Working with meaning in life in chronic or life-threatening disease:

a review of its relevance and the effectiveness of meaning-centered therapies

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ABSTRACT

More than 30% of the population live with a chronic or life-threatening physical disease. Of them, 40% also experience mental health problems and stress which exacerbate physical problems and health care costs. More specifically, one third report pathological levels of anxiety and depression, and a majority mention stress as arising from the question of how they can still live a meaningful and satisfying life despite their disease. This question is usually not systematically addressed by traditional treatments such as cognitive behaviour therapy, support groups and stress reduction programs, which may explain their modest effect sizes in physically ill patients. This chapter shows how meaning is essential to a clinical-aetiological understanding of physical diseases, by integrating five dominant perspectives in health/medical psychology: assumptive worlds, change, existential coping, motivation, and biological perspectives. This shows how the disease challenges everyday assumptions about the world, life, the self and meaning, which leads to patients asking: 'How can I live a meaningful and satisfying life despite the physical, psychological, social and existential limitations of my disease?' Patients subsequently appraise their situation and assimilate the disease experience within their existing assumptions, transcend the situation by flexibly experiencing meaning despite being ill, change specific meanings in their lives, or change their general perspective on life. These appraisal processes could lead to motivated lifestyle changes, psychological symptoms and a request for professional support. This model is specified for individuals with cancer, cardiovascular, chronic pain and heritable diseases. This clinical-aetiological model is also the basis of meaning-centered therapies, which strongly improve the quality of life, the experience of psychological stress and physical well-being in physically ill patients. Due to its relevance and effects, it is recommended to offer meaning-centered therapy to individuals with a chronic or life-threatening physical disease.

INTRODUCTION

Two years ago, 36-year-old Emma received a diagnosis of breast cancer. Initially, the prognosis seemed positive after breast-conserving surgery, but recently doctors have brought her bad news: they have identified metastases and it is uncertain whether cure is possible this time. After the first operation, Emma had shown a brave face and seemed to deny the impact of cancer: 'I needed to fight; I could not let my emotions overwhelm me'. For instance, as soon as her physical health allowed, she had continued to work as a nurse and even started working longer night shifts. But after the diagnosis of the metastases 'something broke inside me: everything started to feel meaningless. Why would I work so many hours? Why work at all? Why fight?(…) I am too tired to see my daughter play football; I cannot be a good mother anymore.

(…) It's all relative isn't it? One day you are a good employee and mother and the next day you are nothing anymore. One day going to your work seems important to you, but the next day it does not. Thus possibly, nothing in life is certain. (…) What do I do? In which direction should I go in life now?' (Anonymised case from private counselling practice)

Meaning seems to be at the heart of the experience of many individuals with a chronic or life-threatening disease. Emma's story shows how a diagnosis can cast a totally different perspective on life and makes everything that was once meaningful suddenly feel relative. The illness may also hinder engaging in meaningful activities such as cheering at your daughter's sports field, because you lack the energy or your mobility is restricted. It seems unavoidable that physically ill patients may start experiencing symptoms of depression and anxiety, as staring at the sun blinds everyone (Yalom, 2008).

This attention to the patient's sense of meaning seems at odds with stereotypical medical care, putting a label of psychopathology on such existential questions and referring patients to psychopharmacological treatment or a psychological therapy to change cognitive biases, behavioural avoidance or bad stress management. Consequently, too often patients feel that their voice is not heard in such a medical system as their experience that 'the meaning of everything' has changed is not taken seriously (cf. Henoch & Danielson, 2009). For example, Emma told me about her previous cognitive therapist: 'My fear of death is not the result of a bad cognition: it is the reality of my finitude that I am facing, and my struggles are about the almost impossible task of building a meaningful life while I am facing my death - a literally life-saving task!' After several sessions Emma realised that 'society tells you are crazy, doctors tell you are crazy, friends tell you are crazy. Even your therapist tells you are crazy! But what you are experiencing is actually a normal response to an abnormal situation.'

This chapter will give voice to the role of meaning in the experiences of patients with a chronic or life-threatening disease. Not only will the relevance of meaning be discussed but also the effectiveness of directly addressing meaning in psychological treatments. This aim will be achieved by reviewing the empirical literature, in particular the literature about the effectiveness of traditional psychological therapies, dominant meaning-centered models in health and medical psychology, and effectiveness studies on meaning-centered practices. Most figures will focus on the United Kingdom as a case study, which may, however, be generalized to other countries, although more research is warranted.

TIME FOR CHANGE: THE FAILURE OF TRADITIONAL TREATMENTS

More than 30% of all individuals in the UK live with a chronic or life-threatening disease such as cancer, cardio-vascular disease or chronic pain, and this percentage is rapidly increasing due to modern lifestyles and the ageing population; of these physically ill individuals, almost 40 per cent also experience mental health problems during their disease history such as psychological stress, depression, anxiety or adjustment problems (Cimpean & Drake 2011; Mitchell et al., 2011). Mental health problems are associated with poorer health outcomes, lower quality of life and increased health care costs by interacting with and exacerbating physical illness and even shortening survival time; co-morbid mental health problems raise the

total health care costs by at least 45 per cent for each person with a long-term physical condition (Naylor, Parsonage, McDaid, Knapp, Fossey & Galea, 2012). Consequently, between 12 and 18 per cent of all expenditure of the national health services on long-term physical conditions is linked to poor mental health and wellbeing, i.e. between £8 billion and £13 billion in England each year (Naylor et al, 2012). For these reasons, the British government prioritises psychological care for people with long-term health conditions, and a national health care review recommends that integrated forms of care for people with co-morbid mental and physical health problems should be 'one of the top 10 priorities for clinical commissioning groups' (Imison, Naylor, Goodwin, Buck, Curry, Addicott & Zollinger-Read, 2011).

Although guidelines of for instance the British national health service are clear about the fact that effective psychological support should be available to physically ill patients, most guidelines do not specify which specific type of psychological treatment should be offered. A first reason for this imprecision may be that different patients have different needs. Second, relatively few empirical studies have examined the effectiveness of psychotherapeutic care with the rigour of randomized controlled trials in, for instance, cancer, cardiovascular disease and chronic pain patients. Third, meta-analyses suggest inconsistent findings between studies and confounding, biased study designs (e.g. Lepore & Coyne, 2006; Cuijpers, Van Straten, Bohlmeijer, Hollon & Andersson, 2010). Recent meta-analyses conclude that the effects of traditional psychological treatments – such as cognitive behaviour therapy - for physically ill patients on their psychological well-being are at their best small to moderate (e.g. Beltman, Voshaar & Speckens, 2010; Eccleston, Williams & Morley, 2009; Faller, Schuler, Richard, Heckl, Weis & Kuffner, 2013; Hart, Hoyt, Diefenbach, et al 2012; McCracken & Vowels, 2014; Van Straaten, Geraedts, Verdonck-de Leeuw, Andersson, Cuijpers, 2010; Whalley, Rees, Davies, Bennett et al, 2011). To put this in a broader context: some exceptional individual studies have large effect sizes, and most psychological treatments are more effective than pharmacotherapy or no treatment.

Why do most psychological treatments only have modest effects on the well-being of patients with a chronic or life-threatening disease? One answer may be found by examining the underlying clinical and aetiological assumptions of these traditional psychological treatments. That is, it has been argued that one of the differences between quack therapies and evidence-based therapies is not only that outcome studies prove their effectiveness, but also that there is empirical evidence and conceptual coherence for the underlying clinical and aetiological models, and that the therapeutic mechanisms are logically built on these clinical-aetiological models (Kazdin, 2008; Vos, 2015). A clinical model conceptualises the main psychological problem that the therapy focuses on, and an aetiological model describes how this problem developed; the therapeutic mechanisms should logically follow from these clinical-aetiological models.

