

## Conclusions

Untreated depression in patients with physical illness causes distress, amplifies physical symptoms and is more predictive of functional impairment over time than severity of physical illness. For example, patients with rheumatoid arthritis who become depressed may present with increasingly painful joints in the absence of increased disease activity. Also, diabetic patients with depression have worse glucose control and are more likely to have diabetic complications. It is therefore important that all clinicians should be aware of the frequency of depression in physical illness, be able to recognise it and have an understanding of its management.

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## Why illness perceptions matter

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When patients are diagnosed with an illness they generally develop an organised pattern of beliefs about their condition. These views are key determinants of behaviour directed at managing illness. It is a dynamic process which changes in response to shifts in patients' perceptions and ideas about their illness. These illness perceptions or cognitive representations directly influence the individual's emotional response to the illness and their coping behaviour such as adherence to treatment. Despite their importance, patients' views of their illness or symptoms are rarely sought in medical interviews and patients tend not to bring up their illness beliefs with doctors. This paper discusses why illness perceptions matter and how a greater awareness of patients' beliefs can improve both communication in medical consultations and also illness outcomes.

### Patients build mental models

When faced with a new health threat such as a new symptom or diagnosis, individuals will actively build cognitive models of this threat and this mental representation will determine how they respond.<sup>1</sup> These models are based on their own medical knowledge or from personal experience of others such as family members with similar symptoms or diagnoses. The patient's model of his or her illness will guide the patient to reduce the danger of the symptoms or illness and simultaneously to guide coping strategies designed to reduce the emotional response to the threat.

Researchers have noticed that there is

often a symmetry between bodily symptoms and illness labels.<sup>2</sup> When patients have symptoms there is a pressure for them to find a label or explanation for their ill health. Conversely, when patients are given a diagnosis this generally generates a search for symptoms they see as relevant to their label – even when the illness may be asymptomatic (eg hypertension) where patients may erroneously attribute a range of symptoms – using them as a way to monitor their illness and guide medication use.

Patients' knowledge of medical concepts and the body is often rudimentary which can limit the accuracy and complexity of the models they build. For example, it has been shown that less than 50% of the public can correctly identify on body charts the location of their heart, lungs, stomach or kidney. Furthermore, patients with specific organ-related illness (eg cardiology, renal patients) were generally no better at correctly identifying their disease-relevant organ than members of the general public.<sup>3</sup>

### Components of illness perceptions

There is a consistent pattern to the way in which individuals make mental models of their illness. Previous studies found five main interrelated components that make up patients' views of their illness:

- identity of their illness
- causal beliefs
- timeline beliefs
- beliefs about control or cure
- consequences.

The fascinating aspect of illness perceptions is how patients with the same illness or injury can have widely different perceptions of their condition and these perceptions can lead the same patients down very different illness trajectories.

### Identity of their illness

Patients generally have an identity of their illness made up of the label as well as the symptoms that they associate with their condition. Most people have

developed ideas about the sort of symptoms that go with common illnesses such as a cold or food poisoning but may have more vague ideas when it comes to other illnesses. However, when people are diagnosed with a condition they soon develop beliefs about the symptoms that are caused by the illness.

The important aspect of the identity component is that the patient's view of the symptoms caused by the illness may be quite different from that of the medical staff treating the condition. Patients may often misattribute to their illness side effects of the treatment or even other commonly occurring symptoms even if no relationship may exist.

### Causal beliefs

Quite soon after being diagnosed with an illness patients also formulate causal beliefs about why they developed the illness. Common current illness attributions today draw on the perceived deleterious aspect of modern life such as stress or pollution.<sup>4</sup> Causal beliefs are important in some illnesses as they can influence the types of treatments that patients seek for their condition or the changes they make to control their illness in a logical way. For example, if a heart attack patient believes their illness was caused by poor health habits such as smoking and eating fatty foods they are more likely to make changes in these behaviours, or if the patient thinks it was caused by stress they may make other changes such as giving up their job.<sup>5</sup> In other illnesses, causal beliefs can strongly influence the emotional response, particularly if the patient blames him or herself for the illness. Rates of self-blame can be high in illnesses such as cancer and sexually transmitted diseases as well as others where the aetiology of the condition is unknown.

