giraudet-Le Quintrec, *et al*, is impractical as it would have required a much larger sample. To this end, well designed longitudinal observational studies may offer a more appropriate solution, whereby information like treatment success/failure, comorbidities, physical and psychosocial status, and the delivery patterns of education programs can be obtained in the “real world” over time.

Timing can also play a role in the success of education programs. Most of these interventions were generic programs tested on people with 5 to 10 years of disease duration⁸. However, what works (or does not work) for people with longterm disease may not have the same effect on the newly diagnosed. In a recent RCT comparing a comprehensive occupational therapy (OT)/education program and usual medical care for people with early RA (disease duration ≤ 12 months), Hammond and colleagues found no differences in pain and function⁹. During debriefing interviews, one-third of the OT/education group considered the treatments and joint-protection techniques unnecessary, as they perceived their symptoms as mild regardless of the actual disease status. Freeman and Hammond also found no significant effect on the health status of people with early RA (average disease duration 4.5 months) after attending a cognitive-behavioral joint-protection education program¹⁰. The researchers attributed the findings partly to the people's naive perceptions of the relationship between health status and their actions (i.e., practicing joint-protection techniques) during the early stage of the disease. These kinds of studies challenge the timing and content of the current edu-

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cation programs and provide an impetus for examining information needs and the process of information-seeking particularly in people with early disease.

Finally, the limited understanding about the relationships between non-drug treatments, such as education programs, and RA-related disability makes it challenging for researchers to select appropriate outcome measures. This is further complicated by the fact that most studies allow participants to adjust their medications, which may then diminish the differences in disability between the treatment group and control group. Some researchers have subsequently questioned the use of disease-specific health status instruments, such as the Health Assessment Questionnaire (HAQ), in the evaluation¹¹. Physical functional disability as measured with HAQ is mainly determined by disease activity, structural damage, and pain, all of which are highly dependent on the person's response to medication. Indeed, these disease-related variables explain 50% and 70% of the overall variance in HAQ scores¹¹. In contrast, the additional contribution of education-related variables (e.g., knowledge, self-efficacy) is relatively small, which may lead to difficulties to demonstrate clinically and statistically important improvements in HAQ scores in education trials, a point noted by Giraudet-Le Quintrec, *et al.* A thorough understanding of the relationships among variables influenced by education interventions and disability in RA will be essential for improving the selection of outcome measures in future studies.

One important goal of education programs is to cultivate well informed consumers of healthcare. If we believe that an empowered consumer will achieve better health outcomes, then it is important to measure specific attributes like knowledge and coping skills as part of the causal pathway to better outcomes¹². These measures have been incorporated as secondary outcomes in Giraudet-Le Quintrec's study. Other new outcome measures, such as OMERACT's Effective Consumer Measure¹³, also holds potential to be a useful tool for studying the effectiveness of education programs.

The message is clear on how to optimize the benefits offered by patient education. To begin, we need to gain a better understanding about patients' information needs and baseline characteristics throughout the continuum of RA, to improve the use of targeted interventions guided by cognitive-behavioral principles, and to develop and use the right measurement tools. It is also important to focus on strategies that improve longterm outcomes after the initial intervention. To this end, Giraudet-Le Quintrec and colleagues have

risen to the challenge by contributing the much needed knowledge to the field.

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