

PSYCHOLOGISTS IN THE INVASIVE CARDIOLOGY CARE

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I. INTRODUCTION

Although there has been a significant decline in the aggravated figure of cardiovascular disease mortality in the past few decades, ischemic diseases (IHD – ischemic heart disease) are still one of the leading causes of death for both sexes worldwide.

The etiology of cardiovascular diseases (CVDs) has already been investigated from numerous aspects, thus we have extensive literature to rely on. Traditional physical risk factors – such as hypertension, diabetes, high cholesterol and obesity – do not fully account for the development of cardiovascular diseases. According to data in literature, patients develop at least one of the so-called ‘traditional’ risk factors. Psychosocial factors are estimated to contribute 25% to 40 % to the development of coronary heart diseases (CHD) (Strike & Steptoe, 2004). The damage of health occurs due to behaviours effecting health harmfully. Besides inappropriate health-related behaviours, the quality of one’s social relationships, self-esteem, personality traits and stress sensitivity also have an influence on the mechanisms of risk factors and vulnerability. Sensitivity to stress is related to personality traits, genetics and biological and chemical functioning.

A study by cardiologists Friedman and Rosenman (1960, 1971, 1974), considered as a milestone in this research field, identified certain personality traits that increase the chances of a myocardial infarction and they created the notion of Overt Behavior Pattern A. It describes individuals exhibiting psychological constructs such as depression, anxiety, hostility and lack of social support. Several studies have already reinforced that these psychological factors play a significant role in the development of cardiovascular diseases and determine the severity of their outcome. However, these correlations should be treated with precaution and should be interpreted from different angles as understanding the underlying pathomechanisms is still an important goal of research today. Depression impairs the cardiovascular system through stress hormones. The level of depression correlates positively with the time elapsed between diagnosis and the cardiac event, and also with the number of acute myocardial infarction of fatal outcome (Ahern et al., 1990; Barefoot et al., 1996; Bush et al., 2001; Carney et al., 1988, 1995, 2003, 2005; Denollet et al., 1995; Frasure-Smith et al., 1995; Irvine et al., 1999; Kaufmann et al., 1999).

Psychologists working in cardiovascular care units have to deal with cardiovascular or circulatory diseases that may manifest in several different ways. A detailed description of these diseases is beyond the scope of this chapter. However, a basic understanding of the major diseases and medical practises is essential for health psychologists to be able to build rapport with their patients and understand their narratives; as having knowledge about the symptoms and the course of the disease provides the clues to predict a patient's expected psychological status and understand their reactions, experiences and emotions.

<i>Disease</i>	<i>Manifestation</i>	<i>Invasive Procedure</i>	<i>Psychological symptoms</i>	<i>Possible psychological intervention strategies</i>
heart valve disorder	stenosis or regurgitation	valve replacement	If congenital: anticipatory anxiety, grief and fear of relapse	Resource activation
arrhythmia	bradycardia (slow heart-beat), tachycardia (rapid heart-beat), atrial fibrillation	ablation, ICD or pacemaker implantation	symptoms similar to that of a panic attack; Fear of the possible next cardiac event might develop, which induces panic; Therefore patients might become confused because they do not know whether they have physical or mental problems	Reframing the dichotomous thinking concerning body and mind, Treatment of anxiety, In case of fear of an ICD shock: reduce shock anxiety, Thinking over life events, circumstance, schemas and scripts
myocardial infarction	one or more of the coronary arteries become blocked	angioplasty of stent implantation	trauma feelings of being puzzled: 'why and how could it happen?' 'But I ..'	Talking about the traumatic event, Embedding it in the patient's life course, Talking about its multifactorial etiology, Support patients' proper health behaviour development, Stress management
Ischemic heart disease	It develops slowly; Plaques build up in the coronary arteries thus decreasing blood flow to the heart, which subsequently weakens heart muscles and pump functioning – this eventually leads to acute infarction or chronic heart failure	Implantation of CRT or VAD	Heart failure involves severe physical complaints, diminished endurance and shortness of breath. These symptoms are frightening. Prolonged hospitalization resulting in regression, hospitalization syndrome, anger	preparation for surgery, postoperative ITON, positive affirmations, grieving the loss of previous established roles in life

Functional heart disease can result from impaired cardiac innervation, malfunctioning of the heart valves or poor blood circulation. The physical symptoms, length and mechanism of each of these diseases affect different mental functions, so we need to have different approaches and various methods and techniques to apply. In the sum-

mary table below we present the physical manifestations of the diseases, indicating the main psychological mechanisms and symptoms observed in our patients and the main areas that health psychologists should focus on. This summary cannot and does not aim to give a complete picture; rather, it serves only as a guideline for practitioners.

