



PSYCHOSOCIAL INTERVENTION IN PROSTATE CANCER PATIENTS

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Summary: Prostate cancer is the second most common cancer worldwide for males, and the fifth most common cancer overall. Using of autogenic training could reduce the influence of ADT and raise quality of prostate cancer patients. The aim of this study was to determine the effects of autogenic training in patients with prostate cancer. Patients were divided to experimental and control group. Experimental group participated in fourteen weeks long autogenic training program. Control group performed usual daily activities. Every subject of research performed input and output diagnostics which monitored psychical states of patients by psychological standardized tests - Differential questionnaire of depression (DDF) and Questionnaire of anxiety (STAI X1). Our data showed autogenic training program significant improved depressions symptoms and anxiety in experimental research group ($p \leq 0.05$), however there was no main change of depression symptoms and anxiety values for control group ($p = n.s.$).

Key word: oncology patients, autogenic training, depression, anxiety

Introduction

Prostate cancer is the second most common cancer among men (after skin cancer), but it can often be treated successfully. Most prostate cancers are slow growing; however, the incidence in the males of age 80 is estimated at 80 %. Approximately one in six men will be diagnosed with prostate cancer in their lifetime and the number of men, who living with the diagnosis of prostate cancer or are prostate cancer survivors will continually raise.

As the incidence and prevalence of prostate cancer continue to rise, the number of men needing the help and support to assist them in coping with disease and treatment-related symptoms and their psychosocial effects is likely to increase. Treatment of prostate cancer is mostly accompanied with androgen deprivation therapy (ADT), which fundamentally influences physiologic and metabolic regulations of patients. Prostate cancer patients during ADT also frequently suffered changes in behaviour of patient's personality – symptoms like anxiety, depression, stress and fatigue appear (Cancer Research UK 2012). The side effects of the treatments and the medications used for prostate cancer (such as hormonal therapy and pain medications) caused physical and psychological complications. Typical physical problems are: difficulty in passing urine, pain and sexual dysfunction. Other patients reported side effects **which** include pain, hot flashes, body image changes, fatigue, and loss of libido. These problems may cause distress, anxiety, uncertainty or depression and emotional distress (Holzbeierlein, Castle and Thrasher 2004). Confusion over choosing from various interventions often adds to anxiety and depression in these patients (De Sousa et al. 2012). Anxiety tends to be the most often experienced symptom for men with prostate cancer (Roth et al. 1998).

Pirl et al. (2002) analyzed 45 men with prostate cancer receiving ADT. They surveyed oncology patients for depression with the Beck Depression Inventory. The study revealed that the depressive disorders were prevalent in 12.8 % of the supervised men with prostate cancer receiving androgen deprivation therapy (ADT). That is eight times higher rate than the national rate of depression in the U. S. men population, and two times higher rate than the rate in men over 65 years. Major depression was not associated with worsening disease, medical response to ADT, receiving chemotherapy, or the type of ADT. Past history of depression was associated with current depression in this population. No first onset cases of depression occurred on ADT in their sample (Roth et al. 2008).

Chipperfield et al. (2013) supported the idea, that depression, anxiety, and cognitive dysfunction are common complaints in men with prostate cancer receiving androgen

deprivation therapy (ADT). Their systematic review evaluated the effectiveness of physical activity as an intervention to improve depression and anxiety symptoms, cognitive function, and quality of life in patients receiving ADT for patients with prostate cancer. However, existing evidence is not sufficient to accept or refute adequacy of physical activity as an intervention to improve depression, anxiety, and cognitive function outcomes in prostate cancer patients. Many of researchers agreed with recommendations of physical activity programs, as an excellent partner for the psychosocial interventions (Chien et al., 2013; Parahoo et. al, 2013). However as yet, we do not know how effective, collectively, these interventions are.

Aim

The aim of this study was to determine the effects of autogenic training in patients with prostate cancer.