### Timeline beliefs

Patients also adopt timeline beliefs about their condition, usually ranging from acute to chronic. Occasionally, for example what sometimes happens with hypertension, patients see their illness as cyclical depending on how much stress

they perceive themselves to have been under recently. Timeline beliefs have important associations with medication taking. Patients with acute models of their illness are more likely to abandon their medicines and other treatments before patients with more chronic perceptions.

### Control or cure of illness

Timeline and causal beliefs are closely associated with beliefs about the control or cure of the illness. Generally, control beliefs are made up of how the illness is susceptible to personal control and how well it can be controlled by treatment. Higher levels of control are generally associated with shorter timeline perceptions.

### Consequences

The final component of illness perceptions are the consequences the patient associates with their illness. This usually encompasses the effect the illness will have on their work, family, lifestyle and finances. In many ways, the patient's view of the consequences of their illness reflects the subjectively perceived severity of the condition, which may bear little

relation to the objective clinical markers of disease severity.

### Assessing illness perceptions

In the clinical setting patients are rarely asked about their view of their illness but are usually happy to discuss their ideas if the invitation is welcoming and they do not feel they are being 'tested' on their knowledge. A possible opening question would be 'Many patients develop their own ideas about their illness and I would be interested in discussing these with you'. This can be followed up with specific questions such as 'What do you think may have caused this condition?' and 'What are the main consequences of this illness for you?'

Clinicians seeking a more formal assessment of a patient's illness perceptions can use the Illness Perception Questionnaire,<sup>6</sup> different versions of which are available depending on the purpose of the assessment. For most clinical applications the brief version of the scale will provide a rapid picture of the patients' view of their illness.<sup>7</sup> This scale has nine items and can be completed by most patients in a few minutes (Table 1).

**Table 1. Examples of items from the Brief Illness Perception Questionnaire.**

For the following questions, please circle the number that best corresponds to your views:										
<b>How much does your illness affect your life?</b>										
0	1	2	3	4	5	6	7	8	9	10
no affect at all										severely affects my life
<b>How long do you think your illness will continue?</b>										
0	1	2	3	4	5	6	7	8	9	10
a very short time										forever
<b>How much control do you feel you have over your illness?</b>										
0	1	2	3	4	5	6	7	8	9	10
absolutely no control										extreme amount of control
<b>How much do you think your treatment can help your illness?</b>										
0	1	2	3	4	5	6	7	8	9	10
not at all										extremely helpful

In some illnesses where patients can easily visualise their pathology it is possible to get patients to draw their illness as a way to access illness perceptions. This approach has been used with myocardial infarction patients. (Some examples of patients' heart drawings are shown in Fig 1.) A recent study found that the size of damage drawn on the heart was associated with a slower return to work and more negative perceptions of patients' heart condition three months later, and was a better predictor of these outcomes than patients' troponin-T levels.<sup>8</sup> Furthermore, when patients were asked to draw their hearts over the six months following their heart attack the increase in the size of the heart was an indicator of a poorer recovery in terms of increased heart focused anxiety,

complaints of ill health and a higher use of healthcare.<sup>9</sup>

## Illness perceptions and clinical outcomes

Illness perceptions are increasingly being shown to be related to important outcomes in a number of illnesses. There is also evidence that patients attending for medical investigations who have already developed negative illness perceptions of their condition are less reassured by findings showing no pathology.<sup>10</sup> It is also becoming clear that patients who undergo genetic risk assessment for specific diseases may fail to understand the nature of their risk status and the scope for risk reduction because of their beliefs about the nature of their condition.<sup>11</sup>

A number of studies have shown that when patients hold generally negative illness perceptions about their illness (eg a large number of symptoms associated with the condition, more severe consequences, longer timeline beliefs) these perceptions are associated with increased future disability and a slower recovery, independent of the initial medical severity of the condition.<sup>12-14</sup> For example, in a study of over 1,000 general practice patients presenting with a new health problem, a strong illness identity, long timeline and perceived severe consequences from the condition were associated with future healthcare use, independent of previous healthcare use and the doctors' rating of the severity of their health problem.<sup>15</sup>

Such studies pose the question whether patients' recovery can be improved if their illness perceptions can be modified early in their recovery process. A recent study attempted to answer this question by comparing a cognitive behavioural intervention designed to alter patients' illness perceptions following a heart attack and standard care to see if the former would improve recovery. The intervention was found to induce significant positive changes in patients' illness beliefs during their time in hospital and their return to work was significantly sooner than the control patients.<sup>16</sup> This suggests that illness perceptions may be successfully altered by brief cognitive based interventions and that this approach may be useful in other illnesses to improve adjustment and functioning. There is now an urgent need to develop effective and efficient methods for modifying dysfunctional illness beliefs, particularly at an early stage.

