Clinical and Experimental Health Sciences

Review / *Derleme*

Self-Efficacy and Shock Anxiety State of Patients with Implantable Cardioverter Defibrillator

İmplante Edilebilir Kardiyoverter Defibrilatörlü Hastaların Öz Etkililik ve Şok Anksiyete Durumu

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Abstract

Implantable cardioverter defibrillator (ICD) is used in cases with sudden cardiac death (SCD), which occur because of fatal cardiac rhythms. Millions of ICDs have been implanted in the victims of SCD and ventricular arrhythmia since 1980. After the implantation, the adjustment process begins, wherein patients get accustomed to live with the device. Living with ICD brings along many psychosocial problems. One of the most frequent problems is shock-related anxiety. The most prominent factor that enables patients and their relatives to cope with these problems is the development of patients' self-efficacy. In this collected work, we aimed to discuss the self-efficacy and shock anxiety state of ICD patients.

Keywords: Implantable cardioverter defibrillator, self-efficacy, shock, anxiety

Öz

Ölümcül kalp ritmleri sonucu gerçekleşen ani kardiyak ölümlerin önlenmesinde implante edilebilir kardiyoverter defibrilatörler (ICD) kullanılmaktadır. 1980'den beri milyonlarca ani kardiyak ölüm ve ventriküler aritmi mağduruna ICD implante edilmiştir. İmplantasyon sonrası hastaların cihaz ile yaşamaya bağlı uyum dönemi başlamaktadır. ICD ile birlikte yaşamak beraberinde pek çok psikososyal sorunu getirmektedir. En sık görülen sorunlardan biri şok yaşamaya bağlı anksiyetedir. Hastalar ve yakınlarının bu sorunlarla baş edebilmesindeki en önemli kriter ise öz etkililiklerinin geliştirilmesidir. Bu derlemede; ICD hastalarının öz etkililik ve şok anksiyete durumlarının tartışılması amaçlanmıştır.

Anahtar Kelimeler: İmplante edilebilir kardiyoverter defibrilatör, öz etkililik, şok, anksiyete

INTRODUCTION

Over the past 20 years, deaths related to coronary artery disease and heart failure have been reduced in countries with high incomes by an increase in preventive measures. Despite this reduction, cardiovascular diseases are the cause of death for about 17 million people every year worldwide, and about one in four of these deaths constitute sudden cardiac deaths (SCDs) (1).

An SCD is defined as "death due to an underlying cardiac disorder, without the person being symptomatic or showing symptoms for less than an hour" (2). The risk of SCD is higher among men and at an older age because of the increased risk of coronary artery disease with age. It is estimated that SCD rates are 6.68 in men, 1.40 in women and 0.46-3.7 in younger people per 100,000 people in a year, and these numbers are roughly equivalent to 1100-9000 deaths per year in Europe and 800-6200 deaths in the USA (1). Implantable cardioverter defibrillators (ICDs) are used in the prevention of SCDs resulting from fatal heart rhythms (2-4).

ICDs are devices placed under the tissue, and they automatically detect the ventricular tachyarrhythmia and treat it with a pulse or shock (5, 6). The first ICD implantation was performed in 1980; ICDs are now widely used worldwide as a life-saving product of advanced technology (7, 8). There has been a noticeable decrease in the cardiovascular mortality rates since the beginning of treatment of arrhythmias with ICD. It is estimated that ICD is implanted at an average rate of about 140 people per million annually in Europe and at an average rate of about 416 people per million annually in the USA (6). In the USA, more than 1 million people continue to live with an ICD (9). An increased awareness of risk factors for fatal ventricular arrhythmias and major advances in ICD technology have led to increased indications for ICD implantation (10). A medical history of myocardial infarction, ventricular fibrillation, congestive heart failure, or hypertension has been reported in 75% of people who have been SCD victims and have been revived by a successful resuscitation. Approximately 29% of these people are continuing their lives with an ICD (2).

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Despite all the beneficial effects, many studies have found that living with an ICD causes problems, such as anxiety, depression, avoidance of physical activities, changes in social roles, disorientation of body image, social isolation, fear of death after ICD shock, or even post-traumatic stress disorder (PTSD) (6, 8, 10-12).

After ICD placement, the living-with-ICD-related-adjustment period of patients begins. Although this period varies from person to person, it usually ranges from 6 to 12 months after discharge from the hospital. Patients can continue their normal activities or a normal lifestyle more easily if they can pass the adjustment period on their own without much difficulty. Very few patients can return to pre-SCD functions without help and counseling by health workers (2, 13). Nurses play a key role in early recognition of adverse events and complications and in intervention without the need for emergency care (14).

There are two types of evidence-based interventions to assist and counsel the adjustment period after ICD implantation for SCD victims and their relatives. One is providing knowledge through education and the other is providing psychological support through support groups and individual counseling (2, 13).

The purpose of this review was to examine two parameters that are important in the post-implantation adjustment period in ICD patients: "self-efficacy" and "shock anxiety."