Methods

In our research we tried to analyze the effects of applied autogenic training on psychical states of cancer patients. Autogenic training (AT) is a relaxation technique, which involves the daily practice. It is a method for influencing the psychical tension, autonomic nervous system and tension of muscles (Kratochvíl 2006). This save method is characteristic by practice frequency of three times a day and it consists of 7 standard autogenic training exercises, which patients might precede. AT exercises focus on various physical manifestations of relaxation in the body and mind. Positive effects of autogenic training are: improvements of sleep quality, reduction or elimination of anxiety, mild depression, fatigue, chronic pain, asthma, promotion of functions of the immune system and emotional balance.

Prostate cancer patients treated with ADT were involved into specialized strength training program. Patients were offered by possibility to participate on experiment and by their decisions divided into experimental and control groups. Experimental group participated on fourteen weeks of autogenic training, which could reduce the specific adverse effects of ADT and raised the quality of patients' lives. Control group performed only strength training program and after that usual daily activities. Both, experimental and control groups included 10 patients, but only 7 patients in experimental group and 7 patients in control group successfully end the experiment. Every subject of research performed input and output

diagnostics, which monitored the psychical states of patients, like depression (Differential questionnaire of depression - DDF) and anxiety (Questionnaire of anxiety – STAI X1).

To determine statistical significance of differences between the groups we used Mann Whitney U test ($p \leq 0.05$) and Wilcoxon test to determine statistical significance of differences in the groups.

Results and Discussion

In our experiment we used two clinical psychological standardized questionnaires. The first was Differential Questionnaire of Depression (DDF). Questionnaire evaluated six symptoms of depression - phobic, somatic, hypochondriac, self-tormenting, paranoid and anankastic. We analyzed a single depression symptom in experimental and control group. We confirmed higher frequency of hypochondriac, anankastic symptom of personality against clinical flatly persons (Steck 2007).

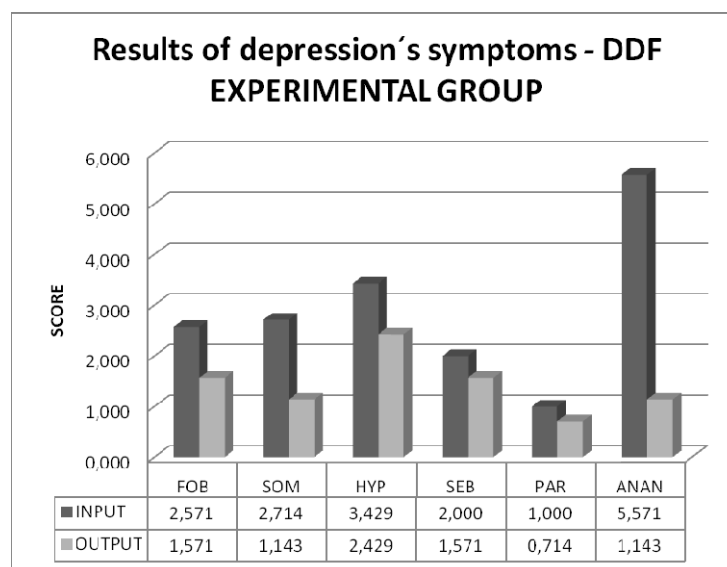


Figure 1

Input and output results of depression's symptoms in experimental group

After fourteen weeks of intervention, experimental group (Fig. 1) reached improvements in all depression symptoms values. In each of symptoms we indicated significant improvements ($p \leq 0.05$) in somatic and anankastic symptom (Fig. 2). Anankastic symptom is characterized by obsessional thoughts and over-expressing of accuracy and compulsiveness (Steck 2007). We could conclude that these significant differences between groups of cancer patients were demonstrations of positive effects of combinations of the specializing strength training program and the autogenic training.