It may be argued that there is inconsistency in these populations between the evidence-based clinical-aetiological models on the one hand, and the therapeutic mechanisms in the psychological treatments on the other. The psychological treatments that are applied were not initially developed and tailored to physically ill patients but were generalisations of treatments for physically healthy individuals with mental health problems. However, several studies indicate that the experience and aetiology of the psychological problems in physically ill patients cannot be generalised from those in physically healthy

individuals with primarily psychological concerns (e.g. Alderson, Foy, Glidewell, McLintock & House, 2012). The differences between these populations would imply a different type of mental health care tailored to the unique experiences and aetiology of physically ill patients.

For example, the psychological therapy most frequently offered in the NHS for patients with cancer, Cardio-Vascular Disease (CVD) and chronic pain is Cognitive Behaviour Therapy, which teaches cognitive and behavioural skills. More recently, this approach also has started to include practices such as mindfulness/meditation to improve the patient's stress management skills; while the effects of these interventions are promising, they are still relatively small (e.g. Powers & Emmelkamp 2009; Veehof, Oskam, Schreurs & Bohlmeijer, 2011). Of course, some individuals will benefit from these interventions, as their psychological problems originate in negative thought patterns, unconstructive behaviour and a lack of stress reduction skills, which were possibly already present before they became physically ill (pre-existing neuroticism) (Schneider et al, 2009). However, the majority of physically ill individuals were not mentally ill before they became physically ill, and therefore the aetiology and treatment of their mental health problems may be different from those with pre-existing neuroticism (cf. Lepore & Coyne, 2006).

Thus, the main hypothesis in this chapter is that the usual psychological treatments for individuals with a chronic or life-threatening disease are at their best moderately effective because they do not directly and systematically address the unique concerns of this population, which center on the question 'how can I live a meaningful and satisfying life despite my disease?' It has been hypothesized that meaning, however, is at the core of the clinical and aetiological models of these patients' psychological concerns. Therefore meaning-centered treatment may be more effective than the usual care provided for this population.

THE INTEGRATED MEANING-CENTERED CLINICAL-AETIOLOGICAL MODEL

To support the hypothesis that meaning is relevant for this population, this section will review and subsequently integrate five frequently cited perspectives in health and medical psychology, along with their empirical support.

The assumptive worlds perspective

We usually live our daily lives with many illusions about ourselves and our world, but it becomes difficult to maintain our belief in these assumptions when we develop a physical disease. That is, most individuals seem to have the three main assumptions that 'the world is benevolent, the world is meaningful, and the self is worthy', and consequently they expect themselves and the world around them to remain decent and meaningful under all circumstances (Brewin & Holmes, 2003; Janoff-Bulman, 1992). The benevolence of the world entails that they believe that the world around them is good, and more particularly it gives 'good fortune and positive outcomes' and 'all people have an inner goodness' (Janoff-Bulman, 1992, p.35). The meaningfulness of the world means that events in life are intelligible, and, more precisely, that the purpose of events can be explained and that there is a fair distribution of negative events happening in response to bad behaviour and positive events in response to good behaviour. Thus, it is perceived as unfair or wrong when an unjust event happens to an undeserving person. The self is regarded as positive, moral and

successful and is able to control for positive or negative outcomes. Although we may cognitively know that these are mere illusions – for instance, we know the fact that all of us will die one day - we often feel and act as if these illusions are true. The reason why we believe in these illusions in our everyday lives may be a pragmatic and socially reinforced way of coping with our existential reality; it seems, for instance, not pragmatic to be continuously aware of our vulnerability and finitude, as this may evoke so much existential anxiety that we might possibly not dare to cross the street because of the risk of dying (cf. Greenberg & Koole, 2013).

However, a chronic or life-threatening disease can shatter these assumptions, especially if this disease is diagnosed unexpectedly or has developed quickly, as a result of an accident, for example. This shattering of fundamental assumptions can be emotionally very stressful, especially for those who previously had strong positive beliefs (Brewin & Holmes, 2003). Several empirical studies confirm that the psychological stress and symptoms of psychopathology that patients may experience in the aftermath of a traumatic event, such as the diagnosis of a chronic or life-threatening disease, are related to the shattering of their fundamental assumptions about life (DePrince & Freyd, 2002; Park, 2010; Park, Edmondson, Fenster & Blank, 2008). Other studies on the self-regulation theory confirm that the ways in which individuals monitor, evaluate and change their behaviour are often driven by assumptions; for instance, when individuals fail to have genuine control in life, they seem to fall back on defensive attributions of control and illusions of control (Fenton-O'Creevy, Nicholson, Soane & Willman, 2003). More in particular, the way in which, for instance, coronary heart disease patients perceive the extent of control over their disease, their sense of coherence and life's timeline predicts their quality of life and level of psychological stress (Foxwell, Morley & Frizelle, 2013).

From the perspective of assumptive worlds, the psychological treatment of this population should focus on creating new assumptions or modifying old assumptions (e.g. Brewin & Holmes, 2003; Janoff-Bulman, 1992). After a negative event it seems beneficial to not maintain the notion of predictability and unchangeability of life but to re-evaluate one's life, values, goals and to find new meaning in life (e.g. Batthyany & Russo-Netzer, 2014; Park et al, 2008). In other words, positive growth after adversity seems to focus on coping with duality in life (e.g. Zoellner & Maercker, 2006). Individuals may be supported to develop a dual attitude, which on the one hand acknowledges the undeniable reality of their disease and on the other recognises the necessity of having illusions as beneficial for their everyday life and well-being (Vos, 2014). The patient could be taught to go back and forth between different perspectives on life, which has been called 'existential plasticity' and which has been metaphorically compared with the movie 'The Matrix', in which the main character flexibly moves between reality and an illusionary world; the possibility that patients could develop such a dual awareness is confirmed by research on dual emotional-cognitive processes and on tolerating ambiguities (Vos, 2014). Additionally, patients could be supported in tolerating the tensions between illusions and reality, mourn over the 'lost paradise' of the old assumptive world, and develop a sense of trust and hope that it will be possible to live a meaningful life again, despite life's limitations (Vos, 2014). This assumptive-world-framework seems to fit with the aims and methods of

different treatment modalities, although meaning-centered treatments seem to focus most directly on coping with the Janus' face of being ill and systematically re-creating meaningful assumptions.

The change perspective

The change perspective is a specification of the assumptive-worlds perspective and suggests that becoming ill makes individuals aware of what is meaningful to them and changes where and how they experience meaning in life. This is in contrast to people's ordinary existence in which they are usually not explicitly aware of what gives their lives meaning; most individuals usually act intuitively on the basis of a pre-reflective understanding of what is meaningful to them (Vos, 2014). Thus, in ordinary life situations people do not need a self-reflective homunculus making decisions and giving orders about which meaningful activities to engage in. To the contrary, reflecting too much on what is meaningful to us in everyday life ('hyper-reflection') can create a cognitive distance from our activities and the implicit meanings of our daily life, which could subsequently create a sense of meaninglessness (Lukas, 2006); Heidegger calls this 'not being at home'; instead of 'being-*in*-the-situation', hyper-reflective patients feel they are '*with*-the-situation' in their thoughts (Vos, 2014).

Thus, speaking about meaning seems to some extent artificial, with some phenomenologically oriented authors arguing that 'meaning in life' is a tenuous and artificial construct. Although individuals may not need to have reflected on meaning before they are able to live a meaningful daily life, when they are asked, they are able to identify a general direction or orientation in life (e.g. Brandstatter et al, 2012; Park & George, 2013). Furthermore, research indicates that the experience of meaning entails motivation, values, understanding, self-worth, action-directed goals and self-regulation (e.g. Batthyany & Russo-Netzer, 2014; Wong, 2012).

When individuals are confronted with 'boundary situations' in life such as a chronic or life-threatening disease, they often start to reflect on what is meaningful to them. That is, they are not embedded anymore in an un-reflected manner in the context that had made sense to them in their daily lives before, but now they start to reflect and ask questions about meaning (Vos, 2014). For instance, surveys in many countries have shown that a majority of patients with a chronic or life-threatening disease start to ask questions about meaning, regardless of the type and stage of their disease (e.g. Harrison, Young, Price, Butow & Solomon, 2009; Henoch & Danielson, 2009; LeMay & Wilson, 2008; Vehling, Lehmann, Oechsle, Bokemeyer, Krull, Koch & Mehnert, 2012; Wexler & Corn, 2012;). Figure 1 shows a simplified overview of meaning-related changes that patients reported in these studies.

