Editorial comment

Stephen H. Butler*

Information, back pain, and radiology

<https://doi.org/10.1515/sjpain-2019-2011>

“Information is to behavior change as spaghetti is to bricks!” – Wilbert Fordyce [1].

1 Introduction

In this issue of the *Scandinavian Journal of Pain*, Medalian and coworkers describe a very interesting exercise where they used questionnaires to address subjects’ beliefs about back pain after reading a hypothetical case history of new onset low back pain [2]. In addition to the scenario, half of the subjects received a standard report on the MRI findings. The other half received the same report accompanied by a description of the normal changes with age seen in healthy individuals without low back pain. Subjects were asked to imagine they were the patient in the case history and respond to questionnaires appropriately. All subjects then completed the Back Pain Perceptions questionnaire (BPP), the Tampa Scale for Kinesiophobia questionnaire (TCK-11) and rated their satisfaction with the investigations, performed by their family doctor after their imaginary back pain episode.

Subjects that had the additional information on the epidemiology of “wear and tear” in the lumbar region from a normal population had statistically higher (better) scores on the BPP but there was little change on the patient satisfaction or the TCK-11 scales. This is evidence, although not very strong, that more information concerning the epidemiology of back pathology, and more broadly, on the pathology and neurobiology of chronic pain, could be helpful to influence in a positive way, patients’ beliefs about their pain problems.

One might expect that in this population, many with a university education, the subjects would respond more positively. One possible reason for the minimal response is that 95% had experienced back pain and 35% had back pain daily for the past 3 months. Their ideas and beliefs

about back pain may have been firmly fixed. There is good information that the more often an idea or belief is stated or thought about, the more difficult it is to change [3]. But the bias in the much higher prevalence of back pain in this study than in the normal population has a positive side since this is the focus population for education as part of a pain treatment program.

2 Minireview

Patient education in the form of “back schools” has been very popular in the treatment of chronic pain and specifically low back pain. How successful are they? The results of meta-analysis are not very promising [4, 5]. A modest short term effect at best can be expected. The quality of the studies is not high and the critiques indicate that improved studies are needed to identify if “back schools” are really helpful. The areas that need to be improved in the studies are many and include, but are not limited to, better description of components, outcome reporting, longer follow-up, wait list or no treatment controls, adverse events, especially after treatment [4].

The newest focus for education for chronic pain patients is “Neuroscience Pain Education” (NPS). As opposed to education in back schools which is poorly defined in studies and is only a part of multimodal/multidisciplinary/interdisciplinary treatment in these programs, NPS has been investigated as a stand-alone therapy. Teasing out the education effects in “back schools” is difficult. NPS shows a bit more promise and short term modest to moderate effects have been found [6]. Again, there appear to be many short-comings in the existing studies and suggestions for improved studies in the future have been put forward.

3 Conclusion

Getting back to Bill Fordyce. Is he right in stating that information is not very helpful for behavior change? The goal of education as a part of pain rehabilitation is to improve function inhibited partly by concepts included in

*Corresponding author: Stephen H. Butler, Multidisciplinary Pain Center, ing 79, Uppsala University Hospital, Uppsala, Sweden; and Department of Family and Preventive Medicine, BMC, Uppsala University, Uppsala, Sweden, E-mail: stephen.butler@akademiska.se

kinesiophobia which in the present study was not affected by the epidemiological information.

There is an area in psychology that focusses on processes to change beliefs. Changing fears about movement and fears about activity that can interfere with pain rehabilitation which attempts to normalize activity despite background pain is not easy. The minimal effect as shown in the present study gives support to Fordyce's statement. How best to change unfounded beliefs about chronic pain and its biology is not an easy task. Merely providing facts without addressing the false beliefs to be changed (i.e. fear of movement) or assessing whether an individual has comprehended the information, is less effective [7]. Without confronting the false beliefs, it is hard to encourage behavior change as Fordyce points out. Another aspect to changing beliefs is patient/subject motivation.

There is an old joke that asks: "How many psychologists does it take to change a light bulb?"

Answer: "One. But the light bulb needs to want to change."

Consider the current position of the nay-sayers in the dialogue about climate change.

There is a long history of research that discusses this issue and it is relative to changing beliefs around chronic pain [8]. The goal of changing beliefs is to change illness behavior that can often worsen chronic pain and limit normal activity. Fordyce's idea about "superstitious over-guarding" was based on false beliefs many patients have about the meaning of chronic pain. After spending time with Fordyce, Vlaeyen took this idea as the basis for his and others' ongoing research on kinesiophobia [9]. Within this context, the study by Medalian et al. is important but it indicates that just providing information is only marginally effective in changing beliefs [2]. The next step is to integrate the information provided in a practical format to address unfounded beliefs that pain patients have and to educate them in a way they can comprehend to change those beliefs and change behaviors. The net result

is to help them to participate more meaningfully in life. Behavior change is possible. We just need to choose the right patient phenotype to respond to the right type of education [10].

Conflict of interest: None declared.

References

- [1] Butler SH. The wit and wisdom of (Bill) Fordyce. *Scand J Pain* 2017;16:160–3.
- [2] Medalian Y, Moseley GL, Karran EL. An online investigation into the impact of adding epidemiological information to imaging reports for low back pain. *Scand J Pain* 2019;19:629–33.
- [3] Shermer M. *The believing brain*. Time Books, 2011.
- [4] Straube S, Harden M, Schröder H, Arendacka B, Fan X, Moore RA, Friede T. Back schools for the treatment of chronic low back pain: possibility of benefit but no convincing evidence after 47 years of research – systemic review and meta-analysis. *Pain* 2016;157:2016–172.
- [5] Parreira P, Heymans MW, van Tulder MW, Esmail R, Koes BW, Poquet N, Lin CC, Maher CG. Back Schools for chronic non-specific low back pain. *Cochrane Database Syst* 2017;8:CD011674.
- [6] Tegner H, Fredricksen P, Esbensen BA, Juhl C. Neurophysiological pain education for patients with chronic low back pain *a systematic review and meta-analysis*. *Clin J Pain* 2018;34:778–86.
- [7] Kowalski P, Taylor AK. Reducing students' misconceptions with refutational teaching: for long-term retention, comprehension matters. *Scholarship of Teaching and Learning in Psychology* 2017;3:90–100.
- [8] Lund FH. The psychology of belief. *J Abnorm Soc Psychol* 1925;20:63–81.
- [9] Vlaeyen JW, Kole-Snijders AM, Boeren RG, van Eek H. Fear of movement/(re)injury in chronic low back pain and its relation to behavioral performance. *Pain* 1995;62:363–72.
- [10] Edwards RR, Dworkin RH, Turk DC, Angst MS, Dionne R, Freeman R, Hansson P, Haroutinian S, Arendt-Nielsen L, Attal N, Baron R, Brell J, Bujanover S, Burke LB, Carr D, Chappell AS, Cowan P, Etropolski M, Fillingim RB, Gwandter JS, et al. Patient phenotyping in clinical trials of chronic pain treatments: IMMPACT recommendations. *Pain* 2018;157:1851–71.