CLINICAL AND RESEARCH CONSEQUENCES

Self-efficacy in ICD Patients

Self-efficacy refers to the individual judgment of a person to succeed at a specific task for achieving a desired result (15, 16). The concept of self-efficacy was first used in 1977 by the American psychologist Albert Bandura in a social cognitive theory. Behavioral changes and maintenance are anticipations about the outcomes that arise after entering a behavior and expectations about the ability to carry out the necessary behavior. Self-efficacy is not a general personality, but a belief in one's abilities. Attempts to increase self-efficacy reduce emotional responses such as anxiety and stress (17). The strength of self-efficacy increases the possibility of initiating and maintaining the recommended health behaviors (16).

Individuals' self-efficacy beliefs also determine how much effort they will put in against the obstacles (17). The development of social cognitive theory in the 1990s has also increased the interest in the concept of self-efficacy, and it has been found that self-efficacy is effective in many different areas (18, 19).

Self-efficacy expectations are specific to situations and people. Therefore, the measurement tools need to be developed specifically to every situation and group (17). Dougherty et al. (17) developed the "Self-efficacy and Outcome Expectations After ICD Implantation Scales" to measure self-efficacy and outcome expectations specific to ICD patients. The reliability and validity study of the scale was performed by Alkan and Enç (20).

Patients with low self-efficacy beliefs after implantation may consider difficulties during the adaptation period as more than they can achieve (13, 17).

In a study, Smeulders et al. (11) analyzed the efficacy of a self-management program for ICD patients with the leadership of a nurse or a peer, and a group study was conducted under the leadership of a nurse and a patient for six sessions. It has been found that patients and leaders find this study very useful, and many characteristics of the patients, such as self-efficacy, anxiety, physical and social functioning, role limitation, and pain, are improved (11).

Flemme et al. (21) found that ICD patients did not use coping strategies as adequately, and the patients using coping strategies perceived them as very useful. Optimism has been identified as the most commonly used and most effective coping strategy, more anxiety symptoms and being a woman increased use of coping strategies.

A study by Dougherty et al. (22) involving telephone education and nurse call support after ICD implantation showed that the level of self-efficacy and ICD-related knowledge increased and anxiety decreased in the intervention group.

It is noteworthy that there is a lack of studies examining ICD patients' self-efficacy situations. When the results of the study performed with relatives of ICD patients were examined; Meischke et al. (23) conducted two different training methods (face-to-face and video based) on the self-efficacy of ICD patients' relatives and found that the self-efficacy beliefs of the patients' relatives in the face-to-face group significantly increased in the measurements performed in the third month after intervention.

Shock Anxiety

The primary function of ICDs is to monitor cardiac rhythm and administer high-energy shock therapy to the myocardium when a tachyarrhythmia is detected (24). For some patients, shock is extremely uncomfortable, both physically and emotionally. Generally, electrical discharge of the device is felt by the patients as "kicking," and this type of shock is given 6 points in the range of 0-10 pain scoring (24, 25). Shock anxiety is defined as a fear of possible shocks and avoidance of activities that may trigger a shock (24, 26). Even in individuals who have not experienced shock, fear of shock may create anxiety, avoidance of certain behaviors, and a sense of limited activity in everyday life (27). Anxiety is an important cause of morbidity in ICD patients. The diagnosis and treatment of anxiety is important for the prevention of morbidity (28).

The Beck Anxiety Scale, Generalized Anxiety Disorder Scale, Hospital Anxiety Depression Scale, and Spielberger State-Trait Anxiety Scale are frequently used to measure the anxiety level of ICD patients. The Florida Shock Anxiety Scale (FSAS) was developed to quantitatively measure the anxiety related to ICD shock (26). In our country, the reliability and validity study of FSAS, which was developed by Kuhl et al., was performed by Alkan and Enç (20).

Vazquez et al. (29) in 2008 analyzed the age-specific changes in women with ICD and found that younger women are significantly more anxious about shock, death anxiety, and body image compared with middle-aged and elderly women.

In their study conducted to examine relation between social support perceptions of ICD patients received from health professionals, PTSD indications, and shock anxiety, Morken et al. (26) in 2013 found the following: 15% of patients had moderate/severe PTSD; PTSD symp-

toms were relatively strongly related to shock anxiety; 12% of patients did not receive any constructive support from health professionals; and lack of constructive support was directly related to PTSD symptoms.

In a study by Cook et al. (10) in 2013, the relationship between shock anxiety, depression, and sexual function in individuals with ICD and congenital heart disease was analyzed. The patients were found to have high levels of shock anxiety associated with poor sexual function.

In the study of Quintar et al. (28), patients with high anxiety levels after ICD implantation received three sessions of cognitive behavioral therapy for 3 months. At the end of 1 year, the anxiety levels of the patients who experienced shock were found to be significantly higher than those of the patients who did not experienced shock.

CONCLUSION

As seen from the various research results, it seems that PTSD symptoms and shock anxiety decrease and self-efficacy increases with the health workers attempting to improve their communication skills to better meet the needs of ICD patients, using cognitive behavioral therapy methods, telephone information support, and education. We conclude that interventional research on ICD patients should be performed in our country to identify ICD patients with high shock anxiety and low self-efficacy, and effective treatment strategies should be devised for them.

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