First, changes may occur in specific meanings in life. That is, some specific aspects of their lives that had felt meaningful to them in the past may still feel equally valuable, whereas other aspects may feel less valuable. Moreover, new meanings may arise, or previous meanings may have become unattainable. For instance, the symptoms and treatment of a physical disease may limit the patients' possibilities to realise their goals, and may for instance complicate being a good partner or mother (Lee et al, 2004). An individual may for instance focus on being a cancer patient and forget that she is also a father, an employee, a friend, etc. Therefore, a disease is often experienced as a threat to one's self value and integrity as a person

(Henoch et al, 2009). Emma's example shows how her work suddenly felt less important, while going to her daughter's football match became more important, although she did not have enough energy to actually go to the football field (cf. Van der Spek, Vos, Uden-Kraan, et al., 2013). Another possible change is that an individual focuses so much on the disease and the medical treatment, that other meaningful aspects of life are forgotten or denied: 'I had primarily become a patient, and had forgotten that I also am a daughter, mother, friend, employee and music-lover', Emma told about the immediate response to her second diagnosis. This forgetting or temporary bracketing of meaning in life may be evolutionary understandable as a fight-or-flight-response, as all attention, energy and other physical resources are needed for fighting.

Second, some patients ask such meaning-related questions for the first time in life, especially when they are young, which can be unsettling. Being diagnosed with a chronic or life-threatening disease can cast a totally different perspective on life (Helgeson, Reynolds & Tomich, 2006; Henoch & Danielson, 2009). For instance, a large body of literature on post-traumatic growth shows that after the diagnosis of a chronic or life-threatening disease, the general priorities in life may change, life may be experienced more intensively, and patients may become more aware of what they experience as authentic and as their true self (e.g. Calhoun & Tedeschi, 2014). This changed perspective on life seems to determine how and where an individual experiences meaning in life; for instance, empirical studies indicate for instance that choices that feel consistent what individuals consider as 'authentic' or 'consistent with their true self-concept' are more valuable for an individual, and that perceived true self-knowledge strongly influences what an individual experiences as meaningful (Schlegel, Smith & Hirsch in Hicks & Routledge, 2013).

The assumptive-worlds-theory tells that the patients' perspective on life may change when they start to realise that the assumptions of their previous ordinary daily life were mere 'illusions'. Consequently individuals may start relativizing all possible meanings in life and experience life as meaningless (Vos, 2014). That is, Jaspers (1925/2013) wrote that the confrontation with life's physical, emotional and existential boundaries can teach patients general lessons about life, such as 'not only this specific situation can change, but all possible situations in life are fundamentally changeable' and 'not only this specific meaning can change, but everything that feels meaningful is changeable', like Emma said: 'One day going to your work seems important to you, but the next day it doesn't. Thus possibly, nothing in life is certain.' This awareness may be metaphorically compared with looking at a Persian carpet not from above where the meaningful patterns can be seen, but from below where all stitches and loose threats are visible (cf. Vos, 2014). This existential awareness makes it difficult for patients to submerge into ordinary meaningful life again, and they may get stuck in continuous reflections on life ('hyper-reflection').

Thus, many patients seem to experience changes in specific meanings but also their general perspective on life may change. But do patients experience these changes also as problematic? Research indicates that meaning-related changes indeed lead to psychological stress, depression and anxiety, and these changes in meaning are some of the main reasons why some patients ask for therapeutic support (e.g. Vos et al, 2011; Wexler et al, 2012). Additionally, a review of 47 studies in physically ill patients showed moderately strong correlations between meaning in life and the level of psychological stress and psychopathology (Steger, 2012; Winger, 2015).

In summary, a majority of individuals with a chronic or life-threatening disease report changes in specific meanings or in their general perspective in life, and these meaning-related concerns seem to lead to psychological stress. One of the main reasons why patients want to receive therapeutic help is their question about 'how can I live a meaningful and satisfying life despite the practical, physical and emotional limitations of my disease?' Although many patients ask for meaning-related support, their needs are often unmet by the usual treatments. These unfulfilled request for help can lead to higher levels of depression, lower quality of life and shorter survival (Park & Hwang, 2012). Unattended existential suffering may be regarded as 'one of the most debilitating conditions' that occur in patients with a life-threatening disease (Boston, Bruce & Schreiber, 2011) and may lead to demoralisation, suicidal ideation or a wish for a hastened death (Kissane et al, 2001). Therefore, it may be recommended that therapists directly address the possible changes that patients may experience in specific meanings and in their global perspective on life.

The existential coping perspective

This existential coping perspective describes how individuals may focus on larger meanings in life as a defence mechanism and coping style.

First, many studies, including cognitive laboratory experiments, have shown that individuals use meaning in life to cope with the existential threats such as being confronted with physical disease or death (Greenberg & Koole, 2013; Vos, 2014). For instance, pain can trigger existential anxiety, i.e. fears related to dying and not knowing how to live a meaningful life due to physical limitations, and focusing on meaningful behaviour and thoughts can help patients cope with such existential fears (cf. Strang, 1998).

Second, many studies put meaning-centered skills at the core of adequate coping with physical diseases (e.g. Park & Folkman, 1997; Lee et al., 2004). For instance, when confronted with a chronic or life-threatening disease, people may first appraise the situation as relevant or irrelevant for them (which is called 'primary appraisal') and evaluate their personal sources to deal with it ('secondary appraisal'). These appraisal processes subsequently interact strongly with their meaning in life ('tertiary appraisal'). When individuals experience a situation as discongruent with their global meaning, distress will arise. For instance, if someone highly values having a job but experiences cancer as a threat to working, he or she will experience distress. Therefore, the level of distress often shows to be unrelated to the objective prognosis of a disease but is strongly related to the meaningful reappraisal of the disease (Laubmeier & Zakowski, 2004). A large review of empirical studies confirms the restorative function of meaning and other positive emotions with respect to physiological, psychological, and social coping resources; that is, individuals seem to benefit from coping processes that generate positive emotions such as benefit finding and reminding, adaptive goal processes, reordering priorities, and infusing ordinary events with positive meaning (Folkman, 2008). Thus, well-being seems to depend on the extent to which a patient is able to integrate cancer in his or her global meaning via tertiary appraisal (Wong, 2010). Discongruence between disease and global meaning in life can be solved by re-appraisal of the global meaning. For instance, Emma reordered her fundamental values in life: her job was not as important as her health and her family; despite not being physically able to work, she still experienced meaning in her motherhood. Thus, after a period of perceived meaninglessness a

physically ill patient may undergo a personal transition by developing new specific meanings and, by doing so, learning to live with the disease.

Thus, patients seem to negotiate between the situational meaning and the global meaning in life, trying to accommodate or assimilate the physical changes in the wider framework about what they experience as meaningful in general. This model has been verified by studies showing how physically ill patients benefit from meaning-based coping; additionally, re-creating a sense of meaning in life has been shown to be crucial in maintaining and enhancing someone's level of well-being and is strongly negatively correlated with stress, depression and demoralisation (e.g. Visser, Garssen & Vingerhoets, 2010; Winger, 2015). Additionally, several studies indicate that it is not one particular coping style, for example, being dominantly using active or denial strategies, but it is the flexibility of coping that predicts whether physically ill individuals will experience positive change, such as having a broad coping repertoire, a well-balanced coping profile, cross-situational variability in strategy deployment or a good strategy–situation fit (Cheng, Lau & Chan, 2014). Therefore, it could be recommended that therapists assess and address existential defence mechanisms, e.g. pretending that nothing has happened, and stimulate flexible meaning-based coping; for instance, therapists could explore how the disease experience relates to the patient's sense of meaning and could encourage new flexible ways of living a meaningful life despite being ill.

