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Abstract

Background: Medically unexplained symptoms (MUS) are common in primary care across cultures, accounting for high consultations with multiple providers and unnecessary investigations. Cognitive behavioural therapy (CBT) is efficacious for MUS and reduces physical symptoms, psychological distress and disability. Two intervention trials by the author and his group remain the only reported trials from the developing world.

Material: A treatment package was designed by modifying a CBT model. The modifications were innovative use of locally relevant appropriate language and strategies that were simple enough while conforming to the CBT principles. The aim was to convey the principles of CBT to people using simple techniques – using metaphor. These are described in the paper as generic metaphors that could be used to explain the CBT principles and specific ones for patients with MUS.

Discussion: Metaphor is an effective clinical tool. The author's clinical experience and patients' feedback suggest that these metaphors are helpful in conveying the CBT principles to patients. To develop metaphors appealing to the client and effective clinically, carrying out qualitative research among patients' explanatory model is an important prerequisite. The generic and MUS-specific metaphors reported here should be tried in other cultural and clinical settings and evaluated. Further systematic work including qualitative work for consensus evaluation among CBT experts as well as opinion on user-friendliness of these techniques tested among CBT practitioners will be needed.

Keywords

Cognitive behavioural therapy, medically unexplained symptoms, developing world, somatoform disorders, metaphors

Introduction

Medically unexplained symptoms

Around one third of patients attending primary care have medically unexplained symptoms (MUS) (Dimsdale et al., 2009; Kroenke & Harris, 2001), accounting for a high proportion of consultations (Hartman et al., 2008; Peveler, Kilkenny & Kinmonth, 1997) with multiple providers (Sharpe & Carson, 2001; Sumathipala, 1990). They consume health resources disproportionately (Croft-Jeffreys & Wilkinson, 1989; Shaw & Creed, 1991), receive unnecessary investigations and symptomatic treatments (Reid, Wessely, Crayford & Hotopf, 2012) and are associated with clinician frustration (Hahn et al., 1996; Hartz et al., 2000; Lin et al., 1991; Mathers & Gask, 1995). MUS are common across cultures and are associated with negative illness perceptions, comorbidity and disability (Gureje, Simon, Ustun & Goldberg, 1997; Harding et al., 1980; Hartman et al., 2008; Simon, Gater, Kisely & Piccinelli, 1996). It is a public health priority that is neglected to a greater extent.

Three types of interventions (antidepressant medication, cognitive behavioural therapy (CBT) and other non-specific interventions) are supported by evidence on the efficacy of treatment for patients with MUS (Kroenke, 2007; Price, 2000; Sumathipala, 2007). There is more Level I (systematic reviews) evidence for CBT than for other approaches (Kroenke, 2007; Sumathipala, 2007). There are only two randomized controlled trials (RCTs) reported from the developing world using CBT for MUS and both were from Sri Lanka led by the author of this current paper

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(Sumathipala, Hewege, Hanwella, & Mann, 2000; Sumathipala, Siribaddana, Abeysingha et al., 2008).

MUS in Sri Lanka

A random sample of 2,019 in a community survey in Colombo district revealed that 6.8% had MUS (Siribaddana et al., 2006; Siribaddana et al., 2008), as defined by the Bradford Somatic Inventory (BSI) (Mumford, Bavington & Batnagar, 1991; Sumathipala & Murray, 2000). The National Mental Health survey ($N = 6,120$) commissioned by the Ministry of Health, led by the author, revealed that community prevalence of somatoform disorder was 4.2% (95% CI 3.6–4.9) using Patient Health Questionnaire (PHQ-13) (IRD, 2007). The prevalence of MUS among primary-care attendees ranges from 11% to 23% (Nikapota, Patrick & Fernando, 1981; Samarasinghe, 1991; Sumathipala, 1990; Wijesingha, 1970).

Using CBT: Challenge for Sri Lanka

Sri Lanka has a shortage of psychiatrists and formal psychological services are very limited in the public sector (WHO, 2005). On the other hand psychiatric referrals are not popular with MUS patients (Sumathipala, 1990; Sumathipala, Hewege et al., 2000). Therefore, any realistic hope for use of CBT in Sri Lanka has to be by making it simple, feasible but effective, and suitable to be administered by a person without specialized psychiatric skills (Harding et al., 1980). Usually a course of CBT in the West is about 10–12 one-hour sessions. In Sri Lanka psychiatrists and psychologists are a scarce resource and it is not realistic to rely on them for the provision of CBT for patients with MUS. Hence it is necessary to detect these patients at the level of presentation and manage them at the level of detection, using primary-care doctors with limited training (Sumathipala, Siribaddana, Mangava & De Silva, 2006).