Heart failure – the long-term outcome of ischemic disease – is one of the greatest medical challenges of the 21st century. It affects a large number of people worldwide. It is a chronic, progressive disease with severe prognosis (Merkely & Becker, 2020), often requiring prolonged hospitalisations many times. Circulation support devices or heart transplant may be needed to improve long-term life prospects. The patients have to face their doubts and worries during their hospital stay, and may also be confronted with the possibility of becoming unable to manage self-care, which is highly frustrating. A prolonged hospitalisation might result in patients' cognitive decline, regression, and social withdrawal. Patients often display concentration difficulties, become impatient and negative with their relatives while they are feeling lonely. In such cases, it is advisable to focus their attention on preparing for surgery, attempt to activate their resources, validate and thus mitigate their anger and rejection. Building rapport before the surgery takes place is important as in the intensive care unit (ICU) the presence of a psychologist can give patients a sense of continuity and familiarity, especially in the first period. Keeping our scope and the boundaries of our professional competencies in mind, we can inform and educate our patients about how the time spent at ICU contributes to their recovery. Chronic diseases usually restructure patients' lives, alter their family and social relationship functioning and balance. Concerns about diminished or lost ability to work, the future, feelings of guilt or anxiety due to becoming a burden to family members and loss of physical activity are common. Each of these emotions influence the process of a patient's recovery.

2. CASE STUDIES

The following cases are mainly modelled on one particular patient's case, but to some extent we also have adapted parts of several of other patients' stories in order to provide as much insight as possible into the diversity of cardiopsychological care. These examples are supposed to enable us to present our experiences from a practical perspective.

2.1. ZOLTAN

Zoltan is a 50-year-old Hungarian man. Three months after having been placed on the heart transplant list, he was also placed on the emergency list (HU-highly urgent), and was not discharged until the donor heart arrived. The hospital care team asked us to provide psychological support for him.

Zoltan was diagnosed with hypertrophic cardiomyopathy at the age of 25. He received a prognosis of a four to five year survival. However, he did not notice any symptoms, was able to work, got married and had a child. He was offered a heart transplant, but he rejected it. As he did not develop symptoms, he thought his disease would not progress to the stage where such a serious intervention would become necessary. The fact that he survived the estimated period of 4–5 years also strengthened his conviction thereof. Zoltan managed to maintain his weight, avoided strenuous physical activity, quit drinking coffee and alcohol, which he used to consume occasionally when he was young. However, he began to experience gradually that his heart was ‘messing up’. He attended check-ups, tests, followed all the medical instructions he was given, yet rejected transplant. Then, one day, while driving, he began to feel unwell, was short of breath, his heart rate increased excessively. The ambulance took him to hospital. Soon he got an ICD (implantable cardioverter-defibrillator) implanted. By that time, his physical endurance had seriously weakened. His fear of an ICD shock escalated as he was experiencing a shock with a conscious mind. He therefore re-considered his opinion on the heart transplant. Since his condition was deteriorating despite all the medication he was taking, he was referred to the Heart Transplant Committee.

During the first few sessions of counseling, Zoltan was talking in detail about his life story and his goals. His retrospective storytelling was a personal recollection of his past experiences through which he was able to recognize his resources, attained skills and knowledge. Using the mental technique of visualisation, he constructed and adjusted symbols to his resources so that he could utilise them whenever needed. During hospitalisation, he had difficulties getting used to being completely inactive. He spent time reading a lot about the surgery (gathering information). As for nonverbal techniques, drawing did not appeal to him, therefore we used mental imagery and positive affirmations. In order to avoid possibly emerging unpleasant thoughts related to breathing and heartbeat, we used muscle relaxation and visualisation for relaxation. We set up positive, peaceful images that he associated with positive, future-oriented visions that functioned as set future goals. He expressed how much he suffered from waiting and I reframed his emotions as valid, normal and healthy.