The transcending perspective

The transcending perspective explains why meaning-focused coping can be beneficial for physically ill patients as they develop a sense of meaning to overcome the limitations and changes of their life situation. For instance, King, Hicks, Krull, and Del Gaiso (2006) concluded that when physically ill patients improve their skills in living a meaningful daily life, they are able to transcend their situation and cease to be narrowly focused on their pain and other physical limitations, which may subsequently lead to better physical well-being. Engaging in meaningful activities does not only offer distraction from the painful life situation but also helps the patient to see the disease within a broader context and become aware of the meanings that are still possible. Moreover, meaning seems to be an important aspect of what clients experience as a positive recovery process in therapeutic treatments, in particular in unchangeable life situations such as physical illness (e.g. Bennett, Breeze & Neilson, 2014). Creating a sense of coherence in time and space has shown to be important for the well-being of individuals (Antonovsky, 1998).

This is reminiscent of Frankl's belief that we always have freedom of choice, even in times of the 'tragic triad' of suffering, guilt and death (Lukas, 2006, p.54), as 'every individual has the freedom in every situation to modulate his inner attitude towards it'. This is similar to Jaspers' (1925) idea that individuals can take an inner leap of faith from despair and resignation towards experiencing a meaning that transcends the situation. When the external situation is unchangeable, the internal situation may still be changeable. For example, during the course of the sessions, Emma started to realise that the meaning of her motherhood does not require external actions but mainly an inner transformation, as she did not need to be at her daughter's football match but could, for instance, reflect on the achievements of raising her daughter and

sharing pleasant memories. Therefore, Frankl recommends therapists to help clients develop a larger perspective and connect with something more important and meaningful than the current situation.

The motivation perspective

This perspective focuses on the motivation of patients to make specific lifestyle changes, such as engaging in physical exercise, changing their diet or giving up smoking, especially when they are able to connect the lifestyle change to a larger meaning in their lives. Physically ill patients seem to benefit psychologically and physically from connecting specific health-related goals with general goals in life; research has, for instance, shown that the most beneficial strategy is to adjust health-related goals to one's personal ability and circumstances (e.g. Arends, Bode, Taal & Laar, 2013).

To elucidate this further, although being physically active and doing specific exercises are well-known beneficial factors for physical recovery (Warburton, Nicol & Bredin, 2006), many individuals do not adhere to the recommendations, for instance, because they are afraid of movement, have particular beliefs about exercise, experience practical problems or lack motivation; for this reason, the most successful physical activity and exercise programs include motivation techniques (Teixeira et al, 2012). There are many examples in the literature of how patients could be motivated to change their health behaviour. For example, the trans-theoretical model describes how individuals go through different stages in the change process, starting with pre-contemplation (not ready for change), contemplation (getting ready), preparation (ready), action, maintenance and termination (Prochaska & Vlicer, 2009; Armitage, 2009). Via a range of activities, the patients' relative weighing of the pros and cons of changing moves in favour of change, while simultaneously they start to feel confident that they can actually make the change (increased self-efficacy). The trans-theoretical model hypothesizes that health interventions are more effective when these are tailored to the specific stage of the individual patient. This has, for example, been validated with regard to physical activity and exercise programs (Marshall & Biddle, 2001).

In addition to this trans-theoretical model, the tertiary appraisal model may add the hypothesis that patients will change their behaviour when they see how a specific change can help them realise a larger meaning in life, via iterative steps in the appraisal process. That is, individuals may not be motivated to change their behaviour only for the sake of their physical well-being, but they may become motivated when they see how this change can help them live a more meaningful and satisfying life in general. For instance, in a study on adolescents, meaning in life seemed to play a protective motivational role with regard to health risk behaviours such as illicit drug and sedatives use, binge-drinking, unsafe sex, and lack of exercise and diet control (Brassai, Piko & Steger, 2011). Another example is Emma who became only motivated to stop spending all day in bed when she realised that getting out of her bedroom could give her the opportunity of going for walks with her daughter and visiting her friends, which she experienced as very meaningful. Thus, the experience of meaning in life seems to be the condition and framework within which individuals are motivated for actual behaviour change. In Frankl's words, citing the philosopher Nietzsche, 'he who has a *why* to live for can deal with any *how*' (1946/1985).

To some extent, connecting behaviour change with a larger meaning in life is also the aim of 'motivational interviewing': via a wide range of cognitive and relationship-focused therapeutic techniques, patients are encouraged to consider what they might gain through behaviour change and to explore inconsistencies with their personal values or goals; the vision of a better future might subsequently increase their motivation for change. Motivational interviewing has shown to have modest effects on helping physically ill patients improve their health behaviour (Lundahl, Moleni, Burke, Butters, Tollefson, Butler & Rollnick, 2013). However, this assumes that patients are to some extent already aware of what is meaningful to them, and in motivational interviews, the discussion of global meaning in life often seems to be reduced to specific goals. Therefore, if motivated lifestyle changes are important, therapists may consider more systematically exploring what is fundamentally meaningful for the client.

The biological perspective

Research shows that higher levels of meaning in life are associated with better physical health (Roepke, Jayawickreme & Riffle, 2014) and that individuals feeling frustrated in roles and activities that they highly value, for instance due to physical limitations, may experience a deterioration of their physical health (e.g. Krause, 2004). Research consistently shows moderately strong correlations between meaning in life and a range of biomarkers, such as stress hormones, immune system functioning, physical energy, slower growth of tumor cells and longer survival (Bower, Kemeny, Taylor & Fahey, 2003; Chida & Steptoe, 2008; Ryff, Love, Urry, Muller et al, 2006; Ryff, Singer & Love, 2004).

However, the number of relevant publications remains relatively small, researchers test relatively simplistic pathways between mental health and physical outcomes and only test a small range of biomarkers without inclusion of potentially confounding variables such as the side effects of medication. The precise causal relationships between meaning in life and biomedical well-being also need to be studied further; most models hypothesize, for instance, that meaning leads to better stress management, which subsequently lowers cortisol levels, which finally may interact with other biological processes.

Meaning has been described as an important factor of biopsychosocial resilience which can be of crucial importance for gene–environment interactions with various epigenetic plasticity genes and meaning change mechanisms relating to resilience (Davydov, Stewart, Ritchie & Chaudieu, 2010). Several studies confirm that a sense of meaning contributes to biological resilience; for instance, one longitudinal study in 773 HIV+ patients showed that the level of meaning predicted CD4+ cell count decline, HIV-related mortality and time to death at five-year follow-up (Ickovics, Milan, Boland, Schoenbaum, Schuman, Vlahov & HIV Research Study 2006). Furthermore, meta-analyses of controlled trials (Vos & Vitali, 2016) showed that meaning-centered treatments have large short-term effects and moderate long-term effects on self-reported physical well-being (resp. Hedges' g=.81, SE=.29; k=8 trials; g=.53, SE=.11, k=4). Immediate effects on blood pressure, stress hormones and survival time were large both immediately and at follow-up in three trials (g=.86, SE=.31, k=3; g=1.20, SE=.26, k=1).

These studies show that meaning in life and physical well-being are related, although the precise relationships between them need further examination. Meaning seems a significant factor in the biomedical

recovery of physically ill patients, and supporting them to experience meaning improves their physical well-being.

Integrated summary

Over the last few decades, researchers and practitioners have started to move away from a mere biological and biopsychosocial clinical-aetiological model of physically ill patients to a biopsycho-existential model, which places the goal of 'helping patients to live a meaningful life despite their disease' at its center (e.g. Breitbart & Alici, 2009). This clinical-aetiological model is an integration of the previously outlined six dominant perspectives in health and medical psychology. Figure 2 visualises this 'integrated meaning-centered clinical-aetiological model of mental health care for individuals with a chronic or life-threatening physical disease.

