Acknowledgments

The authors would like to thank the reviewers at Pain and Rehabilitation - the Journal of the Pain Physiotherapy Association and the North East of England Allied Health Professions Research Network for their assistance in the editing of this article.

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THE ROAD TO PAIN RECONCEPTUALISATION: DO METAPHORS HELP OR HINDER THE JOURNEY?

Author:
Michael Stewart

Affiliation:

Clinical Specialist Physiotherapist,
East Kent Hospitals University NHS Foundation Trust.
Contact: michaeladrianstewart@hotmail.com

Abstract

The process of facilitating a meaningful reframing of persistent pain often involves metaphoric expression. In practice, this encompasses a variety of methods which attempt to find simplicity amid the cluttered complexities of a biopsychosocial pain management model. With this in mind, we must consider the impact that our metaphoric expressions have on our practice, and how they might influence our patients understanding of pain.

A critical exploration of the literature surrounding metaphoric expression and pain reconceptualisation highlights several key debates regarding the application and value of metaphors when attempting to explain persistent pain. Whilst metaphors can promote a tangible advancement towards a meaningful reframing of persistent pain, they are also prone to oversimplification and misinterpretations.

The evidence that clinicians and patients speak different metaphoric languages is compelling. This is compounded by our divergent vocabularies, assorted histories and our contextual dissimilarities. In order to reduce the risk of unintended misinterpretations, clinicians should seek collaborative metaphoric expression through dialogical co-construction. Such skills are essential when we consider the sociocultural implications of metaphoric pain reconceptualisation.

If we are to further our understanding of metaphor application, future research must embrace a broad spectrum of methodologies, whilst creating a synthesis between pain research and linguistic analysis. When viewed with an appreciation of their constraints, metaphors can provide an outlet for new perspectives, whilst facilitating pain reconceptualisation. However, this review also highlights a need to investigate any subsequent impacts that metaphoric pain reconceptualisation has on pain and disability.

Keywords: Biopsychosocial, Metaphors, Pain, Reconceptualisation.

Introduction

The reconceptualisation of pain is a crucial foundation for successful and sustained persistent pain management (Eccleston & Crombez, 2007). Whilst this requires an effective and meaningful transfer of complex information, optimal methods of delivery remain unclear (Gallagher, McAuley & Moseley, 2013). Within practice, uncertainty stems from the tangled, idiosyncratic nature of biopsychosocial pain management, with many practitioners relying on metaphors to help them and their patients make sense of abstract, scientific concepts (Sullivan, 1995). However, considering the unpredictable complexities of practice (Fish & Twinn, 1997), and without a clear understanding of their application, how can we ensure metaphors serve a beneficial function for patients and clinicians?

Despite widespread use, a longstanding debate surrounds the application of metaphors within healthcare. Historically, opponents have seen metaphoric expression as misleading, and potentially obstructive to cognitive reappraisals (Locke, 1894, Sontag, 1978). Whilst contemporary literature is more accepting of metaphors within pain management, the debate has advanced its focus towards the differing methods of metaphor application.

Loftus (2011, p. 217) encapsulates the debate by suggesting "a powerful and enabling metaphor for one patient might be meaningless or even threatening to another." With this debate in mind, this essay sets out to critically explore the literature surrounding the use of metaphors within pain management whilst asking the following questions:

1 Can metaphors facilitate meaningful pain reconceptualisation?

2 How should metaphors be used in pain management to ensure best practice?

3 What are the potential avenues for future research?

In addition, it will analyse the prevailing metaphors that exist within healthcare, and will assess their impact on the biopsychosocial model of pain. Considering the crucial need for a synthesised view of healthcare for the successful application of the biopsychosocial paradigm, this essay also highlights the unique differences between educational metaphors that aim to promote pain reconceptualisation and therapeutic metaphor delivery that seeks to facilitate behaviour change, whilst acknowledging the existing overlap between these within practice.

Given the cultural diversity of present-day Western societies, consideration will also be given to the sociocultural implications of metaphoric pain reconceptualisation.

