Targeting Mindsets, Not Just Tumors

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Mindsets – beliefs about the nature and workings of things in the world – are a critical but relatively understudied variable that can influence psychological well-being and physiological health in patients with cancer. Precise, targeted psychological interventions aimed at shifting patient mindsets have the potential to transform supportive care in oncology.

The hallmark of the cell is its remarkable capacity for division and growth. Cancer thrives on hijacking and unleashing this power, driving the uncontrolled growth and spread of abnormal cells throughout the body. Halting the spread of these malignant cells has been the focus of oncology for decades. Recent years have witnessed a dramatic shift in the landscape of anticancer therapies, from largely toxic and only moderately effective chemotherapeutic agents towards more precise and targeted therapeutics like kinase inhibitors, monoclonal antibodies, and immunotherapy [1]. Thanks in large part to these advances, today two-thirds of all patients with cancer will live for at least 5 years after their diagnosis [2].

However, cancer is more than just a physical disease. The psychological and social impact can be relentless, presenting challenges not just at diagnosis but throughout treatment and even well into recovery [3]. Unfortunately, this can often spiral negatively and lead to catastrophic thinking processes that can drive depression and anxiety, which are 2–3 times more common in patients with cancer than in the general population [4]. However, these negative psychological ramifications are not an inevitable response to the diseased state of the body. Two patients with the same type and stage of cancer may look very different psychologically: while one patient’s catastrophic thoughts propel them into depression and anxiety, another clinically indistinguishable patient may view it as an opportunity for positive change.

There are a number of factors that influence how a patient responds to a diagnosis of cancer, manages the ongoing challenges of treatment, and navigates their post-treatment life, including interactions with their care team, social support, coping style, personality, and socioeconomic status [5]. However, a key, but often overlooked, factor is the mindsets that patients hold. Mindsets are beliefs about the nature and processes of things in the world (Figure 1). Not necessarily true or false, mindsets are simplified understandings of what is possible or likely. People have mindsets about many things in life (e.g., ‘intelligence is malleable’, ‘healthy foods are disgusting’, ‘statins are effective’). When it comes to cancer, mindsets about the meaning of illness and the capability of their bodies are particularly important.

Is Cancer a Catastrophe or an Opportunity?

In the face of a cancer diagnosis, some people might think ‘this is a catastrophe’. This view is not entirely unfounded as both cancer and cancer treatment can present considerable challenges. However, like the cancer itself, the mindset that ‘cancer is a catastrophe’ can take hold and spread, permeating all aspects of a patient’s life. A patient who has the mindset that cancer is a catastrophe may find themselves stuck in an exhausting cycle of rumination and worry. They may retreat from social roles and activities they previously enjoyed. Burdened by the frustrations and uncertainty that this mindset directs the patient’s attention to, they may not be motivated to take an active role in managing their own medical care.

More adaptive mindsets are possible. Some people adopt the mindset that ‘cancer is manageable’ and some may even view cancer as an opportunity. These mindsets will also permeate a patient’s life, operating in ways that can become self-fulfilling. The mindset that ‘cancer can be an opportunity’ can shift a patient’s perspective towards meaning making, foster a renewed appreciation for life, inspire personal growth, or motivate important lifestyle changes like eating well and getting exercise. Viewing cancer as an opportunity does not mean that cancer itself is a good thing or that battling it is easy, but rather that the experience of cancer can be a catalyst for positive change that would not have been possible otherwise.

Is My Body Working For or Against Me?

A cancer diagnosis may also evoke concerns about one’s own body. Patients may ask themselves: is my body working against me? Some patients initially adopt the mindset that their body is an adversary and their own cells have turned against them. This selective interpretation shifts attention towards physical symptoms and side effects, which are interpreted as a signal of the body’s adversarial nature. These patients may seek unneeded treatments or request unnecessarily strong medications because they perceive their body as inherently incapable. This impact of this mindset may spread far beyond the boundaries of treatment, increasing fear of cancer recurrence months or years down the road.

However, there are other, more useful ways for a patient to think about one’s body after a diagnosis of cancer. Patients...
Figure 1. What Are Mindsets and How Do They Work? (A) Facts about mindsets. (B) Key mindsets that matter in the context of cancer.

Mindsets are core associations regarding the nature and workings of things and processes in the world.

Mindsets help people organize, simplify, and make sense of complex concepts and uncertain situations.