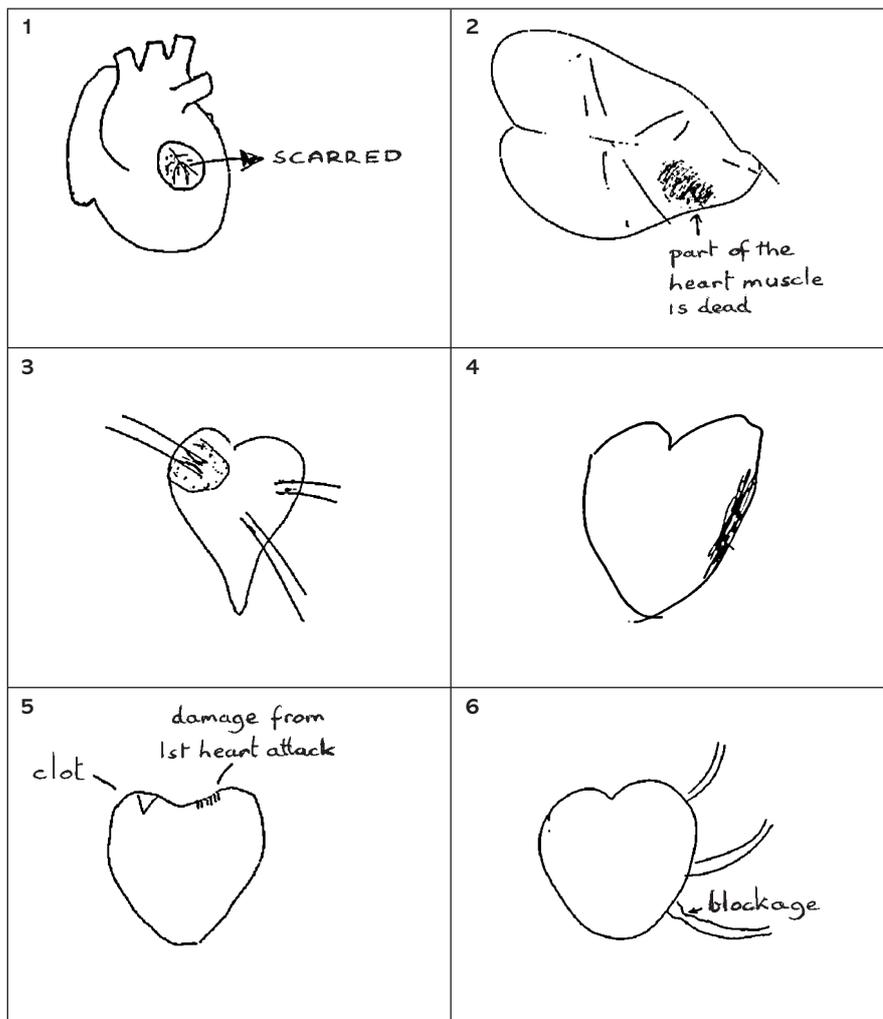


Fig 1. Examples of patient heart drawings.

## Conclusions

Individuals diagnosed with an illness or who suffer an injury develop cognitive models to make sense of their illness. These illness perceptions are important in guiding coping strategies and illness-specific behaviours such as adherence to treatment. Illness perceptions can now be assessed by a number of psychometric instruments; new work has opened up

## Key Points

Once diagnosed with an illness, patients develop organised patterns of beliefs about their condition

Patients' models of their illness are generally composed of five main components: identity, causal beliefs, timeline beliefs, beliefs about control or cure, consequences

Patients do not usually spontaneously disclose their illness beliefs in the consultation; these can be assessed rapidly and reliably by the Illness Perception Questionnaire

Negative illness perceptions are associated with poorer recovery and increased healthcare use independent of objective measures of illness severity

Interventions to change illness perceptions can reduce disability and improve functioning

**KEY WORDS:** assessment, disability, healthcare use, illness perceptions

the possibility of more innovative assessment approaches (eg patient drawings) to access patients' beliefs about their illness. A growing body of evidence in the past 10 years shows that more negative views of their illness held by patients are associated with poorer outcomes. Recent work suggests that illness perceptions can be changed, offering considerable opportunity to improve patients' adjustment to illness in the future.

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