The life situation of all human beings may be characterised by the duality of our fundamental assumptions in ordinary daily life on the one hand and the reality of our life on the other. These fundamental assumptions are usually unreflected and automatic, and we do not need to make conscious decisions to live a meaningful and satisfying life; that is, we are submerged in our daily life activities based on a pre-reflective understanding of what is meaningful and valuable for us. More specifically, living a meaningful and satisfying life means that individuals are motivated towards the activities they do and which they experience as valuable, and they have the ability to adequately regulate their behaviour and emotions, which will lead them to specific action-directed goals in life. We are able to act intuitively without reflection, because the context of our lives feels stable and we have no need to step outside of our routine and reflect. We stay in this ordinary daily life mode as long as we are able to experience positive assumptions about life ('wish for illusions'), meaning ('will for meaning') and certainty ('need for certainty'). For instance, we commit ourselves to meaningful activities such as our job or getting and raising children because we assume that our life will not suddenly radically change, as, for instance, due to becoming ill or dying, and we assume that we can control our life and that we are worthy to listen to what feels meaningful to ourselves. Thus, the fundamental assumptions of the benevolence and meaningfulness of the world and the worthiness of our self create the stable context in which we can submerge ourselves without reflection in the meaningful activities of our daily life. Hence, the experience of meaning is intertwined with individuals' understanding of the world and having a sense of worthiness of the self.

Like all individuals, individuals with a chronic or life-threatening disease experience that their fundamental assumptions are challenged by reality, and in particular by the physical, emotional and existential limitations of their disease. For instance, Emma was physically unable to work any longer ('physical limitations'), had difficulties in coping with her emotions ('emotional limitations') and social relationships ('social limitations') and felt overwhelmed by the idea that she could die ('existential limitations'). These limitations cannot only challenge everyday-life assumptions, they can also evoke existential anxiety, which individuals can try to deny or avoid ('defence mechanisms'), for instance, by clasping onto what feels meaningful to them, as meaning may be used as a defence against the anxiety evoked by the limitations of the disease. Finally, the disease seems to eject the patients from the unreflected

illusionary situation of their daily life, as the disease directly or indirectly urges individuals to reflect on their fundamental assumptions ('hyper-reflection').

The life situation of these patients could lead to the experience of discongruence between the assumptions in ordinary daily life and the reality of their disease. This experience of discongruence is the central clinical problem, which may be formulated as the question, 'How can I live a meaningful and satisfying life despite the physical, psychological and existential limitations of my disease?' Individuals can answer this question in different ways, depending on their appraisal of the relevance of this question for them ('primary appraisal') and depending on the available internal and external resources to cope with the question ('secondary appraisal').

Tertiary appraisal entails four partially-overlapping ways to solve the discongruence. First, patients can assimilate their experience of the limitations within their existing assumptions and make no change in any specific meanings and perspectives on life; this is what Emma did when she continued 'with business as usual' after the first diagnosis of cancer. Second, individuals can change specific meanings: specific previous meanings become less valuable or unattainable, or something else starts to feel more meaningful and valuable to them. Third, individuals can transcend the situation by focusing on what is meaningful in their lives despite their disease, use a flexible coping style and develop an awareness and acceptance of the duality between their ordinary life assumptions and the reality of their disease. Fourth, individuals may change their general perspective on life. For instance, priorities could change, they can experience life more intensively, focus more on what they experience as authentic and their true self and become aware of how the meaning-making process works ('seeing the carpet from below'). Such changes may be called 'post-traumatic growth'. However, also negative changes may occur. Patients may reflect so much on life that it becomes difficult to submerge themselves again in a naïve way in their ordinary meaningful life. Finally, patients could start to see all meanings and values in life as relative and feel overwhelmed by life's meaninglessness.

These appraisal processes can have several consequences in the lives of physically ill patients. First, they can start to feel motivated to change their lives, for instance, by experimenting with behaviour change (setting goals, making a plan, acting, evaluating) and practical problem solving. Second, the changes in meanings and perspectives on life can influence their psychological and biomedical well-being; they could, for instance, start worrying about their medical situation, experience clinical depression or anxiety, have high levels of stress hormones and sub-optimal immune system functioning and perceive their pain and disease burden as worse. Third, patients may request professional support to cope with these life changes, consequences for well-being, appraisal processes and the underlying question of 'how can I live a meaningful and satisfying life despite my disease?'

MEANING IN COMMON PHYSICAL DISEASES

The previous section showed how meaning seems relevant for physically ill patients in general. The relevance of meaning for specific diseases and how meaning-centered treatments could add to existing

health care services are further questions to be addressed. This section will focus on these questions with regard to individuals with cancer, cardiovascular disease, pain and heritable diseases.

However, the relatively clear picture that we will sketch on the basis of the scientific literature may not be reflected in the daily clinical practice of health care services for long-term health conditions. In reality, there are often relatively unclear pathways of referral and treatment, and the waiting lists are sometimes so long that not all patients will receive the requested service. Therefore, health services often focus on patients with the most complex debilitating problems and comorbid psychological, physical, social and occupational problems. Given their focus on complex cases, the programs of these services are often multidisciplinary in nature and are provided by a broad team of psychologists, physiotherapists, medical specialists and spiritual care personnel. These multidisciplinary programs are often based on holistic models of care, integrating expertise from these different disciplines and offering multiple modules such as psycho-educational groups and intensive individual counselling. Overall, a large number of studies show that multidisciplinary health services for individuals with chronic pain and cardiovascular disease have some moderate effects (Wood, Kotseva, Connelly et al, 2008). However, the findings from these trials are difficult to generalise because they often have unclear referral pathways, strongly depend on local variables, such as unique members of staff with specific expertise, and there are concerns about the quality of the coordination and evaluation of some multidisciplinary teams (e.g. Fleissig, Jenkins, Catt & Fallowfield, 2006). Furthermore, as only overall effects have been tested, it is unclear which specific aspects of the interventions are helpful and which are less helpful. Therefore, the following literature review will only describe uni-disciplinary psychological treatments, and its conclusions may indicate which specific psychological interventions are evidence-based and could be integrated into larger multi-disciplinary programs.

Cancer

World-wide, cancer is one of the diseases with the largest incidence and prevalence: in 2012, an estimated 14.1 million new cases of cancer occurred worldwide, 8.2 million people died from cancer, and 32.5 million people diagnosed with cancer within the previous five years were still alive by the end of 2012 (cancerresearch.uk.org). Although the precise figures about the psychological concerns of these patients differ per instrument and population as targeted by different studies, it is estimated that between one fifth and one third of all cancer patients experience clinical levels of depression and anxiety (Kissane, 2014). Thus, world-wide millions of new cancer patients experience significant psychological problems. The subsequent care of cancer patients has radically changed in the last century, from mere medical treatment, to psychological support for psychiatric problems such as anxiety and depression as well as care for existential-spiritual concerns (Breitbart & Alici, 2009). Numerous psychological treatments with different therapeutic approaches have been developed, but recent meta-analyses conclude that with regard to most psychological treatments for physically ill patients, their effects on people's psychological well-being are at best small to moderate (Faller et al, 2013; Hart et al, 2012; Van Straaten et al, 2010). The combination of a

large population of cancer patients with psychological problems and lagging effects seems to justify the continued development of new, possibly more effective, types of support.

Many studies describe in oncology patients with regard to changes in specific meanings and their general perspective on life. For instance, a review of 109 studies showed that a majority of cancer patients struggle to maintain self-identity and values in life and to create purpose (Henoch & Danielson, 2009). Consequently, cancer patients report that meaning is one of the most central clinical concerns; between 50% and 70% of all patients reported that they would like to receive help with remaining hopeful, staying independent in the face of illness, dealing with the unpredictability of the future, maintaining a sense of control, finding a sense of purpose and meaning and dealing with changes to their bodies (Soothill, Morris & Harman, 2001). When requested what they want to receive psychological treatment for, 51% said help to overcome fears, 42% to find hope, 40% to find meaning in life, 40% to find peace of mind and 39% to find spiritual resources (Moadel et al, 1999). When cancer patients are able to experience meaning – with or without the support of a psychologist - they are better adjusted to cancer, experience a better quality of life and lower depression and anxiety of up to 50% (Winger et al, 2015), and in the terminal stages of cancer, they experience a lower desire for a hastened death, less depression and less suicidal ideation (Breitbart et al, 2000). Given this importance of meaning for cancer patients, many meaning-centered therapies have been developed and validated for cancer patients as will be discussed in the next section (Vos & Vitali, 2016).