Therefore the aim of the treatment development research was to develop and test a more realistic shorter course of six sessions of 30 minutes in contrast to the traditional one-hour sessions. Thus the challenge was to convey the CBT principles to the patients within a limited time and hence there was a need for simple and time-efficient cognitive behavioural techniques (Bensing & Verhaak, 2006; Escobar et al., 2007; Mayou & Sharpe, 1997; Sharpe & Carson, 2001). A psychotherapeutic treatment package was thus designed by modifying a CBT model for MUS, proposed by experts in the West. The modifications involved the development of culturally relevant models and simplified treatment strategies that nevertheless conformed to CBT principles (Patel & Sumathipala, 2006; Sumathipala, 2004; Sumathipala, Siribaddana, Abeysingha et al., 2008). The modifications were innovative use of locally relevant and appropriate psychotherapeutic language and strategies that

were simple but that conformed to the CBT principles (Sumathipala, 2004). Modifications to the content were sensitive to local ways of thinking. The aim was to convey the principles of CBT to people using simple techniques – by using metaphor to modify the thinking and behaviours of patients with MUS elicited during an explanatory model interview (Sumathipala, 2004). Qualitative information elicited for individual patients by the Short Explanatory Model Interview (SEMI) (Lloyd et al., 1998; Sumathipala, Siribaddana, Hewege et al., 2008) was used in developing and delivering the intervention. The intervention was administered by the author (a psychiatrist) during the first RCT, against a control group that was treatment-as-usual (Sumathipala, 2004; Sumathipala, Hewege et al., 2000).

The intention of the treatment was to reduce the number of unstructured visits to different practitioners and help the patient deal with the dysfunctional cognitions and behaviours that reinforce disproportionate help seeking. Diary keeping was used to identify dysfunctional cognitions and to monitor symptoms. The intervention group received six, 30-minute sessions. The control group received treatment-as-usual by their usual care providers.

This small-scale RCT (Sumathipala, Hewege et al., 2000) indicated that brief CBT carried out by a psychiatrist (the author) in a primary care setting was efficacious compared with treatment-as-usual in reducing symptoms (difference in symptom count = 2.3, 95% CI 0.85–3.7), psychological morbidity (GHQ score difference = 4.1, 95% CI 0.5–7.6) and consultation frequency (difference = 4.8, 95% CI 1.3–8). However, critics could argue that it was the total package rather than CBT that was effective; therefore its effectiveness cannot be generalized.

After the first trial, the effectiveness of the intervention was tested in more realistic clinical circumstances, by non-psychiatrists: primary-care physicians trained by a psychiatrist carrying out the intervention with supervision on a regular basis. The control group was managed by a different group of designated primary-care physicians not trained on the CBT package, providing care over a similar number of contacts and amount of time (Sumathipala, Siribaddana, Abeysingha et al., 2008).

CBT principles

The earlier CBT models of Beck and Ellis have undergone much revision in the past two decades and there are many variants, but they are unified by the proposition that psychological problems arise as a direct result of a faulty pattern of thinking and behaviour (Enright, 1997).

Central to the cognitive theory is that the patient's cognitions are of primary importance in determining their behaviour and emotional and physiological state (Mayou, Bass & Sharpe, 1995). Its success has come out of the simplicity of its basic premise: that a person's thoughts, ideas and beliefs underpin their emotional reactions and behaviour (Enright,

1997). Hence without being concerned with the causes of illness, CBT can focus on teaching people how to control their present complaints of disturbed emotions, thoughts and behaviour (Mayou, 1991). This was especially applicable to most of the Sri Lankan patients with MUS as the identity or the cause was not a concern (Sumathipala, Siribaddana, Hewege et al., 2008).

Cognitions refers to the full range of processes and mechanisms that support thinking and the contents of the product of these processes, namely simple thoughts, more fundamental beliefs and assumptions about themselves and the world (Leventhal, Diefenbach & Leventhal, 1992; Mayou et al., 1995).