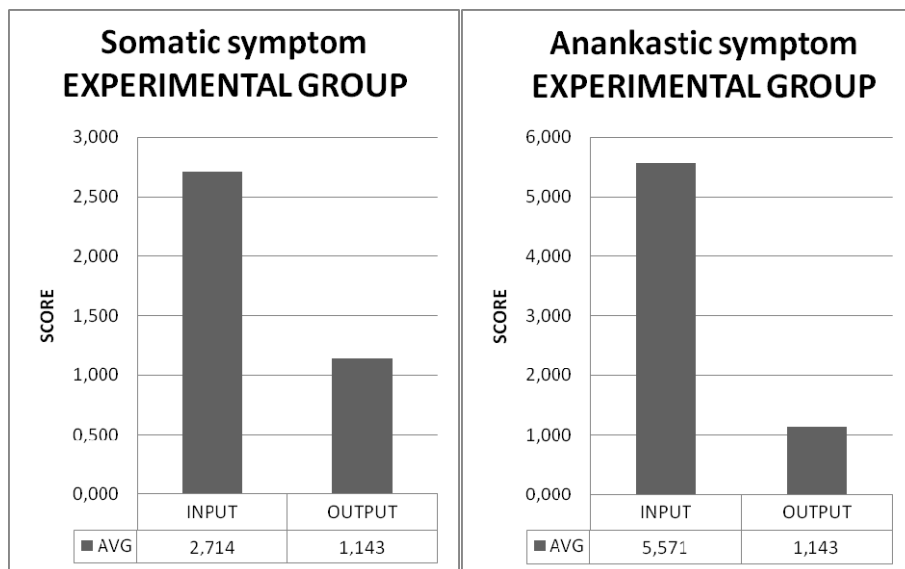


Figure 2

Results of somatic and anankastic symptom in experimental group ($p \leq 0.05$)

After fourteen weeks of intervention, control group (Fig. 3) reached improvements in results of self-tormenting, paranoid and anankastic symptoms of depression, but got worse in phobic, somatic and hypochondriac symptoms of depression. Difference analysis between the pre and post diagnostics values didn't show any statistical significance.

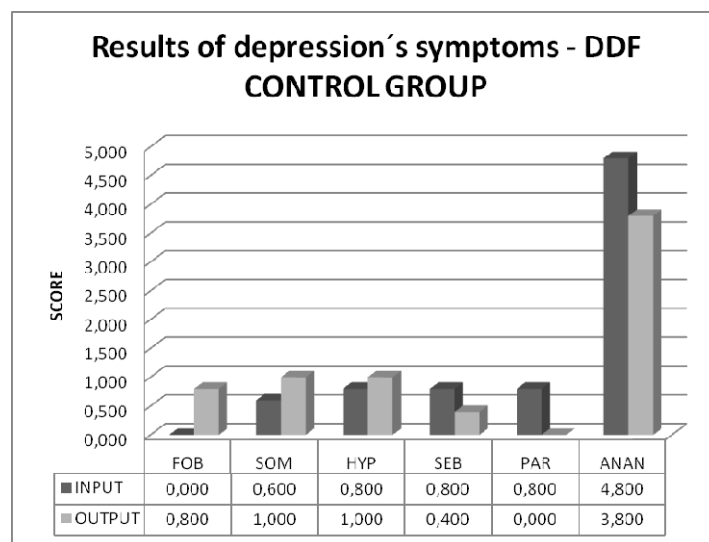


Figure 3

Input and Output results of depression's symptoms in control group

Finally, we compared the results between experimental and control group in input and output diagnostic (Fig. 4). Input diagnostics indicated that patients in experimental group had significantly ($p \leq 0.05$) higher values of depression symptoms than control group.

Comparison of input and output diagnostics in experimental group showed that the depression values were lower after the 14 weeks of autogenic training. Control group although achieved lower values in output results against experimental group, but in comparison with input results didn't achieve marked changes. The results of experimental groups showed that autogenic training has positive influence on patients in experimental group ($p \leq 0.05$).