Historical Context

The nature of abstract scientific progress owes much to metaphoric expression. Geary (2011) notes that quantum theory stemmed from Max Planck's metaphoric correlation between electron orbits and vibrating cello strings, whilst Edelson (1984) considers how William Harvey's seventeenth century metaphor of the heart as a pump has permeated our understanding to such an extent that it has become somewhat literal. Lakoff & Johnson (1980) argue such outcomes are inevitable, as metaphors provide a tangible method of perceiving much of the world.

With this in mind, we can see how Melzack & Wall's (1965) pain gate theory has transfused common consciousness regarding pain neurobiology. In a comprehensive, longitudinal analysis of pain gate theory's adaptations within educational texts, Semino (2011) found that, despite an updated understanding through Melzack's redefined 'neuromatrix' and 'neurosignature' metaphors, many texts continue to use pain gate theory (Melzack, 1999 & 2005).

This poses a dilemma: Although useful, do some metaphors obstruct the evolution of our comprehension by their literal permeations into common language? Many theorists have argued that metaphors oversimplify human suffering and insinuate false ideas. Sontag (1978) rejects the assumption that metaphors suit explanations of illness, and argues they misdirect our understanding. Critics feel Sontag's work is implausible and cannot apply to all as its based on personal assumptions (Clow, 2001).

Considering the need for pain reconceptualisation within a biopsychosocial framework (Gallagher et al., 2013), we must remain aware of potential misinterpretations that metaphors can produce. Loftus (2011, p.216) calls for caution when using metaphors to explain pain as "there is a certain degree of 'fuzziness' and openness in metaphor, and their boundaries are not always clearly defined." Conversely, this ability for metaphors to blur our more literal linguistic boundaries provides us with an opportunity to reframe experiences that would otherwise remain constrained.

Lost in Translation

Meaningful communication is a key component of pain reconceptualisation (Warmington, 2012). Unfortunately, many patients with persistent pain experience poor communication within healthcare settings, and become increasingly frustrated when their worries go unheard (Eccleston & Crombez, 2007, Thomas, 2000).

The evidence that clinicians and patients speak different metaphoric languages is compelling. Skelton, Wearn & Hobbs (2002) used corpus linguistic research to comprehensively analyse the differences between general practitioners' and patients' metaphors to describe and explain symptoms. Doctors used the metaphor 'body as a machine' to explain degeneration as 'wear and tear', whilst patients gravitated towards evocative metaphoric expressions such as 'cotton wool'. Biber & Conrad (2004) argue that corpus linguistic techniques provide in-depth analyses of metaphoric nuances.

In combination with behavioural analysis, such research methods should equip clinicians with a more informed, philosophical understanding of metaphoric expression, thus reducing the perceptual space for misinterpretations.

Practitioners must remain mindful of this communication gap, whilst recognising the value of patient generated metaphors (Hartley, 2012). This is not evident throughout the literature with clinician led pain explanations ranging from burglar alarms, to thermostats and computers (Butler & Moseley, 2003, Moseley, 2007, Semino, 2011, Wilgen & Keizer, 2012). Whilst these comparisons might enable some patients to succesfully reframe their pain, they might reinforce a biomedical regression for others by augmenting a body-mind partition. Hartley (2012) argues that whilst the information-processing model contained within the 'brain as a computer' metaphor can help some patients understand the complexities of neurobiology; it misjudges the idiosyncratic, adaptive properties of an individual's nervous system.

By incorporating a philosophical perspective into the biopsychosocial framework, we can begin to appreciate the categorical inaccuracy of the 'brain as a computer' metaphor (Bennett & Hacker, 2003, Thacker & Moseley, 2012). The brain alone can not provide a single source meaning for the vast complexities that clinicians face when attempting to reconceptualise pain, but when faced with such entangled obstacles, it is easy to see how we might lose sight of the bigger picture.

For example, in a recent attempt to explain pain as a brain construct, Louw & Puentedura (2013) use hearing to illustrate how the ear's vibration and sound receptors are turned into 'hearing' by the brain. Whilst this might enable both clinicians and patients to reconceptualise the function of peripheral nocioception, it does not consider the broader significance of our psychological, social and philosophical understanding of perception as a whole.

