MOVE 4 HEALTH

2011

Challenging back pain myths

IRISH SOCIETY OF CHARTERED PHYSIOTHERAPISTS

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The Background

Low Back Pain (LBP) is a very common condition, affecting a large amount of the population[1-3]. The best approaches to managing LBP often contrast with the beliefs of the public about LBP. In addition, international research has shown that educating people about LBP can be very effective in reducing LBP and the related costs on society. As a result, the Irish Society of Chartered Physiotherapists (ISCP) Move4Health campaign for 2011 focuses on challenging some common myths about LBP. The aim of the campaign is to give the public a greater understanding of how to manage LBP. There are three strands to the campaign:

1. A nationwide series of public talks (details on www.move4health.ie);
2. A brief leaflet summarising some of the most common back pain myths (available at www.move4health.ie);
3. This electronic resource, which expands on the information provided in the shorter leaflet.

We hope that you find the information useful. For further details on the campaign and to download additional information please see www.move4health.ie or www.iscp.ie

Kieran O'Sullivan SMISCP
Chairperson
2011 Move4Health Committee

Beliefs about Lower Back Pain (LBP) – A lot has changed

LBP is a huge cause of disability worldwide[4]. Despite enormous increases in healthcare spending, the disability associated with LBP continues to increase[5]. There is now widespread acceptance in the scientific community that attempts to diagnose and manage LBP based on simple biomedical models and beliefs have largely failed[5-9]. Contemporary understanding of pain mechanisms based on the latest scientific research has helped transform the understanding of chronic pain among health care professionals[10-12]. There is evidence that the knowledge, attitudes and beliefs of health care professionals about chronic pain is improving[13-15], although these is still room for significant improvement[13,16-17]. Unfortunately, there appears to be a significant gap between the knowledge of health care professionals about LBP and the beliefs of the public about LBP[8,14,18].

Why is it important for people with LBP to understand what does (and does not) happen in LBP?

There is considerable evidence that the beliefs and attitudes of people with LBP can greatly influence their management and prognosis[19-20]. For example, how disabled a person is by their LBP is actually more closely related to their back pain beliefs and behaviours than the actual intensity of their pain[19-20]. In addition, LBP subjects with poorer back pain beliefs and greater fear about physical activity are more disabled by their LBP[19].

Can beliefs about LBP be changed, and does this help?

Thankfully, it appears that modifying the beliefs and attitudes of people with LBP is very effective[21]. Research has shown that changing beliefs and attitudes about LBP reduces disability and sick leave in a cost-effective manner[22-24], with obvious advantages for the person themselves, as well as wider society. Education about what is really occurring in back pain, when combined with Physiotherapy, significantly reduces pain and disability[25]. This new model of changing beliefs about LBP is more effective than outdated educational approaches aimed at teaching people about the mechanical structure of the spine[25]. In fact, the benefits of education are apparent very quickly, with a large part of this improvement being due to changing the perception of the person about what pain means[26].

So why a public campaign?

If attempts to change beliefs about LBP are confined to direct interactions with LBP patients, progress will be slow. By considering the factors that influence LBP beliefs[18,27], these beliefs can be changed. Previous international research[15,28] has demonstrated that public health interventions designed to alter beliefs about LBP can be very effective in changing back beliefs. For example, after such an approach members of the public are more likely to correctly believe that LBP does not necessarily need rest or require long periods of time off work. Critically, this is also associated with a clear decline in disability and the costs of compensation[28-29].

The Myths of back pain

The following are among some of the most commonly reported back pain myths:

- **I hurt my back, so I will probably have bad back pain from now on**

While LBP can be very painful initially, most people make a very good and speedy recovery[30]. Rapid improvements in pain occur within a few weeks for most people, with continuing improvement over a few months[31-35]. Most people can return to their work and hobbies relatively quickly.[32,34,36] Most people who get back pain experience no major change to their quality of life, although it is common for small periods of back discomfort to occur occasionally over the person's life[35]. Only a very small number of people develop long-standing, disabling problems[33,37-38]. When you first experience LBP, research shows some simple advice can help reduce LBP and the risk of it happening again[22]. Of particular importance is identifying the small number of people with LBP who may be at risk of developing ongoing problems. There are a number of factors which are associated with an increased risk of ongoing back pain, such as the level of pain, distress, anxiety, and fear of movement[36,39]. If these people are identified at an early stage, their prognosis is improved[22]. As a result, a simple clinical examination along with some advice is often enough to start the road to self-managed recovery.