In the postoperative period, I spoke to Zoltan using our previously set positive images and affirmations until his mind became clear. I talked to him about where he was, how long he had been there and the actual date. I emphasised that he was safe and under our care. His heart worked well; however, his weaning off the ventilator was too slow. According to his physiotherapists, he was impatient with himself as although his condition began to improve, his ICU-stay became longer than he expected. During the postoperative period, he experienced some hallucinations as if they had been real, which also elevated his anxiety.

Day by day, Zoltan regained more and more control over his body; however, he began to worry about his mental condition. We offered him various tasks improving

his skills in different domains, which eventually helped him regain his confidence about his cognitive abilities. Before he was discharged, we lined up the techniques he had developed and learnt, the difficulties he had overcome, thus reinforcing his belief in his inner strength.

Lessons learnt from this case

We often have got no clear idea what experiences patients go through during and after surgical anaesthesia. In the artificially modified state of consciousness, dreams and hallucinations become mixed with stimuli from the outside world and contents and emotions from the unconscious. Zoltan's case illustrates that – though not directly – it is worth uncovering these experiences. Patients might not come up with them on their own due to their bizarre and frightening nature nevertheless they suffer from their effects.

2.2. SARA

Sara is a 37-year-old female with a slim, athletic build, who raises her child alone. Her cardiologist recommended an outpatient appointment with me.

Sarah went to her GP 6 years ago due to sudden, rapid heartbeats who suspected her having mitral valve regurgitation (mitral prolapse). She had not experienced any health problems before, so she attributed her symptoms to her recent divorce and related stress. From then on, she went for regular check-ups. One day she suddenly felt excessively strong heartbeats, chest pain, dizziness and shortness of breath. The symptoms set in and passed so suddenly that she put them down to having panic attacks. When examinations detected no alterations in Sara's condition, she concluded that mental factors must have played a role in her malaise.

In the initial interview, Sara seemed optimistic, future-oriented, and objective with positive wording. Nevertheless, her body language and facial expressions conveyed anxiety. During our sessions, it became clear that Sara did a lot to maintain her health physically. She went for regular medical check-ups, exercised a lot, ate a healthy diet – she was really conscious in that respect. Her outward communication suggested that she accepted her disease, did her best to maintain her health and hoped for the best. However, the label of 'living with heart disease' triggered her fear of not being able to raise her child, as her heart could start pounding any time, which could be painful, uncontrollable, and she might even die of it suddenly. She felt despair and anxiety when these disturbing thoughts flooded her mind, especially when she was tired or had other problems that also induced anxiety. I advised her to use the VAKOG NLP technique to return to the present, do some physical exercise and take some deep breaths. Besides anxiety management techniques, we also aimed at normalising the extent of her worries and restoring her sense of control.

As her most powerful resources, she identified the time spent with her children and sports. As a result of my feedback to her on how strong she was to maintain her regular lifestyle despite experiencing such negative emotions, she realised that her steadiness and consistency also were a resource. She had not had a relationship since her divorce; she had withdrawn from dating as she felt nobody would accept her because of her illness. To balance out her negative experiences and fears, we focused on her being able to feel joy when men showed attraction towards her. It was also a great opportunity to turn her attention from her disease to normality. Regarding her friendships, she felt she did not have any close friends. I asked her about people who cared about her and with whom she could talk about her problems. She mentioned one of her colleagues with whom she had already shared her panic attack experiences and her sister who had offered to accompany her to hospital appointments and often asked how she felt. The strengthening of the personal support network around her added to her resources (Csabai, 2005). She started articulating her feelings more directly and talking overtly about her disease; this way, she could observe how others reacted, which changed her attitude as well. As a result, she started opening up about her negative emotions and could feel accepted despite expressing them, and she did not feel to be a burden.

In her last six years, Sara considered her family, job and health as the most important components of her life. She was successful in all these fields, yet she felt she lacked something. She said she did not notice that her fear of the disease set boundaries to her life. She perceived her illness as not being so severe, as her symptoms were rare and tolerable and she trusted her cardiologist and had a firm belief that her disease was treatable. Nevertheless, although good things were happening to her, she could not appreciate them. During a visualisation exercise, she envisioned her heart and interacted with it as a centre of emotions and joy. She tore down the mossy, thick, cold stonewall surrounding her heart and wrapped it around with a shiny, permeable protective layer that would allow experiencing beautiful, positive feelings and experiences.

In our further sessions, we proceeded to discuss her daily life events, experiences, and plans for the future. She experienced less and less worries and agony when she was talking about her worse days and managed to develop a mind-set that allowed her to accept happiness in her life.

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