Skelton et al's. (2002) study points towards an interesting miscommunication within persistent pain management. Patients frequently use the terms 'went' and 'gone' to metaphorically express painful flare ups. Under a biomedical paradigm, these sentiments, if taken literally, could be misconstrued as damage, but when viewed from a biopsychosocial perspective, they could open communication channels regarding feelings of loss, and subsequent links to sensitivity. Like pain, metaphors are dependant upon context and perception. The ambiguity that follows is seen as an opportunity to create new meanings (Nguyen & Umemoto, 2012), whilst for others, cognitive reappraisals are stifled amid the confusion (Sontag, 1978).

Military metaphors are commonly used throughout healthcare (Wiggins, 2012), and provide another example of how insidious metaphoric interpretations can influence pain reconceptualisation. Patients and clinicians have long adhered to the notion of medicine as a battleground, with injections, medications, and surgery, acting as sophisticated weaponry. The more we use them, the sooner the battle will be won.

In a cross-sectional observational study within palliative care settings, Casarett et al. (2010) found patients rated clinicians as good communicators when they used military metaphors such as describing the host's immune system as a defending army. However, whilst this enabled effective communication for some patients, when expressing her personal account of healthcare delivery for cancer, Sontag (1978) argues that 'the fight' against cancer is both unhelpful and misleading. Instead, cancer should be viewed as a process that must be managed and not a battle that must be won. The parallels with the reconceptualisation of pain management are clear to see.

The perceptual gap between Sontag's (1978) view and the findings made by Casarett et al. (2010) highlights the extent of individual differences in outcome when using metaphors in clinical practice. When we consider the combined influences of our unique, historical contexts, alongside the impact of differing therapeutic environments and our idiosyncratic transmission of metaphors, the blurred boundaries between science, art and philosophy become self-evident.

The permeation of military metaphors into the language of healthcare sheds light into poor outcomes in persistent pain management. Reisfield & Wilson (2004) argue military metaphors lead us to assume that failure lies with the patient, and not the treatment. Equally, they might lead some clinicians to perceive themselves as incompetent soldiers. Practitioners and sufferers who go in pursuit of a specific diagnosis (the perceived enemy), often feel disappointed when faced with the complexities of persistent pain. It's easy to see how military metaphors mislead pain reconceptualisation away from the biopsychosocial evidence-base, whilst perpetuating the misguided belief that the war can be won through biomedical escalation.

In a phenomenologic study of chronic pain, Thomas (2000, p.689) quotes one patient's surrender following many lost battles – "I tried to outlast it. I tried to tough it out. But it was boss." This sharpens the need for prudence when communicating beliefs which might seem veiled but are subconsciously operative (Tompkins & Lawley, 2002). Clark et al. (2012) used qualitative interviews to examine patients' descriptions of pain. They found a narrative approach to assessment, which embraced metaphoric expression, helped patients and clinicians make sense of pain. However, such a transition is limited by time constraints within many practice settings, and is dependent upon the clinician's willingness to listen (Dillon et al. 2009).

A reframing of practice beliefs away from the battlefield and towards a more pragmatic metaphor might offer patients, carers and clinicians a more meaningful solution. So, if military metaphors can hinder the journey, which metaphors might

help us exit the biomedical perseverance loop? (Eccleston & Crombez, 2007).

A Path to Enlightenment?

Unlike military metaphors, journey metaphors shift focus away from a win, lose or fail notion. Instead, they offer hope through individualised exploration (Hartley, 2012). Reisfield & Wilson (2004, p.4027) suggest journey metaphors advance reconceptualisation by offering "different roads to travel, various avenues to explore, and, always, there are exits to take." For example, 'a light at the end of the tunnel' provides an optimistic cognitive reconstruction for a brighter future.

However, whilst they facilitate personal growth, Southall (2012) feels journeys often involve arduous battles along the way. This highlights an interpretative overlap between journey and military metaphors. Journey metaphors enable inventive opportunities for pain reconceptualisation, but remain susceptible to misinterpretation (Sontag, 1978). Whilst one person's 'bright light future' might be tinged with the realism of ongoing setbacks, others will perceive a permanent resolution. This unrealistic outlook is likely to heighten negative emotions should patients experience repeated poor outcomes.