Cardio Vascular Disease (CVD)

The incidence and prevalence of CVD has increased rapidly in recent decades, and statistics have begun to include higher mortality rates for CVD than for cancer: in Europe, between 30 and 50 percent of all 100 individuals die from CVD (bhf.org.uk). Being diagnosed with CVD after a heart attack or stroke is associated with heightened levels of psychological stress, depression and anxiety (Konstam, Moser & Jong, 2005), although it is unclear whether this psychological stress is the cause or consequence of CVD, or both. It is widely recognized that reducing stress and mental health problems is crucial to the recovery and prevention of further cardiac illness (Whalley et al, 2011). Although few studies are available, the psychological problems of CVD patients are clearly associated with underlying meaning-related questions, for instance regarding lifestyle changes and the inability to participate in activities that were meaningful to them in the past (e.g. Dornelas, 2008; Beery et al, 2002). Moreover, the relevance of meaning for CVD patients was shown in the fact that those individuals who are able to live a meaningful and satisfying life are better at controlling their heart failure, report fewer psychological problems (Vollman et al, 2009; Park et al, 2008) and have fewer CVD-associated risk factors such as high HDL/cholesterol levels (Doster et al, 2002).

However, only 24 psychological treatments for CVD patients have been found in systematic literature reviews and none of these included meaning-centered interventions; these studies did not show consistent positive effects on psychological and physical outcomes (Whalley et al, 2011). Thus, there are no consistent effective treatments for CVD patients, although psychological stress reduction seems crucial to improve mortality rates. Given the important role of meaning for CVD patients, it seems relevant to develop

and validate meaning-centered treatment for these patients. There are no known trials on MCT for CVD patients, except for a positive feasibility study by the University of Roehampton in London and the Liverpool Heart and Chest Hospital (Vos & Hutchinson, 2015).

Chronic pain

Up to 19% of all Europeans suffer from chronic pain, lasting for at least a period between 3 and 6 months (Debono et al 2013). Half of them do not receive adequate treatment (Breivik, Collett, Ventafridda, Cohen & Gallacher, 2006), as effective medical treatment is often unavailable or inadequate in terms of pain reduction. Consequently, many patients are often forced to 'live with pain' instead of 'trying to get rid of pain' (Severeijns, Vlaeyen, Hout & Weber, 2001). Research suggests that a majority of chronic pain patients have difficulties effectively managing their pain in their daily lives (Breivik et al., 2006). Coping inadequately with pain does not only lead to the continuation of the pain experience but also to higher health care costs, lower job productivity and higher societal costs (Breivik et al, 2006; Severeijns et al, 2001). For instance, chronic pain often disrupts patients' roles within their families, their relationships, careers, and sometimes even causes them to withdraw from society (Turk & Flor, 1999); thus, many patients experience difficulties in living a meaningful and satisfying life due to their chronic pain, which seems to be at the core of their clinical concerns.

As a logical implication, several psychological treatments have been developed for chronic pain patients. The most frequently offered therapies are Cognitive Behaviour Therapy and Acceptance and Commitment Therapy, although the evidence supporting their effectiveness on pain intensity, emotional and physical well-being in chronic pain patients is weak (Eccleston et al., 2009; McCracken and Vowels 2014; Veehof et al 2011; Powers et al, 2009). Literature indicates there is not a strongly effective therapy for chronic pain patients, although specific aspects of interventions may work in certain individuals. One possible reason for this limited lack of effectiveness is that these treatments do not systematically help chronic pain patients to live a meaningful and satisfying life but instead focus, for instance, on improving thought processes or aim for stress reduction. However, 'creating meaning out of chaos' has been identified by patients and practitioners to be at the clinical core of adequately coping and appraising chronic pain (Bullington, Nordemar, Nordemar & Sjöström-Flanagan, 2003). As reported before, King et al (2006) reported that when individuals improve their skills to live a meaningful daily life, they cease to be narrowly focused on their pain. Moreover, up to 50% of all chronic pain patients report problems with experiencing their lives as meaningful due to their physical suffering (e.g. Gudmannsdottir & Halldorsdottir, 2009; Glover-Graf, Marini, Baker & Buck, 2007). Therefore, Dezutter et al. (2013, p.253) suggested that meaning-centered group treatments would be 'the ideal starting point and the encouraged direction' for novel psychotherapeutic interventions for chronic pain patients.

Heritable diseases

Recent advances in medical technology have increased our knowledge of risk factors contributing to the development of a chronic or life-threatening disease. For instance, genetic testing may reveal pathogenic

mutations in the DNA-structure that are inherited from parents and could be passed on to the next generation (Vos, 2011). Genetic tests are available to test for high penetrant genes for diseases such as heritable breast and ovarian cancer, which could imply a risk between 40% and 80% to develop cancer during someone's lifetime. However, the pathogenic genetic profile of many other diseases is unknown or consists of a combination of multiple small genetic mutations in interaction with environmental and lifestyle factors.

Given the complexity of the genetic information, it is understandable that many patients misinterpret the genetic information (Vos, 2011). However, the accuracy of their understanding only seems to depend to a small extent on the way the DNA test result was communicated or on the patients' educational level and cognitive skills (Vos, 2011). By contrast, patients have a much more accurate perception of the medical information when they have a stronger sense of purpose in life, less frequently wonder what the meaning in their life is and feel that they currently live a meaningful life. Their accuracy is furthermore predicted by their assumptions about the meaningfulness of the world and the worthiness of the self, and in particular by having an optimistic, autonomous, accepting sense of self, not having a large need for certainty and structure in life, and reacting positively to a lack of structure. Thus, having a sense of meaning of the self and the world seems to help to interpret health risk information realistically, possibly because patients do not perceive the risks as a threat to their general sense of meaning in life and do not need to distort the medical information to fit with their meaning framework.

Several studies have shown that cancer patients feel somewhat distressed after DNA test result disclosure, but this distress seldom reaches psychopathological levels, and it usually significantly decreases after several months; despite this relatively low level of clinical levels of stress, approximately one fifth of all patients would like to receive psychological help (Vos, 2011). Their level of psychological stress is not the only reason why they request this support, but they also have questions about understanding and coping with the medical information, and they have existential concerns which include experiencing a lack of purpose in life, low self-acceptance, and an unfulfilled wish for certainty (Vos, 2011). Thus, meaning seems clinically relevant and predicts long-term adjustment and well-being. This suggests that the psychological care may not only be limited for patients with psychopathology but also for those with meaning-related questions (Vos, 2011). It seems particularly important to develop meaning-centered treatments in genetic counselling; in general, there are few systematic therapy trials in genetic counselling, and the findings only suggest modest effect sizes.

MEANING-CENTERED THERAPIES

The previous sections suggest that meaning is at the heart of the clinical-aetiological models of the psychological concerns of individuals with a chronic or life-threatening disease. However, the usual psychological care for this population, such as Cognitive Behaviour Therapy, addresses some meaning-related aspects, but the therapeutic model is not specifically tailored to these clinical-aetiological models. By contrast, Meaning Centered Therapy (MCT) directly and systematically focuses on helping physically ill

patients to live a meaningful and satisfying life despite their disease. Therefore, several meaning-centered treatments have been developed and validated for physically ill patients.

Many MCT therapists base their work on Austrian psychiatrist Viktor Frankl, who introduced a meaning-centered non-reductionist psychological treatment which he called 'logotherapy and existential analysis' (Vos, 2016). As described above, self-transcendence is a core aspect of this intervention, which means that individuals do not stare endlessly at the – often unchangeable - limitations of their life situation but focus on a greater meaning behind the situation. Frankl assumed that all individuals have an inner striving towards meaning ('will to meaning'), that everyone is always free to take a stance towards any conditions in life ('freedom of will') and that every situation has the potential of being meaningful, even in times of suffering, guilt and death (Lukas, 2006).