CBT emphasizes the control of physical symptoms by understanding the interactions of emotion and cognitions, together with challenging and modifying patterns of dysfunctional thinking and behaviour that are likely to amplify, distort or maintain patient suffering (Enright, 1997). To achieve these tasks CBT employs cognitive and behavioural techniques. Cognitive techniques include: identifying/eliciting negative thoughts; dealing with these negative thoughts by challenging, distracting from or stopping them; exploring evidence; and considering alternative explanations. Behavioural techniques include distraction, activity monitoring/rescheduling, goal setting, exposure and response prevention, desensitization, skill training, stimulus control, aversion, use of rewards or withdrawing negative rewards, relaxation and making contracts.

Language and metaphors

A basic understanding of 'language' and the way that people use language to communicate distress is useful in delivering CBT, as well as for the use of metaphors in the therapy (Sumathipala, Siribaddana, Hewege et al., 2008). Literal and non-literal (figurative) language is a traditional distinction made in analysing language (Giora, 1997). Literal language means exactly what it means: the words used have their defined meaning. In contrast, figurative language alters the usual meanings of the actual meaning(s) of words (Giora, 1997). Whenever one describes something by comparing it with something else, the person is using figurative language. Simile, analogy and metaphor are important forms of non-literal language. Metaphors, especially verbal, are used for conceptualizing and expressing parts of our lives that are otherwise difficult to explain (Rapp, Mutschler & Erb, 2012).

Verbal reasoning is 'understanding and reasoning using concepts framed in words. It aims at evaluating ability to think constructively, rather than at simple fluency or vocabulary recognition' (http://en.wikipedia.org/wiki/Verbal_reasoning). Figurative language can complement logical verbal reasoning. Non-literal expressions are processed with equal speed (Giora, 1997; Glucksberg, 2003). Thibodeau and Boroditsky (2011) in their excellent piece

of work report on the role of metaphor in reasoning. They conclude that metaphors can have a powerful influence over how people attempt to solve complex problems and make 'well-informed' decisions.

The *Oxford English Dictionary* (OUP, 2010) definition of metaphor is the application of a name or description to something to which it is not literally applicable. This definition is not clear enough. It is better introduced as a figure of speech in which an implied comparison is made between two unlike things that actually have something in common (Stott, Mansel, Salkoviskis, Lavender & Cartwright-Hatton, 2010). In literature, simile, analogy and metaphor are lumped together in their usages, but there are differences between them (Stott et al., 2010). Metaphor and analogy are both pertaining to a relationship between two things. Analogy, on the other hand, gives a rather parallel relationship between two words. In metaphor there seems to be an implicit comparison of some thing with another thing, but an analogy explains the relationship between the similarities of these two things (Stott et al., 2010). One good example of an analogy is two peas in a pod to explain similarities of identical twins (Sumathipala, De Silva, Siribaddana, Abeysinghe, & Fernando, 2000). Analogy basically gives similar relationship to two things, while metaphor replaces the meaning of one word with another.

Metaphor can also be used through imagery, to improve patient-centred care as a common language for more sensitive communication, and it has also been successfully tried in cancer patients (Harrington, 2012). Metaphor combined with imagery can explain concepts that are hard to conceptualize in literal language.

Metaphor bridges a source domain that is more familiar and a target domain that is less familiar (Stott et al., 2010). Metaphor provides an efficient means of communication with fewer words than literal language would permit (Stott et al., 2010). Metaphor helps therapists and clients to integrate new information into their existing beliefs, create new mental models and set important goals for living (Salmon, Peters & Stanley, 1999).

Metaphor was assumed to be unique by Aristotle (350) and more recently by Grice (1975) and Searle (1979). However, there are opponents of the uniqueness hypothesis who argue that metaphors and literals need not differ but instead may involve similar processes and products (Giora, 2008). Scientific discussion about the cognitive operations behind understanding correct non-literal meanings dates back to Aristotle (Giora, 2008). The subject is too wide to be discussed in a short paper of this sort and a more detailed discussion can be found elsewhere (Stott et al., 2010).