Within practice, metaphors create a therapeutic space that exists beyond linguistic constraints. Following the formation of this space, more flexible patterns of behaviour can surface (Hayes, Pistorello & Levin, 2012). For sustained pain reconceptualisation within practice, the amalgamation of cognitive and therapeutic metaphoric delivery is required. In their book 'Therapeutic Neuroscience Education' Louw & Puentedura (2013) argue that education is therapy. We must therefore keep a broad, contextual focus when considering the application of metaphors for pain reconceptualisation, whilst remaining mindful of the distinct aims that metaphors serve when altering both cognitions and behaviours.

Despite extensive use within pain management, there cannot be a panacea metaphor. So, how should we apply metaphors to ensure best practice and attenuate the risk of distortion?

It Takes Two

Metaphors provide a frame through which we paint unique cognitive landscapes (Bolton, 2010), but we must remain mindful of our eagerness to impose our brush strokes onto the canvases of others. Bakhtin (1981, p.294) argues that language which is not spoken by the individual "exists in other people's mouths, in other people's contexts, serving other people's intentions: it is from there that one must take the word, and make it one's own."

Traditionally, biomedical explorations of pain experience have focused on categorical reasoning related to structural harm. Thacker & Moseley (2012) argue that, whilst this one sided approach to questioning might aim to increase objectivity, it also negates the pressing need for patients to express their psychological, social and philosophical narratives. We must therefore adopt a contextual, dialogical approach in order to better understand our patients' perspective (Yelland, 2011). Such an empathetic and open approach to examination will inevitably include metaphoric expression (Lakoff & Johnson, 1980).

Throughout the literature, collaborative methods of metaphoric expression are occasionally discussed, but rarely studied (Breslin, 1996, Gaydos, 2004). In a recent randomised-controlled trial investigating the impact of metaphors on pain reconceptualisation, Gallagher et al. (2013) found greater understanding of pain biology (73% vs. 43%) when participants used a booklet of metaphors, compared with an educational booklet of cognitive-behavioural principles. By using the Pain Catastrophising Scale, they also found larger reductions in catastrophic thoughts in the metaphor group. Neither booklet had a positive effect on pain or disability.

Although these findings display the value of written metaphors when helping patients to reconceptualise pain, the authors do not mention the absence of metaphoric co-construction. In practice, the use of such therapist generated metaphors risks weakening valuable patient originated expressions (Wiklund, 2010). Shinebourne & Smith (2010) suggest patient generated metaphors offer a 'safe bridge' through which patients express emotions that are too distressing to communicate literally. If we're unable to detect when patients are attempting to cross this bridge through metaphoric expression, we risk squandering opportunities for therapeutic rapport, thus hindering a meaningful reconceptualisation of pain.

However, whilst patient generated metaphors permit access to personal narratives, it is essential that we remain aware of their intrinsic ability to obstruct and regress the therapeutic process (Haigh & Hardy, 2010). Continual, socratic exploration of the patient's understanding of pain is an indispensable component of therapeutic pain reconceptualisation through metaphor.

Although Gallagher et al. (2013) highlight the benefits of metaphor use for enhancing pain education and lowering catastrophising, clinicians must consider the inability of metaphors to reduce pain or disability, as it is these outcomes which are most important to patients (Yelland, 2011). Clinicians and patients should regard metaphors as an opportunity for pain reconceptualisation, and whilst this might act as a catalyst for future functional gains (Sharoff, 2013), it does not automatically lead to reduced pain or disability.

Solberg, Nysether & Steinsbekk (2012) used a solution-focused approach to improve self-management skills through metaphoric expression. Like Gallager et al. (2013), they also overlooked co-constructed metaphors, and found enhanced learning when using the metaphor 'Captain of the ship'. However, whilst one patient found illustrations of the ship

'hitting a reef' helpful when making sense of setbacks, others found the images infantile. Again, this highlights the impact that personal appraisals have on the therapeutic process. Behavioural analysis is needed alongside metaphor delivery if a complete, contextual picture is to emerge (Shinebourne & Smith, 2010).