Over the years, many different types of meaning-centered practices have evolved, as the review in another chapter describes (Vos, 2016). The most common therapies are general Franklian therapies and meaning-centered psychotherapies which directly translate aspects of Frankl's work into standardised brief manuals, most frequently for physically ill patients. They aim at improving meaning in life via systematic and direct techniques such as psycho-education, guided exercises and relational-humanistic skills. Many other therapeutic approaches have included meaning as one of their core concepts and have shown moderate to large existential and psychological effects in physically ill patients; these include Dignity Therapy, Life Review Interventions and Acceptance and Commitment Therapy (Vos, 2016). To prevent conflation with other therapeutic aims and methods, this chapter focuses on general Franklian therapy and meaning-centered psychotherapy (e.g. Breitbart & Poppito, 2014).

Meaning-centered therapists following this approach use a combination of therapeutic skills, of which many are supported by empirical evidence (Vos, 2016). These skills seem directly connected to the integrated meaning-centered clinical-aetiological model of physical diseases (cf. figure 2). *Assessment skills* are about evaluating the life situation, the needs, preferences and capacities of clients such as identifying the central clinical questions that clients want to work on in therapy. *Meaning-specific skills* aim at systematically exploring meaningful aspects in the stories of clients such as rephrasing/reframing their stories in terms of meaning, exploring their appraisal processes, providing psycho-education about changes in specific meanings and general perspective on life and normalising by explaining how the reality of their disease has challenged their ordinary life experiences. Clients are encouraged to transcend their situation with the help of guided exercises, unconditional positive regard and through creating hope for the possibility of experiencing meaning. Additionally, MCT therapists often connect meaning with specific situations in everyday life, and stimulate effective goal-management to foster, for instance, motivated lifestyle changes, that is to say, they help clients set specific aims, make plans, experiment in their everyday life, evaluate and adjust their aims and methods and make long-term commitments. This entails a shift in focus from short-term gratification and pleasure-seeking to long-term meaning in life, which seems beneficial for the patient's well-being (cf. Batthyany & Russo-Netzer, 2014). *Existential skills* are about supporting the client in developing a beneficial general perspective on life, for instance by embedding the disease experience in the client's broader context of life, for example skills for coping with existential anxiety and mortality, and

exploring existential defence mechanisms such as denial of death. *Relational-humanistic skills* focus on the creation of a positive therapeutic relationship and on the phenomenological exploration of the patient's experiences, which helps with analysing the disease-related changes in life and identifying meaning-related topics in their stories. *Spiritual and mindfulness skills* concern the therapist's openness to the patient's spiritual-cultural context, they involve de-reflection, self-distancing and a generally accepting stance in life, and non-intellectualising exercises such as mindfulness; these skills may stop hyper-reflection and foster the development of an authentic sense of meaning. In summary, MCT helps clients to systematically explore possible answers to their central clinical concern, namely the question 'How can I live a meaningful and satisfying life despite the limitations of my life situation?'

Most trials on MCT include 5 to 15 sessions with three phases. The assessment and introduction phase focuses on understanding the facts of the patient's life situation, on their problems and strengths, on the creation of hope, the exploration of the relevance and history of meaning for the patient, and on building a constructive therapeutic working alliance. The meaning-exploration phase is the backbone of many manuals and consists of systematically exploring the patients' values and meaning potential via psycho-education, group discussions, questions, guided experiential exercises and homework. Usually, one session addresses the value of experiencing, another the value of productivity/creativity and the value of attitude modulation; however, a review of empirical studies of what patients experience as valuable meanings only partially confirmed this triad and suggested to extend this to five separate sessions on hedonic-materialistic values, self-oriented values, social values, transcending values and meta-values (Vos, 2016). The evaluation and application phase aims to evaluate the values and potential meanings that were explored in the previous sessions and apply these to the patients' daily life.

A systematic literature review on MCT yielded 35 pre-post trials without control groups and 45 controlled trials (Vos, 2016). Of these controlled trials, fifteen studies were conducted with cancer patients and nine with patients with other physical diseases such as spinal injuries. We did not find any statistically significant differences between MCT for patients with and without a chronic or life-threatening disease, and therefore the following findings are for both populations together. The effects were large compared with the control groups (mostly active treatment or care-as-usual, some waiting-lists), both immediate and at follow-up on quality-of-life ($g=1.02$, $SE=.06$; $g=1.06$, $SE=.12$) and psychological-stress ($g=.94$, $SE=.07$, $p<.01$; $g=.84$,$SE=.10$). Immediate effects were larger for general quality of life ($g=1.37$, $SE=.12$) than for meaning in life ($g=1.18$, $SE=.08$), hope and optimism ($g=.80$, $SE=.13$), self-efficacy ($g=.89$, $SE=.14$) and social well-being($g= .81$, $SE=13$). This indicates that MCT does not only reduce the psychological consequences of the disease but also improves the tertiary appraisal processes of clients, by supporting the transformation of specific meanings, transcending the situation and improving their general perspective on life (cf. figure 1). These therapeutic changes may be attributed to helping clients find a satisfactory answer to their central clinical question, 'How can I live a meaningful and satisfying life despite my disease?' Moderation analyses indicated that MCT was significantly more effective when therapists used the above-mentioned skills such as discussing one meaning per session, discussing existential themes, and experimenting with achievable daily life goals. Furthermore, the decrease in psychological stress was explained by improvements in

meaning in life (β=-.56, p<.001). Thus, these trials confirm the therapeutic effectiveness of MCT based on the integrated meaning-centered clinical-aetiological model of physical diseases.

DISCUSSION

This chapter has reviewed the relevance and effectiveness of working with meaning in the psychological treatment of individuals with a chronic or life-threatening disease. It was hypothesized that traditional psychological treatments for this group are at best moderately effective, because they do not directly and systematically address meaning in life. The empirical studies in this chapter showed that meaning is a core aspect of the clinical and aetiological model of this population. For instance, a disease can undermine fundamental assumptions that patients have about meaning in life, change where and how they experience meaning in life, and patients can use meaning as a beneficial way of coping with and transcending the limitations of their disease, while meaning is also often associated with better hormonal and immunological functioning. The relevance of this integrated meaning-centered clinical-aetiological model was specified for the four common diseases of cancer, cardiovascular disease, chronic pain and heritable diseases. This overview showed that for each of these diseases, patients ask meaning-related questions, and their level of meaning is related to their general well-being; however standard psychological treatments do not directly and systematically address the topic of meaning, which may explain the relatively small effect sizes of these treatments. These findings justify the development of meaning-centered treatments for physically ill patients. Meta-analyses showed that MCT has large effects on existential, psychological and physical outcomes compared with control groups. In conclusion, working with meaning is not only relevant but also effective for many individuals with a chronic or life-threatening disease.

This review is limited by a self-serving bias, as only evidence was sought in support of the hypothesis that working with meaning is relevant and effective in this population. This warrants further research to validate the relevance and effectiveness of working therapeutically with meaning.

Another limitation is that MCT may not apply to all individual patients. Some clients may, for example, struggle with negative cognitions or require stress reduction techniques, which implies different clinical-aetiological and therapeutic models. A therapist will need to systematically assess and discuss the applicability of MCT with the client. Additionally, Langle (2014) suggests that it is important to first solve basic problems such as health, safety and security before the theme of ‘meaning in life’ can be addressed. For this reason, many practitioners do not offer MCT in the first year after a diagnosis of a chronic or life-threatening disease, when clients often seem mentally absorbed with practical and medical questions. However, this decision is not supported by evidence, as there are not enough studies to confirm that MCT is more effective in the medium or long term than in the short term; this is understandable, as patients seem to ask questions about meaning at any stage of their disease (e.g. Vehling et al, 2012). Several studies also suggest that many patients experience an existential crisis during the first year after their diagnosis, for instance during treatment in a hospital; although individual therapists offer MCT at the bedside, and the models presented in this chapter seem to justify their practices, the effectiveness of this meaning-centered bedside approach still needs to be empirically validated (Vos & Breitbart, 2011). It may also be necessary to

work first on psychological or personality problems that already existed before the physical disease started, as some studies indicate that such pre-existing problems predict the size of the psychological impact of the physical disease and the effectiveness of psychological treatment in this population in general (Schneider et al, 2010).

