Why is back pain research so backward? Dr Stefaan Vossen

Considering the immense financial and personal cost associated with chronic back pain, the paucity of quality research in this area is shocking.

The fact is that many major research projects are conducted or sponsored by 'big pharma' (but only, of course, when it is in their financial interests to do so). In the field of chronic back pain, the consensus (which is borne out by our clinical experience) is that most people's symptoms are caused by bio-mechanical instabilities and stresses, often not readily treated by medication. Pretty much the only offering from a pharmaceutical point of view is pain-killers – whether in tablets or sprays for less severe pain or in regular injections at the other end of the spectrum. However, none of these offer a solution to the underlying cause of the pain, some are eye-wateringly expensive (over £250 for a fortnightly injection for example) and few people are happy to take strong painkillers for a long period of time.

So, it would seem that big pharma is not going to come up with any solutions for chronic back pain any time soon. But nor is it likely that they will be investing in supporting research into non-pharmaceutical alternatives.

Given the cost to industry and the UK tax-payer we would hope that more investment would be forthcoming from these sources. The issue, however, is not purely financial.

Of the research that has been done, even the studies that are considered, by those who consider such things, to be good quality ('Randomised Clinical Trials') the findings are, at best, of limited use to many patients, doctors and clinicians working in the field.

There are a couple of real challenges with RCT methodology when it comes to chronic back pain.

For example:

1) Defining the 'condition':

In order to conduct an RCT you first need to identify a group of people who are all agreed to be suffering with a condition – for example, with back pain, or more specifically, with a certain type of back pain (usually defined as either chronic or acute, and referring to a specific area such as 'low back pain'). This is the first problem because, we would argue, 'chronic lower back pain' is not a 'condition' but is rather a 'symptom' or one of a collection of symptoms, of which the causes can be many and various.

Simply selecting a group of people who have lower back pain could include a vast array of combinations of causal factors – even if we rule out anything that is not bio-mechanical related.

Secondly, the type of back pain symptom (pain level, frequency, duration, specific place etc.) can vary wildly. Even the distinction between acute and chronic is problematic – in our experience people often wrongly define their pain as 'acute' when, in fact, on further exploration, it is apparent that they have had problems with their back and related issues in the past but that, as it is not 'constant' they don't experience it as 'chronic'.

2) The significance of accompanying symptoms

In our experience, the causes of, and best treatment for, someone who only has lower back pain would be different than for someone who has back pain and shoulder or neck pain combined. The two sets of symptoms sometimes relate to one another or have a shared common cause; other times there are different primary causes for each.

If you only look at someone's lower back pain, and only try to diagnose and treat it in isolation from other bio-mechanical problems, it is like patching a big leak in a pipe and then being surprised when water keeps flowing out of a smaller leak further down.

Therefore, in selecting people for a clinical trial for back pain, we believe we should not only be defining much more clearly the type of back pain (acute / chronic / recurring) but also the connected pain symptoms and therefore starting to define clear sub-groups for the testing of treatments.

3) Defining 'treatment'

Conducting an RCT for a pharmaceutical product can easily be done with a 'standard' product, with variations of dose and frequency relatively easy to analyse.

When non-pharmaceutical treatments are compared to pharmaceutical treatments, standardisation becomes more problematic. In most studies to date 'manipulation' has been compared to drugs, exercise, physiotherapy and so on. However, herein lies another problem: manipulation of *what* specifically, *how* (technique) and *how* frequently? When comparing manipulation against treatment by drugs, in the case of drugs, the concentration, dosage and frequency of the drugs prescribed would have a significant impact on results. For manipulative therapies the impact of these variables is probably even greater. Yet very little attention has been paid to this in current studies – the quality, type and frequency of the 'manipulation' is hardly considered.

There are many more issues besides these with the setting up of high quality research into back pain for anything other than pharmaceutical treatments. We believe that RCT principles, though valuable in certain respects, need to be further developed and re-considered to make them more effective in the assessment of non-pharmaceutical treatments including physical therapies.

We are taking steps to find innovative ways of approaching this research problem, in order to find ways to substantiate and improve upon the results we achieve with our own patients, and those of colleagues in the field; and ultimately to help address the immense financial and personal costs of the, supposedly, enigmatic problem of back pain.

We would love to hear from anyone with an interest in the field who would like to contribute or collaborate with us.