- **I have back pain, so I should stay in bed and rest**

In the first few days after the initial injury, avoiding aggravating activities may help to relieve pain, similar to pain in any other part of the body, such as a sprained ankle. However, there is very strong evidence that keeping active and returning to all usual activities, including work and hobbies, is important in aiding recovery[40]. In contrast, prolonged bed rest is unhelpful, and is associated with higher levels of pain, greater disability, poorer recovery and greater absence from work[41-45]. In fact, it appears that the longer you stay in bed because of back pain, the worse your pain becomes[46]. This increase in exercise and return to normal daily activity can be done gradually. Therefore, while performing some common tasks at work and home may initially be painful, early and gradual return to all these tasks is better for your back than prolonged rest.

- **The more back pain I have, the more my spine is damaged**

This may seem strange, but we now know that more pain does not always mean more damage. People with similar back problems can feel very different levels of pain. The degree of pain felt can vary according to a number of factors, including the situation in which the pain occurs, previous pain experiences, your mood, fears, fitness, stress levels and coping style. Ultimately, two individuals with the same injury can feel different amounts of pain. Furthermore, the brain has the ability to 'inhibit' or turn down the volume and intensity of pain. How? Why? First it is important to remember that pain is interpreted and processed in the brain. The brain plays an important part in regulating if, and how much of, a given sensation, such as pain, a person feels at any given time. If you have LBP it might be that your nervous system (including the brain) which is involved in sending and processing pain is relatively more 'active' compared to other people. This can mean you feel more pain when you move or try to do something, even though you are not damaging your spine. In fact, there is clear evidence of changes in brain activity in people with long-standing LBP[47]. A person's genetic make-up, as well as environmental and personal factors, are also important in determining how we each experience pain. Thankfully, a number of strategies, including a graded return to activities, exercise, education, and cognitive-behavioural techniques, can be used to help lessen the pain and disability experienced. Furthermore, once people with LBP can distinguish between the pain or 'hurt' they are feeling from any concerns about 'harm' being done to their back, it is easier to participate in rehabilitation.

The Myths of back pain

- **My back pain is due to something being 'out of place'**

There is no evidence that LBP is caused by a bone or joint in your back being out of place, or your pelvis being out of alignment. Common suggestions that LBP is caused by spinal subluxations[48-50], pelvic asymmetries[50], alterations in leg length[51] and other simple structural issues, are incorrect. For most people with back pain X-rays and scans do not show any evidence of bones or joints being 'out of place'. In the very small number of people with some change in their spinal alignment, this does not appear to be strongly related to LBP[52]. Having your back manipulated is not putting anything back in place – there was never anything 'out of place'! This also applies to the common perception that discs can move or 'pop' in and out. As discussed in detail later on, there is very little evidence that disc bulges are closely related to LBP[53-54]. Many people without LBP have disc bulges, without experiencing any pain. It is true that in some people with LBP, discs can be a source of pain[55]. However, no study has ever shown that these bulges can be 'popped' back into place by spinal manipulation or other techniques. Once again, there is good news for people with disc bulges, in that in many people these resolve and shrink again over time without requiring surgery[56].

Of course, some people may experience reduced pain after having their spine manipulated or 'popped'. It is likely that in people who report pain relief from such manipulation, the benefit may be from reducing the sensitivity or 'activity' of the nervous system, restoring normal joint movement and muscle activity, and NOT popping anything back into place. This is good news. If there is nothing 'out of place' that is causing back pain, there is no need to see anyone regularly to have this 'adjusted' or put back in place. It also means that if you get occasional episodes of pain, this is not because of developing a serious structural problem which must be put back into place. As a result, we can focus on the strategies which have been proven to be effective. Research shows that the most disabled people with LBP, are those who believe their pain relates to a problem with the structure of their spine[19]. Therefore, it is particularly important for Physiotherapists and health care practitioners to reflect on the fact that suggesting structures have moved out of place is potentially frightening and may lead to heightened levels of fear, stress and anxiety, all of which have been shown to be associated with poorer outcomes in LBP[57].