Mindsets influence attention, motivation, affect, and physiology in ways that can be self-fulfilling.

Mindsets are not necessarily true or false, but they can be more or less useful depending on the context.

(A) Mindsets in the context of cancer

- Cancer is a catastrophe
- Cancer can be an opportunity
- The body is an adversary
- The body is capable

(B) Mindsets about the body

- The body is an adversary
- The body is capable

Trends in Cancer

Targeting Mindsets through Psychologically Wise Interventions

A patient’s mindset is not contingent on the objective clinical reality of their cancer. Above and beyond disease status, these mindsets may reflect social functioning, perceived health, and quality of life [7]. Even more importantly, mindsets can be changed just as more precise, targeted, and tolerable treatments for cancer have emerged in the field of oncology, similarly advanced interventions are emerging in psychology. Encouraging research on the psychological sciences of ‘wise intervention’ has found that mindsets are an especially useful target for interventions because they can be changed fairly easily, and these changes confer significant downstream impacts [8].

Although these interventions have not yet been investigated in patients with cancer, encouraging evidence of their efficacy has been demonstrated in other disciplines. For example, short film clips presenting research on how stress can be useful (versus detrimental) to employees evokes a ‘stress is enhancing’ mindset that, in turn, leads to positive changes in motivation, mood, and physiology (e.g., regulation of cortisol, increased DHEAS) in the face of a stressor [9,10]. Brief classroom workshops aimed at establishing the mindset that ‘intelligence is malleable’ (versus ‘fixed’) in students leads to sustained motivation and improved academic performance in mathematics over time [11]. In a randomized controlled trial of oral immunotherapy for children with life-threatening peanut allergies, framing information about symptoms and side effects as ‘a sign of treatment efficacy’ (as opposed to an ‘unfortunate byproduct’) made patients less anxious, reduced serious adverse events, and heightened treatment efficacy (as measured by higher levels of IgG4) [12].

Just as more precise cancer treatments have become widely available, it is time for wise psychosocial interventions to become the standard of supportive care in oncology. More diffuse psychosocial interventions including mindfulness-based stress reduction (MBSR), cognitive behavioral therapy (CBT), and psychoeducation, among others, have been applied in the context of cancer. These interventions provide proof of principle that focusing on the psychological and social elements of the cancer experience can alter both functional and disease-specific outcomes [13]. However, these interventions can be burdensome, requiring in-person access to a team of specialized care providers, like psychologists or social workers, thereby restricting access and increasing costs. By contrast, precisely targeted, well-timed, and relatively brief mindset interventions are both time- and cost-effective, amenable to remote administration or other means of dissemination that do not add a burden to an already strapped patient or healthcare team.

A Call to Action

There are a number of ways that mindsets could be more effectively leveraged to benefit patients with cancer (Figure 2). First, by packaging these interventions into digital toolkits or online modules, patients can access effective psychological interventions from the comfort of their own homes where they may be most receptive to them [14,15]. Second, we can empower current and former cancer patients to help shift the cultural conversation around cancer. In sharing their own experiences, these potential role models can alter both functional and disease-oriented mindsets. In a randomized controlled trial of oral immunotherapy for children with life-threatening peanut allergies, framing information about symptoms and side effects as ‘a sign of treatment efficacy’ (as opposed to an ‘unfortunate byproduct’) made patients less anxious, reduced serious adverse events, and heightened treatment efficacy (as measured by higher levels of IgG4) [12].

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Much like the growth and spread of malignant cells in the body, similarly malignant mindsets can cast a shadow over the lived experience of the patient. As
Mindset interventions lend themselves well to remotely administered online modules.

- Interdisciplinary teams of psychologists, clinicians, and designers can create interactive multimedia interventions that are easy and enjoyable for patients to engage with.

- Mindsets can be shaped through social modeling, especially with people who are viewed as similar.

- Cancer survivors can serve as role models for current patients, providing insight and guidance as they work towards adopting more useful mindsets.

- The patient–provider relationship is a powerful determinant of health and well-being that can be leveraged to shape patient mindsets.

- Clinicians and other healthcare team members can be trained and incentivized to identify maladaptive mindsets and help their patients establish more useful mindsets.

Figure 2. Strategies for Implementing Mindset Interventions in Oncology. (A) Use remotely administered online modules. (B) Utilize the experience and insight of cancer survivors. (C) Leverage the patient–provider relationship to shape mindsets.

References


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