Some patients may also experience difficulties with the usual talking approach of either meaning-centered practices or any other psychological treatments. For instance, many patients experience cognitive problems such as the loss of short-term memory or linguistic limitations after a stroke or after receiving chemotherapy. In such situations, the precise formulations and the total format of the treatment need to be creatively adjusted to the skills of the client, and non-verbal and behavioural formats such as drawing exercises may be considered (cf. Breitbart & Alici, 2014). More research is needed on working with meaning in cognitively and linguistically impaired individuals.

In sum, it may be recommended to do a holistic assessment of the clinical problems and their underlying causes in individual patients, assess their needs and skills, and subsequently refer them to specific treatment modules or offer tailored treatment. Such a multidisciplinary approach is in line with the multidisciplinary approach of many health services in the UK.

This review has also shown how MCT shares many clinical, aetiological and therapeutic assumptions with other therapeutic approaches, such as Motivational Interviewing interventions and Acceptance and Commitment Therapy (Sharp, Schulenberg, Wilson & Murrell, 2004). However, what makes MCT unique? MCT gives more explicit and longer attention to value and meaning-related issues, and offers a more systematic and direct evaluation of possible sources of meaning in life. This seems particularly helpful for individuals who experience large changes in their meanings or general perspective on life, who are in an existential crisis, feel demoralized or are overwhelmed by a sense of meaninglessness (cf. figure 1). The broader exploration of meaning and the transcending perspective of MCT may also prevent hyper-reflection, which seems more likely to occur in problem-centered approaches where the sessions may overly focus on problems (cf. Sharp et al, 2004). MCT also seems more strongly embedded in a non-deterministic humanistic approach which focuses on the therapeutic relationship and an open phenomenological exploration of the patient's experiences; although a structured manual can be used, this is tailored to the client and an open space is offered for clients to explore their unique experiences. Although MCT can also offer some practical problem-solving skills, it tends more towards an insight-focused approach with attention to existential processes and defence mechanisms. MCT's perspective on suffering also seems to differ from other approaches (Sharp et al, 2004) as it is regarded as an existential problem, i.e. a normal but inevitable part of life rather than an experience that can be changed by more constructive ways of thinking and behaving; this perspective implies, for instance, that the practitioner tries to normalise the experiences of patients and helps them to accept the fact that the reality of suffering cannot be changed, not even by psychological techniques. Meaning is also assumed to be a uniquely irreplaceable experience for individuals, that is patients intuitively perceive differences in value and authenticity, and the treatments help them to discover what feels 'right to them'. Thus, the aim of MCT is not to replace any lost meanings with a random new meaning but with a meaning that feels connected to the client's true self (Vos, 2014). This

meaning of meaning seems in contrast with approaches that regard meanings and values from a social-constructivist perspective as verbal contingencies such as Acceptance and Commitment Therapy and Motivational Interviewing (Sharp et al, 2004)

Despite the limitations of this chapter and recommendations for further research, the findings indicate that MCT is an effective alternative to traditional psychological treatments and a beneficial addition to multidisciplinary programs. Therapists are recommended to offer MCT in the standard care of individuals with a chronic or life-threatening disease. The beneficial effects on both psychological stress and physical well-being indicates that MCT is able to cut – at least partially - the vicious cycle of health-related stress interacting with and exacerbating physical illness and shorter survival time. This makes MCT a clinically relevant and potentially cost-effective intervention which may be considered for inclusion in guidelines by national health services and health insurances.

Key takeaways

- Therapists should ask themselves whether traditional psychological treatments are adequately tailored to the unique clinical-aetiological needs of physically ill patients.
- Meaning-related questions should be regarded as a normal response to a chronic or life-threatening disease.
- The standard assessment of physically ill patients should include specific questions about meaning and general perspectives on life.
- Physically ill patients should be offered systematic support with their quest for meaning.
- To treat physically ill patients, therapists need to develop specific assessment, meaning-specific, existential, relational-humanistic and spiritual-mindfulness skills.
- Meaning-Centered Therapy should be considered for inclusion in health guidelines.

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Figure 1. Possible changes in the sense of meaning in life in individuals with a chronic or life-threatening disease

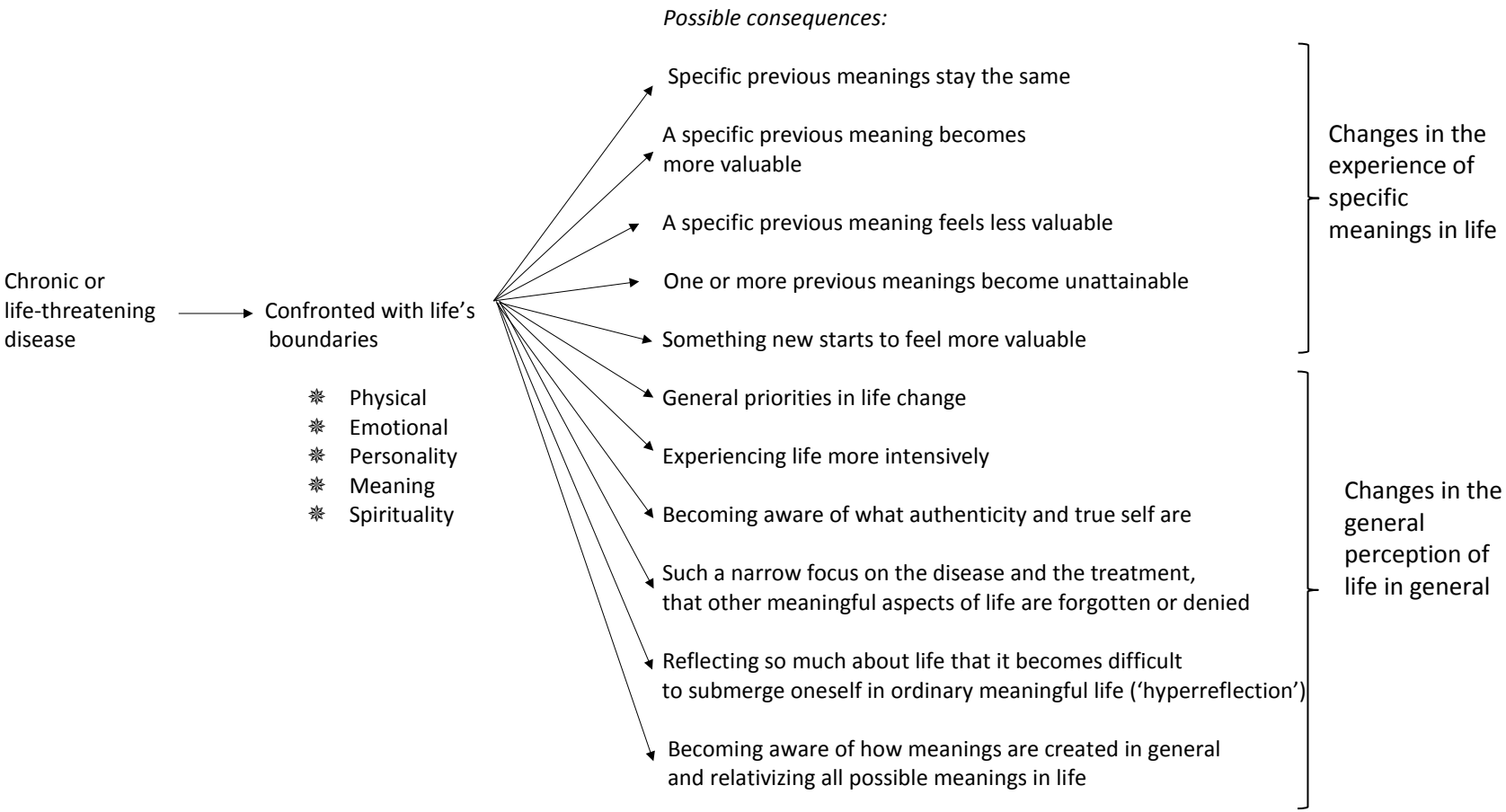

Figure 2. The integrated meaning-centered clinical-aetiological model of mental health care for individuals with a chronic or life-threatening physical disease