- **I need a scan or X-ray for my back pain**

In most cases of LBP, X-rays are not needed[58]. Every year very large sums of money are spent on unnecessary X-rays and expensive CT and MRI scans, for LBP[5,53,58-62]. Only in a very small number of people do these tests actually contribute to better management of LBP[58,60,62]. As a result, it is recommended that these expensive tests are reserved where signs of a more serious problem are present[58,60,62], and where the potential radiation exposures may be justified[60]. Thankfully, a simple clinical examination is usually enough to identify the minority of people for whom scans are required. An additional complication is that a large number of adults with no LBP will have evidence of relatively normal changes in their spine.[63] However, while findings such as 'disc degeneration' and 'disc bulge' can seem important in a scan, they are largely meaningless in isolation. In very many cases the anatomical changes seen on imaging are incidental, and similar to those found in people of the same age with no back pain[59,64]. Most people with long-standing LBP have no significant spinal pathology, such that their pain is referred to as 'non-specific' LBP[9]. In these situations, focussing on incidental findings on MRI scans can be unhelpful. Diagnostic scans do not reassure patients[65]. Even health professionals have to be careful about how radiological findings are interpreted and explained to patients. For example, it has been shown that when health professionals use terms which imply spinal degeneration such as 'wear and tear' to describe test results, this is associated with a poor perceived prognosis[61]. A recent study in the USA demonstrated that those patients who were sent for an early MRI ended up more disabled and underwent more surgery than those who did not have an MRI scan[66].

The Myths of back pain

There are many reasons why unnecessary scans are still ordered, including demands from patients, and the desire to ensure safe practice[58]. However, it is widely acknowledged that improved education of health care practitioners and patients is needed to address the current situation. Therefore, most people should not require an X-ray or MRI scan. For those that do have a scan, findings such as 'disc degeneration' are not closely related to LBP or disability[53-54], and are possibly more related to factors such as genetics than spinal loading[54]. Finally, it is important that the terms used in reporting such scans are explained appropriately to people with LBP, as many findings on such scans may not be related to back pain at all.

- **I need an operation to cure my back pain**

Only a tiny proportion of people with LBP require surgery. Once again, a simple clinical examination is usually sufficient to identify those people with LBP who should be referred to a surgeon. Most people with LBP can manage their LBP problem by staying active, developing a better understanding about what pain means, and identifying the factors which are involved in their pain. This should help them continue their usual daily tasks, without having to resort to surgery. Surgery is generally not considered until conservative measures such as Physiotherapy and exercise have failed, as it is a higher risk treatment. On average, the results for spinal surgery are no better than with conservative interventions, such as exercise, Physiotherapy and medication[67-68]. Surgery for LBP should be reserved for those whom it is most likely to benefit, at least in the short-term[67]. A significant number of people with LBP do not benefit from surgery[69]. Rates of spinal surgery vary a lot internationally, and can be influenced by factors such as a surgeon's enthusiasm to perform surgery and the availability of MRI scanners[70].

Are there other myths?

Absolutely! For example, in contrast to common perceptions there is no evidence that LBP is caused by sitting for long periods at work[71], or working in a job that requires lifting and bending[72-73]. A wide range of other common treatments have only limited effectiveness as stand-alone treatments for LBP, or may have side-effects of some concern. This includes spinal manipulation[74], massage[75], acupuncture[76], traction[77], shoe insoles[78], numerous injection therapies[79-81], radiofrequency denervation[82], antidepressants[83], opioids[84], non-steroidal anti-inflammatories[85], and muscle relaxants[86]. While some of these may be useful as 'adjunct' or additional treatments for some people with LBP, the majority of people with LBP can manage their LBP very effectively without these treatments once their understanding of LBP has changed, and they increase their levels of physical activity. If you have other specific concerns or questions about the most appropriate treatment for LBP, please contact your local Physiotherapist who should be able to answer them.

The Myths of back pain

But my LBP got better with the help of some of these myths!
A source of confusion for many people is the fact that they, or someone they know, may have been helped by a treatment which we are suggesting is not particularly helpful. Similarly, they may have improved after treatment by someone who told them some of these myths were facts. How can this be explained?