Loftus (2011, p.229) calls for a dialogical approach to metaphoric expression within pain management. He argues that a monological, didactic approach "restricts perspective and narrows our vision". Instead, conceptual thinking is needed for effective biopsychosocial management (Warmington, 2012). Tompkins & Lawley (2002) feel a more tailored, collaborative approach is needed. They suggest training to help clinicians identify patients' own use of metaphors. Autogenic (self-generated) metaphors have been suggested by Hejmadi & Lyall (1991). Unfortunately, whilst these suggestions might facilitate patients towards a worthwhile pain reconceptualisation, they remain as speculative opinions.

Equally, Nguyen & Umemoto (2012) compiled a table of metaphor dos and don'ts (see Appendix) in which they urge us to consider several risks and benefits when employing metaphors. Again, the authors suggestions are opinion-based, and assume existing levels of cultural competence and reflective skills by all practitioners. In reality, such proficiencies vary greatly within practice (Beach et al. 2005, Schon, 1983).

Hartley (2012) reminds us that, when employing a dialogical approach to metaphors, we must remain aware of how our interpretations of patient's metaphors might be seen as contemptuous. Patient generated metaphors require a degree of intimacy as they hold profound, personal significance. However, clinicians must intervene when patients generate metaphors which magnify unhelpful thoughts linking pain to damage. Otherwise, they risk consolidating misguided beliefs (Eccleston & Crombez, 2007).

The Dark Side of Metaphors

Although much of the literature points towards the value of metaphors within healthcare (Solberg et al., 2012, Sharoff, 2013), many voices of caution endure. Besides concerns regarding oversimplification and misinterpretations (Carpenter, 2007, Sontag, 1978), when considering contemporary pain metaphors, Semino (2011) fears that, by interpreting the brain as a naive, separate entity, patients might encounter a sense of deficiency upon realising they cannot always trick their nervous systems. Honesty and transparency are required if pain education is to facilitate a purposeful reframing (Yelland, 2011).

Although strong advocates of metaphoric expression, Lakoff & Johnson (1980) warn that metaphors may obscure other lines of inquiry. Taylor (1984, p.11) argues metaphors can be "seductively reductionistic", whilst Paivio & Walsh (1993, p.307) see them as a "solar eclipse (which) hides the object of study, and at the same time, reveals some of the most salient and interesting characteristics, when viewed through the right telescope."

Sociocultural Considerations

If we accept that metaphors, when appropriately co-constructed, can help us make sense of the world, we must also examine their sociocultural implications for pain reconceptualisation. The complexity of divergent cultural interpretations adds to the already challenging task facing clinicians when attempting to explain pain.

Most of the evidence-base regarding persistent pain management emanates from Western cultures (Waddell, 1996). As Western societies face an expansion of multiculturalism, we must consider how we can facilitate all patients to make sense of their pain, regardless of cultural background, and within their cultural comprehension (Moore Free, 2002). Lakoff & Johnson (1980) maintain that language is rooted in our cultural beliefs, and that our interpretations of metaphoric expression can easily be lost.

In a review of multicultural healthcare, Gurung (2013) calls for increased cultural competence from clinicians, as cross-cultural health disparities stem from perceptual misunderstandings. Although further complicating our reasoning process regarding metaphor application, an awareness of such delicate variations should not be underestimated. Wiklund (2010) considers the possibility of data misrepresentation when research participants speak the same language, whilst living in culturally detached worlds.

When analysing the literature, the exclusion of non-English speaking participants is typical (Casarett et al., 2010, Gallagher et al., 2013, Southall, 2012). With Wiklund's concern in mind, we can appreciate how such subtle variations in cultural metaphoric meaning, could distort results. Despite highlighting their specific study limitations, no authors within this review have underlined this concern. If we are to fulfil our biopsychosocial aims for all patients, it is essential that we improve cultural competence (Narayan, 2010). This is particularly true of metaphoric expression, and will likely become more prevalent with increasing global migration (Gurung, 2013).

Prospective Avenues for Research

Many authors have suggested future research opportunities related to metaphoric pain reconceptualisation. These include a more precise definition of terms (Southall, 2012), a call for interpretative phenomenological analysis (IPA) (Shinebourne & Smith, 2010), and a greater understanding of metaphoric intelligence (Nguyen & Umemoto, 2012). This review highlights a need to investigate any subsequent impacts that metaphoric pain reconceptualisation has on pain and disability.