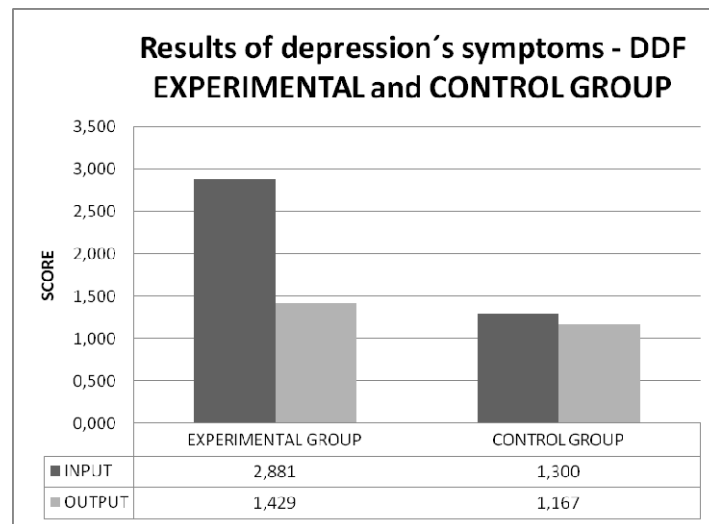


Figure 4

Input and output results of depression – experimental and control group

Comparison of the values differences measured before and after the intervention showed significance difference ($p \leq 0.05$) between experimental and control group (Fig. 5). Based on results of our study, we could conclude that autogenic training improvement cancer patient's depression and it is active intervention helping with this specific psychological state.

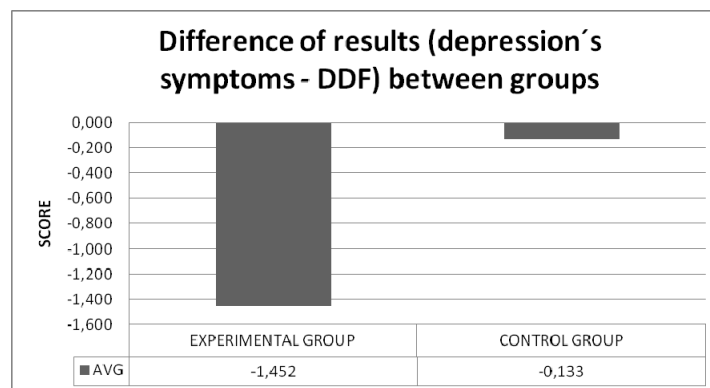


Fig. 5

Difference of input and output results between experimental and control group ($p \leq 0.05$)

The second questionnaire analyzed the anxiety (STAI X1) of patients. Previous results (Holzbeierlein, Castle, Thrasher, 2004 De Sousa et al., 2012; Chipperfield et al, 2013) indicated that anxiety is a significant problem of personality of oncology patients.

Our results of patients revealed similar disturbing results (Fig. 6). Input diagnostics of anxiety showed that experimental group has appreciably higher results against control group.

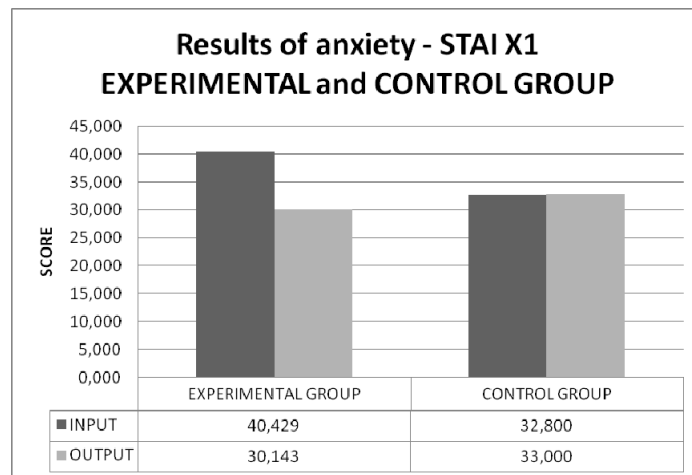


Figure 6

Input and output results of anxiety – experimental and control group

Experimental group achieved significant improvements ($p \leq 0.05$) in anxiety after the intervention (significant increase of values, Fig. 7) however, control group showed significant decrease in values ($p \leq 0.05$). These results confirmed the significantly positive effects of autogenic training on prostate cancer patients.