Use of metaphor in CBT

CBT has incorporated stories and metaphor when challenging dysfunctional thinking and behaviours (Blenkiron, 2005). Use of stories and metaphor in CBT increases

personal impact and memorability for key issues, and improves outcome (Pennebaker, 2000). An excellent update on the use of metaphor in CBT has been published recently by Stott et al. (2010). It has chapters on the use of metaphor in the treatment of depression, anxiety, obsessive compulsive disorder (OCD), post-traumatic stress disorder (PTSD) and chronic fatigue; however, there is no chapter on MUS.

To my knowledge the specific metaphors developed for the two trials have not been reported before. They were developed exclusively by the author for the first CBT trial for patients with MUS (Sumathipala, 2004; Sumathipala, Hewege et al., 2000) and refined for the second RCT (Sumathipala, Siribaddana, Abeysingha et al., 2008).

The metaphors were used mainly to convey concepts in a short space of time, by innovative use of locally relevant and appropriate psychotherapeutic language and strategies that were simple but still conformed to the CBT principles (Sumathipala, 2004). Modifications to the content were sensitive to local ways of thinking; but there were additional advantages to using metaphor in a Sri Lankan context.

Cultural relevance of using metaphors in Sri Lanka. Compatibilities between cognitive approaches to therapy, such as CBT, and Buddhism have been acknowledged by its originators (Beck, 2005; Kwee & Ellis, 1998). There is a classic Jathaka story about death that took place in Buddha's time about a woman by the name of Kisa Gothami (Goonewardene, 2004). When Kisa Gothami's newborn son died, she did not realize so she ran to Buddha asking him to cure her son. Buddha at once knew that the baby was dead but wanted Kisa Gothami to learn about death herself. He asked her to find a handful of mustard seeds from a household where no one has died. She went knocking on all the doors in the village but could not find a single house without a death in the family. Soon she realized the lesson Buddha was trying to teach her: that no family is spared the occurrence of death. This is in CBT terms cognitive restructuring.

Buddha has also used analogies to explain death: life is like a dewdrop on a blade of grass seen in the morning (Goonewardene, 2004).

Sri Lanka is predominantly a Buddhist a country, with 70% of its people following the religion. Therefore, it is quite possible that the cultural way of thinking is quite tuned into the line of CBT principles, making them easy to understand. Hence using CBT or metaphors for delivering CBT is not entirely alien to Sri Lanka.

Sri Lanka is also a country with a very high literacy rate: over 92.5% in males and 87.9% in females. This too may have been a factor in why using metaphors was feasible and acceptable to Sri Lankan patients. As an academic and a clinician practising both in the UK and Sri Lanka, I do not think any of these metaphors, neither the generic nor MUS

related, are culture specific; they could be used in any culture.

Metaphors may not work when the ability to comprehend non-literal language is impaired in some clinical populations (Gernsbacher & Pripas-Kapit, 2012; Thoma & Daum, 2006), including patients with schizophrenia (Rapp, 2009; Rapp & Schmierer, 2010), autism (Martin & McDonald, 2004), dementia (Rapp & Wild, 2011) or other neurodevelopment disorders (Annaz et al., 2009). Therefore, the use of metaphor may not work for these patients.

Metaphors developed for MUS study in Sri Lanka

The metaphors developed during the two trials can be categorized into two groups: (1) generic metaphors relevant to basic CBT principles that can be used for the delivery of CBT in any condition; and (2) metaphors that are more specific for the treatment of MUS.

Generic metaphors can be used at the beginning of the treatment to explain the fundamental principles of CBT and the specific metaphors at the appropriate point of the treatment sessions. However, the generic metaphors can be used at any stage of the therapy to remind and reiterate the CBT principles. Similarly, even if metaphors specific to MUS are described in the treatment manual, it is not essential to follow that order strictly; they can be used flexibly during the therapy. Such flexibility will be helpful in the delivery of the treatment to keep it simple, less dogmatic and more user-friendly.

Metaphors

Generic

As explained above, cognitions, feelings and behaviours are an interconnected triad (Mayou et al., 1995). The following metaphor, winning a lottery, was developed to explain this fundamental principle in CBT: the link between thoughts, emotions and behaviours. This metaphor was used at the beginning of the therapy in our two clinical trials to explain the fundamental central theory of CBT and it can be used in any CBT therapy to explain the basics.