There is insignificant evidence regarding physical metaphor

application within healthcare. Williams & Bargh (2008) have shown a metaphoric correlation between physical warmth (holding a cup of coffee) and interpersonal warmth. Similar findings have been found when participants metaphorically connected cold stimulation with social isolation (Zhong & Leonardelli, 2008). These studies suggest further research opportunities for pain reconceptualisation through multisensory trials. Additional research related to physical metaphors might develop our understanding of subconscious metaphoric processing, and facilitate future therapeutic reasoning (Cardillo et al., 2012).

If we are to accurately represent the biopsychosocial model of pain management, we must adapt the current research bias towards qualitative data, whilst ensuring increased rigour in future studies. Loftus (2011, p.228) argues that many researchers adhere to the prevailing metaphoric notion that "evidence is numbers" without reflecting upon the concept that "different purposes require different types of description." Research must embrace a broad spectrum of methodologies, whilst creating a synthesis between pain research and linguistic analysis, if we are to further our understanding of metaphor application.

Conclusion

Whilst a broad array of literature surrounds metaphoric pain reconceptualisation, a substantial debate continues regarding their usefulness within practice. The evidence suggests that metaphors can both help and hinder the journey towards pain reconceptualisation. Therefore, with such conflicting viewpoints in mind, the key to unlocking the value of metaphors within pain management involves heightened awareness of their potential for impediments, whilst developing the necessary communication skills for effective application. We must refine our ability to collaboratively reshape pain through metaphoric expression (Loftus, 2011, Tompkins & Lawley, 2002). By doing so we would limit the potential for unhelpful and unintended misinterpretations, whilst allowing the patient's voice to be heard through Socratic inquiry.

The potency of metaphoric expression to both help and hinder suggests the need for future research to enable clinicians to make informed choices when they intuitively utilise metaphors to explain pain. Unfortunately there is a lack of worthwhile research findings, with much of the literature being opinion-based. When we consider the fundamental role that metaphors play in human expression (Lakoff & Johnson, 1980), the need for further clarity within practice settings is evident.

Acknowledgements

The present work benefited from the input of Guy Canby, Senior Lecturer at the University of Brighton, who provided valuable assistance during the writing of the research summarised here. I also wish to thank my colleagues within the Therapies Department at the Queen Elizabeth The Queen Mother Hospital, Margate, for their constructive support. The Author would also like to acknowledge that this work has also been submitted for publication to The Journal of the Acupuncture Association of Chartered Physiotherapists.

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Appendix 1
Metaphor Dos & Don'ts

Dos	Don'ts
Use metaphor sparingly, carefully, and respectfully	Mix and match your metaphors
Take metaphor far enough	Take metaphors too far
Think about metaphor's connotations	Mistake metaphors for marketing language
Make metaphors culturally appropriate	Let metaphors stand alone
Prepare, test, and practice metaphors	
Take metaphors in a given context	
Use authentic metaphors	

Adapted from Nguyen & Umemoto (2012, p. 49).

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A REVIEW OF e-PAIN

Author:
Eve Jenner MSc MCSP,

Affiliation:
Professional Adviser,
Practice and Development Function

Chartered Society of Physiotherapy,
14 Bedford Row, London WC1R 4ED

Tel: 0207 306 6666 (general enquiries):
020 7306 6625 (direct dial)
E-mail: jennere@csp.org.uk

Background:

e-PAIN is the latest of 65 e-learning projects produced by e-Learning for Healthcare www.e-lfh.org.uk which this year has become part of Health Education England (HEE). The UK is the leading producer of e-learning resources and opportunities for export to other countries is being actively explored.

e-PAIN has been developed over the last 4years following a joint bid by the Royal College of Anesthetists (Pain Medicine Faculty) and the British Pain Society in response to numerous reports (including the primary recommendation of the 2009 CMO report) of the dearth of training in acute and chronic pain management pre- and post-graduate across all professional groups. All the reports recommended an increased focus on learning the management of both acute and chronic pain and most suggested that training should be delivered in a format that was accessible to all professional groups.