Firstly, most acute injuries recover well, and natural recovery may explain the improvement felt in many cases, especially in cases of acute or recent-onset LBP. In other words, people sometimes seek treatment for their back pain when it is at its worst, and when it is most likely to improve, such that any treatment provided at this stage may appear to be effective. For example, if LBP is very severe initially, a person may decide to rest in bed which will ease the LBP in the short-term. Unfortunately, this is often interpreted incorrectly as bed rest being an effective treatment for LBP. In order for a specific treatment to be proved as effective for LBP, clinical trials are done to compare the effect against natural recovery, or compared to another treatment. This is important as otherwise most treatments will appear to be effective, whether they are or not! It is in these scientific trials that we see the most important factors for recovery are providing appropriate advice, restoring normal activity levels, and identifying the small number of patients at risk of ongoing problems.

Secondly, in the event that a treatment worked for someone in the past, it may not have helped them in the way which was proposed. For example, spinal manipulation ('cracking' your back) appears to work in the short-term in some people with LBP[87] by reducing the 'activity' of the nervous system mentioned earlier, and by restoring spinal movement. Any benefit from spinal manipulation is NOT related to putting anything back in place.

Thirdly, the placebo effect is an important consideration. The placebo effect is a widely recognised phenomenon where believing that a treatment will help, actually helps outcomes in many conditions, including LBP. This helps explain why many treatments which are now known to be broadly ineffective, often seemed to help patients in the past. Once again, research studies are able to account for this effect.

Therefore, many treatments can seem to be effective, and many concepts about LBP can seem to make sense intuitively. However, there is consistent research done by different professions, in different countries around the world that support the message of this campaign.

So what should I be doing if I have LBP?

While there is not universal agreement on the management of LBP, there is a broad consensus across many different countries on some of the most effective ways to manage LBP[88]. Broadly speaking, people who develop LBP for the first time should be quickly screened for signs of serious pathology by their Physiotherapist, doctor or healthcare professional. In a very small number of people, further tests may be warranted. Otherwise, most people with LBP should try to return to their usual levels of physical activity as quickly as possible, and avoid bed rest. They should be educated on the nature of the problem, and have any unhelpful beliefs about LBP addressed. For the majority of people who first hurt their back, there is no need for a large amount of treatment, and some simple advice is sufficient[30,89]. This may include doing some exercises to ease their back pain. Patients with higher levels of pain, disability, stress, anxiety, fear or depression may require more, or other, treatment to reduce the risk of this becoming a chronic problem[90-92]. For people who have had LBP for a long time, taking part in a supervised exercise programme[93-94], and/or participating in programmes which address beliefs and attitudes about LBP and physical activity[95-96], are recommended. These programmes are cost-effective and have been shown to result in less disability, less use of healthcare resources, and less days off work[94,96]. For patients with higher levels of disability, stress, anxiety, fear or depression, multiple disciplines may need to work together with the patient, and this appears to be effective[84,97].

Is there a particular type of exercise that I should be doing for my back pain?

Many different forms of exercise seem to help LBP[93]. This includes aerobic exercises like walking, cycling, swimming as well as exercises aimed at improving the posture, strength and mobility of the spine. It does not appear that any one of these is always better than the others. The most relevant factor is whether people continue with their exercise programme over time. Therefore you should consider which form of exercise you enjoy most, and which you can do with little or no inconvenience. Remember that many hobbies and daily routines can be considered exercise also, for example gardening, cutting the lawn, and using the stairs instead of the lift. Importantly, exercise is most effective when we also change the way we think about LBP. For example, some initial soreness is common in people with LBP who start to exercise. This can result in people with LBP becoming fearful about exercise if they believe it is caused by more 'damage' to their spine. This initial soreness is, however, a relatively normal response to exercise, and does not indicate any harm being done to your body. Instead, this can reflect the 'over-activity' of the nervous system in response to movement mentioned earlier, which can reduce over time.