Winning a lottery. Patients were invited to think of a situation in which they had won a big lottery. They started smiling even before it was discussed any further. Using and reflecting on this observation, it was explained to them that there is a link between a pleasant thought and the corresponding emotion, happiness, which is reflected through smiling (the behaviour). Similarly explained was how bad news or a bad thought generates the corresponding feeling of sadness and low mood.

A cliff at the end of a road. This metaphor was used to further clarify what happens when thoughts are allowed to

proceed without interruption, resulting in the corresponding emotion.

The metaphor of driving a vehicle along a road that has a huge cliff at the end was used to explain that if thoughts are allowed to proceed without interruption, they will lead to the corresponding emotion. In the metaphor, continuing to drive along the road will inevitably result in the vehicle falling off the cliff and into the precipice. A card with a drawing depicting this situation was also used to enhance the understanding by using imagery.

What possible actions could be taken to prevent that? The rational action would be to apply the brakes and stop the vehicle, take a turn to change direction or to reverse, thus introducing the concepts of thought stopping, redirecting and challenging the negative thoughts.

This helps the patient to understand what the emotional consequence would be if unhelpful negative thoughts are allowed to proceed, and therefore what action should be taken to prevent it; that is the concept of thought stopping (equal to applying breaks), challenging negative thoughts (reversing) and distraction techniques (changing direction).

A rubber ball under water. This metaphor was used to clarify how counterproductive thoughts are generated, specifically 'automatic negative thoughts', which is another important element in CBT.

If a rubber ball is placed under water, it will come to the top automatically. An effort is needed to keep it under the water. Automatic thoughts are similar. They come up without any effort. However, the patient will need some active effort to stop these thoughts bothering them.

Knocking on the door. This metaphor was used to explain distraction techniques. One example was to create a situation where someone comes and knocks on the consultation room door several times. Another example was the telephone ringing several times while the doctor tries to engage the patient, or a nurse repeatedly interrupting the doctor during a consultation. Whatever the situation, it was clear that repeated interruptions will prevent progression of the consultation. Therefore, the doctor could not reach the end of the conversation. Similarly, the idea of the distraction technique is to prevent progression of thoughts.

Mum's cleaning slot. This metaphor was developed to explain the concept of 'activity rescheduling' and how to use 'worrying slots' to reschedule and control preoccupation with symptoms and thereby learning to control thoughts instead of allowing your thoughts to control you.

This metaphor is centred on a mother with several children. Children generally make the house by leaving toys everywhere. If mother tries to tidy the home every minute the children mess it up, she will not have time to do anything else. So she deals with the problem by having tidying-up sessions, maybe once a day, twice a week or whatever is

appropriate to her. She schedules her tidying activity. Similarly, one can work with 'bothering thoughts' by working on them in an allocated time slot rather than being pre-occupied with them continually.

First day in school. The metaphor of first day in school and difficulty with the alphabet helps to explain why learning CBT techniques initially requires effort but becomes easier with continued practice.

In this metaphor, the patient is asked whether they wrote an essay on their first day in school. When the patient answers 'no' or 'I cannot remember', they are asked whether anyone would be able to write an essay on their first day in school. The most likely answer would be 'no' as even writing a few letters in the alphabet was difficult at first. The patient is then asked whether writing the alphabet remains difficult to this day. Most literate people would answer 'I can do it now'. This leads to a discussion about how they gained these skills, through learning and practice, and reassurance that it is the same with CBT techniques: they can be learned even if it is difficult at the beginning.

Crying child and chocolate. This metaphor falls into the generic as well as a specific category. When taken as generic it can be used to introduce the concept of exposure and response prevention of CBT. When taken as a specific technique it could be used to explain reinforcing the consulting behaviours through repeated unnecessary investigations for people with MUS.

When a child cries, parents may give them a piece of chocolate to stop them crying. When they know it works, the next time parents may even offer chocolate before the child starts to cry. Parents learn that the crying can be stopped by giving chocolate so they will continue to do it; their behaviour gets reinforced. In the meantime the child learns that if they cry they will get chocolate. Although by giving chocolate a parent can stop a child crying on that occasion, what actually happens is that in the long run it is encouraging the child to cry if they want chocolate or anything else because the child learns that by crying they will get rewards. By not giving the chocolate, even if the child continues to cry, eventually they will stop of their own accord as they learn that crying will not ensure a piece of chocolate.