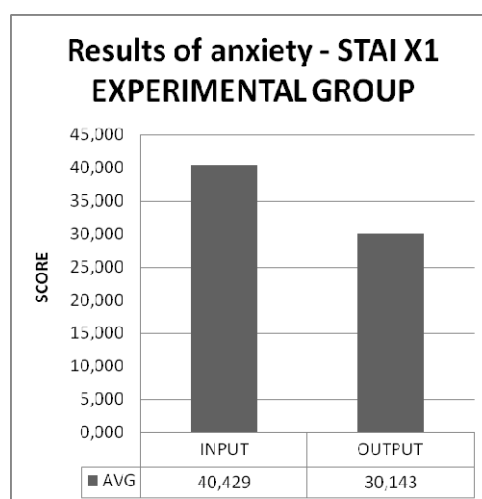


Figure 7

Input and output results of anxiety – experimental group ($p \leq 0.05$)

Moreover, we compared the pre-tests and the post-tests in experimental and control groups. Patients in experimental group had significantly ($p \leq 0.05$) lower results of anxiety after the autogenic training (Fig. 8).

The significance results ($p \leq 0.05$) of experimental groups support previous outcomes (Chien 2012) that autogenic training, like psychosocial intervention, has positive influences on anxiety of prostate cancer patients.

Comparisons of input and output results of anxiety on control group didn't showed any significant differences.

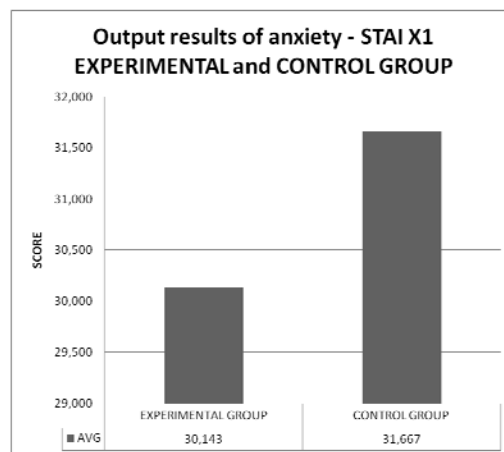


Figure 8

Output results of anxiety – experimental and control group ($p \leq 0.05$)

In summary, differences in result of anxiety between experimental and control groups, present in Fig. 9 confirmed significantly higher values in experimental group ($p \leq 0.05$). Statistical differences between groups strongly support our idea of AT effectiveness in prostate cancer patients.

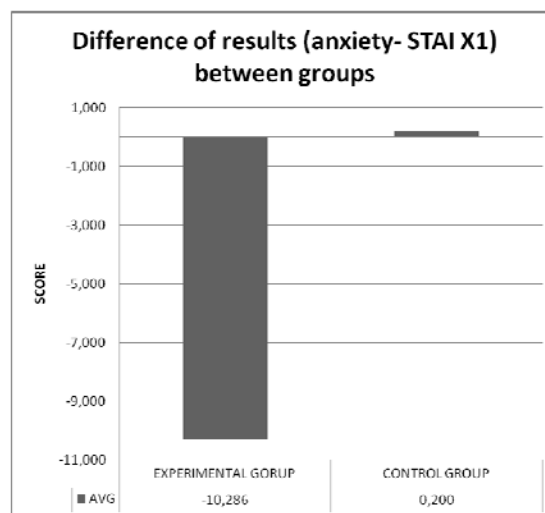


Figure 9

Difference in anxiety between experimental and control group ($p \leq 0.05$)

Our results confirmed conclusions of other authors about increased depression (Chipperfield et al. 2013; De Sousa et al. 2012; Roth et al. 2008; Pirl et al. 2002) and anxiety (Chipperfield et al. 2013; De Sousa et al. 2012; Roth et al. 1998) in oncology patient groups. Besides the small sizes of experimental and control group we could conclude the high practical benefits of our results, especially for multifactorial care in prostate cancer patients.

Conclusions

Many of the advances in treatments will not necessarily improve disease outcomes, but will be implemented primarily to reduce the side effects of treatments. Psychosocial interventions that can be used in prostate cancer patients brought significance improvements in patient's quality of life. The results of our research confirmed the significant improvements of mental states, especially in states of depression and anxiety. We discovered significant differences between input and output of experimental group in depression and anxiety and significant differences between experimental and control group.

We confirmed that application of autogenic training was suitable choice as a part of treatment for patients with prostate cancer. We can hypothesized, that AT could be the effective instrument in multifactorial therapy of other cancer diagnosis. Based on our findings, we recommended the use of autogenic training as a supportive oncology therapy. Results of our work could be useful in oncology, psychology and sport-medicine departments.

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