In conclusion, LBP is a common problem which affects the quality of life of many people. It is now clear that the beliefs of people with LBP can have a major effect on their prognosis. LBP patients who are most fearful about their future LBP[92], who rest excessively[41-45], who cannot cope with, or control, their pain[98], or who believe there is a serious structural problem in their back[19] are at greater risk of developing chronic LBP. These are understandable concerns when one considers common perceptions about LBP. The good news is that these beliefs are incorrect and can be changed. International research shows that improving beliefs about LBP can make a big difference to people with LBP[21-25]. This campaign hopes to address some of the key myths of back pain, so that people with LBP can live a more fulfilled life. Considering the multiple benefits of exercise in the prevention and management of conditions such as heart disease and stroke[99], certain types of cancer[100], as well as disorders such as anxiety and depression[101] it is important for the general public to maintain appropriate levels of physical activity. Now that it is clear that exercise is safe and effective in the management of LBP, people with LBP should no longer be fearful of exercise, and be able to reap the benefits of exercise.

Praise for this campaign by national and international experts

"No painful complaint is more saddled with unhelpful myths than back pain and the persistence of these myths can impair recovery and promote unnecessary suffering and disability. The Move4Health campaign by the ISCP is attacking some of these myths head-on and is a crucial step towards empowering people with back pain to make better decisions."
Neil O'Connell, Physiotherapy Lecturer, Brunel University, UK.

"By challenging some common myths about LBP, this campaign will be 'one small step' for mankind, and 'one giant leap' for the general public, the individual, and all involved with managing LBP."
Professor Wim Dankaerts, Professor of Musculoskeletal Physiotherapy, University of Leuven, Belgium.

"The problem of spinal pain requires significant conceptual change in patients and those who treat them. The myths of low back pain must be scuttled."
Dr. David Butler, Neuro Orthopaedic Institute, Adelaide, South Australia.

"This is a very important message to get out to the public about back pain."
Professor Peter O'Sullivan, Professor of Musculoskeletal Physiotherapy, Curtin University of Technology, Perth, Australia.

"It is clear that how a back problem affects you is largely determined by how you perceive the problem. Many of the commonly held beliefs about back pain are significant barriers to recovery and this initiative is an important way of tackling some of these barriers."
Dr. Benedict Wand, Associate Professor, School of Physiotherapy, University of Notre Dame, Fremantle, Western Australia.

"Back problems are one of the most common illnesses that plague us. It is therefore important to clarify the many misunderstandings that currently exist in this area. This booklet is a very good step in the right direction."
Professor Edzard Ernst, Complementary Medicine, Peninsula Medical School, Exeter, England.

"Back pain is part of everyday life but is rarely serious. Most people are able to do a lot to help themselves. An educational campaign that helps everyone, including those with back pain and the health professionals involved in helping them, think differently about back pain is a great initiative!"
Professor Nadine Foster, Professor of Musculoskeletal Health in Primary Care, Arthritis Research UK Primary Care Centre, Keele University, UK.

"This is a very sensible initiative."
Professor Chris Maher, Director of Musculoskeletal Division, The George Institute for Global Health, Professor of Physiotherapy, Sydney Medical School, University of Sydney.

"LBP is often the most common musculoskeletal disorder affecting people. For many sufferers the pain and inconvenience are considerable, and this is often compounded by myths which can falsely advise the sufferer, prolonging recovery and rehabilitation quality. This initiative is an excellent idea and will go some way to imparting correct and healthy advice."
Dr. Leonard O'Sullivan, Ergonomics Research Group, University of Limerick.

"This educational intervention designed to target unhelpful beliefs will no doubt be a help to its readers."
Dr. Jamie Bell, Senior Lecturer in Physiotherapy, Leeds Metropolitan University, UK.

"Back pain can be a significant burden for patients, their families and society. Myths regarding back pain can be unhelpful. We need to acknowledge the difficulties of back pain and look for positive solutions. Correcting unhelpful myths is a progressive step."
Professor Dominic Harmon, Consultant in Pain Medicine, Mid-Western Regional Hospitals, Limerick.

"The former ingrained structural-anatomical-biomechanical philosophy which has dominated manual therapy thinking and process on chronic pain has to go!"
Max Zusman, Curtin University of Technology, Perth, Australia.

The 2011 Move4Health Committee consisted of Kieran O'Sullivan, (Chairperson), Dr. Keith Smart, Karen McCreesh, Mairead Conneely, Sinéad Fennell, (ISCP Communications and Events Coordinator).

For further details on the campaign and to download additional information please see www.move4health.ie or www.iscp.ie

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