The reinforcing effects of unwarranted negative investigations can be linked to this metaphor. This would be discussed in relation to the limitations of the investigations and their relevance to the symptoms. If a doctor carries out irrelevant investigations, they will observe negative results and then might say that there is nothing wrong. But the patient will not accept this because their symptoms are genuinely perceived. They may then suspect that there is a very serious illness that has not been detected by the doctor. This leads to more and more searching, and consulting more

doctors until an answer is found. On the other hand, doing an investigation may temporarily reduce the distress, but it has a reinforcing effect on the patients to demand more investigations when their anxiety goes up. This iatrogenic contribution of multiple investigations reinforces a patient's repeated consultation behaviour.

MUS-specific

Four legs and the elephant. Why an elephant is called an elephant metaphor was developed to explain the basis for 'cognitive restructuring' in CBT and to explain why there should be no more medical tests.

In this metaphor the therapist uses imagery, drawing a sketch of an elephant and asking the patient what it is. Once the patient replies that it is an elephant the therapist asks why. The patient then describes the reasons: trunk and tusks, and so on. The therapist then clarifies with the patient how they decided that it was an elephant based on the specific features of an elephant. It was not by excluding other animals that the patient came to the conclusion that it was an elephant. In other words, the elephant is an elephant not because it is not a cat, a cow, a rat, or any other animal. It is not by exclusion but by positive features that it was decided that it was an elephant. Similarly, we do not have to keep on checking all the illnesses known to us to say what problem the patient has. So it is not necessary to keep checking everything to say that the symptoms are medically unexplained.

I trust you but can I check your wallet? This metaphor is used to clarify why there should be no further laboratory investigations and can be illustrated thus:

I placed some money on the table just before you arrived. But I cannot find it now. I am sure you did not take it. I trust you. However, before you leave, if I ask you to show me your wallet you will not believe that I really trust you.

This metaphor explains the doctor's action; after saying that there is nothing wrong, doing an investigation destroys trust and this can add to the patient's distress, rather than help them.

Clock. The clock metaphor is used to explain the perception of symptoms. One can hear the sound of the clock arms moving in the night but not in the daytime. During the daytime there are many distractions so the sound of the arms moving is not heard, but because the night is quiet one notices this faint sound, which can be even disturbing. The perception of body sensations is similar. If the patient concentrates on their body they will even feel some of the normal bodily functions that they would not notice otherwise.

Discussion and conclusion

Metaphor is an effective clinical tool.

For those critiques who may argue that the cognitive-behavioral approach described above is too simplistic for addressing complex human problems, a medical analogy will be useful. When comparing a varicose vein operation with a heart bypass, one is undoubtedly much more complicated than the other. Yet in both operations the surgeon uses only two basic techniques: cutting and stitching. (Blenkiron, 2005, p. 46)

The author's clinical experience and patients' feedback suggest that the above metaphors are helpful in conveying the CBT principles to patients (Sumathipala, Hewege et al., 2000; Sumathipala, Siribaddana, Abeyasingha et al., 2008). This was also conveyed by numerous trainees who we trained to administer CBT post-tsunami (Siriwardene, Sumathipala, Hewage, Deshabandu & Siribaddana, 2012; Sumathipala, Siribaddana, Mangava & De Silva, 2006). The use of stories and metaphor in CBT increases personal impact, memorability for key issues and improves clinical outcome (Martin, Cummings & Hallberg, 1992).

To develop appealing and effective metaphor, undertaking qualitative research to get an in-depth idea about the 'thinking errors' or 'patients' explanatory model' of the target population, will be essential. However in addition, creating appropriate metaphors will have to depend on innovative thinking. The generic and MUS-specific metaphors reported here should be tried in other cultural and clinical settings and evaluated. For example, I have tried using the metaphors with a colleague in Sri Lanka for patients with suicidal ideations (Samaraweera, 2011).

Further systematic work will be needed, including qualitative work for consensus evaluation among CBT experts as well as opinion on the user-friendliness of these techniques tested among CBT practitioners. It would also be helpful to obtain patients' views on the user-friendliness of such approaches to introduce CBT principles.

Author's contributions

The author was involved in all the components of this paper, right from the beginning, in formulating and developing the idea of metaphors, drafting and revising the first version, and completing the final version.

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Competing interests

I would like to state here that my conflict of interest if at all would be due to the fact that I come from the developing world.

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