

Effectiveness of acceptance and commitment group therapy on quality of life and physical symptoms in gastrointestinal cancer patients

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ABSTRACT

The aim of this study was to evaluate the effectiveness of acceptance and commitment group therapy on quality of life and physical symptoms in gastro-intestinal cancer patients. The research was quasi-experimental with pretest, posttest and control group. The statistical population included 32 men with gastro-intestinal cancer. Subjects were selected by purposeful sampling and were randomly divided into two experimental ($n = 16$) and control groups. The experimental group received eight sessions of acceptance and commitment based group therapy and the control group was on the waiting list. Questionnaires used in this study were demographic information questionnaire, quality of life questionnaire for cancer patients and Powell and Enright physical symptoms questionnaire. The results showed that acceptance and commitment group therapy was able to improve the quality of life and physical symptoms.

Keywords: Group therapy, gastro-intestinal cancer, quality of life, physical symptoms

INTRODUCTION

With the social and industrial change these days, the patterns of diseases have changed. Therefore, the chronic diseases are the most important health and psychological issues in societies, which are considered as major sources of stress that impose huge expenses on society. These diseases are consisted of various types. One of the most important of these diseases is cancer. Cancer is one of the major health problems in the world that threatens the peace and life of people of all ages, causing financial, social and family damage in physical and psychological aspects [1]. Sixty percent of cancer patients all over the world do not die in their first year. In Iran, the survival rate of patients with gastro-intestinal cancer is 15 % in the first five years, nevertheless, nearly seven million people die each year from cancer in the first year [2].

Among cancers, gastro-intestinal cancers are the most prevalent. According to Toure, the incidence of gastro-intestinal cancer is about 30 % [3]. Cancer has different negative effects on people's lives. Pain and physical discomfort are the most prominent features of the cancer problem, and along with the progressive form that cancer takes, the impact of the problems and heavy emotional burden on the patient make the recovery process more daunting than ever before [4].

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Many cancer patients receive deep mental and psychological damage during the routine medical treatments and are dissatisfied with their overall life. This is where the role of psychological interventions on cancer patients becomes more pronounced, and its impact on the improvement and alleviation of perceived cancer symptoms is significantly increased [5,6]. Therapeutic interventions can improve the quality of life in cancer patients and lead to life expectancy [7] and consequently, hope for treatment, which is one of the most important factors in adherence to current treatments by the patient [8].

Acceptance and commitment-based psychotherapy approach would be the increase of psychological flexibility, including psychological acceptance and commitment-based activities stemming from values regarding life [9]. This treatment has been approved in many physical disorders that contain chronic pain and has been able to reduce perceived pain and improve their quality of life [10]. The quality of life is one of the most important issues that has recently become vitally important in the field of cancer patients' health.

This health indicator has been debated for more than two decades as a health-related quality of life in cancer patients [11]. Quality

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of life is a multidimensional concept which is defined by the World Health Organization as each individual's understanding of life, values, goals, standards, and personal interests [12]. Psychological health is also one of the most important variables related to the well-being of patients and healthy people in the community. This concept is a state of well-being in which one recognizes his abilities, would be able to cope with life's stresses, work effectively and be useful to society. The components that are influential in this concept are depression, anxiety, insomnia, mental illness and social relationships [13].

Since gastro-intestinal cancers are the most common among different forms of cancers and feature a totally wide impact on the psychological factors of patients, therefore, the need for psychological treatment is recognized, to treat psychologically affective cases of gastro-intestinal cancers [3]. In this study, the type of research, statistical population, methods of estimating sample size and number of samples, the sampling method, measurement tools, research variables and research implementation process and statistical analysis method of data were presented. The purpose of this study was to evaluate the effectiveness of acceptance and commitment group therapy on quality of life, mental health, and physical

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symptoms in gastro-intestinal cancer patients. With regard to the purpose and the methodology of this study, it would be categorized as a fundamental (practical) research and also semi-experimental.

MATERIALS AND METHODS

The statistical population of this study is consisted of patients with gastro-intestinal cancer who were admitted to Bou Ali Hospital from March 21, 2017 to March 21, 2018. Among all patients with gastro-intestinal cancer, 32 of them were considered eligible for the study. They were purposefully selected and randomly assigned into two experimental and control groups.

QLQ-C30 Quality of Life Questionnaire: This 30-item questionnaire was designed in 1988 by Aronson et al. aligned with the World Health Organization Quality of Life Questionnaire to assess this component in cancer patients. This questionnaire was particularly designed to measure the quality of life in cancer patients, which is a brief and self-administered questionnaire and it is specifically used for measuring the quality of life in cancer.

Cronbach's alpha in this questionnaire was below 0.65 and 0.66 except for the Pain and Fatigue scales. In the other scales the Cronbach's alpha was above 0.7. Overall the Cronbach's alpha of total quality of life was

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0.82. The purpose of this questionnaire was to obtain information on the impact of disease and treatment on the daily lives of cancer patients[14]. Furthermore, the standardization of this questionnaire in Iran has an alpha coefficient of 0.54 to 0.87 [15]. The questionnaire contains 30 questions in three parts: general health status, functional scale, and symptom scale. The highest score in the questionnaire is 100, consisting of the combination of scores in all the three sections. The higher the score, the higher the quality of life. The Physical Symptoms Questionnaire by Powell and Enright: This questionnaire was developed in 1991 by Powell and Enright to assess the severity and type of physical symptoms in patients. This questionnaire contains 18 terms. The maximum score obtained in this questionnaire is 54 with a mean score of 36. The reliability of this questionnaire, calculated in two weeks interval in Isfahan, is 0.68. The questionnaire consists of 18 questions with a minimum score of 0 and a maximum of 54. The higher a person's score is, the higher their physical symptoms would be.

RESULTS

Demographic information of the sample

The current sample is composed of 32 males with the average age of 52.2 years, with the

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As shown in Table 2, in the post-test, physical symptoms variable had a lower score than the pre-test, indicating improvement in symptoms. Moreover, in the variable of quality of life, the higher the score, the higher the components of quality of life. In the post-test the obtained score of this variable is higher than the pre-test.

Variance homogeneity test: As a prerequisite for the covariance test, it is necessary to

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examine the variance homogeneity in the mentioned variable, the results of which are as follows.

The results of Levene's test showed that the considered variance data are homogeneous.

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The results of Kolomogorov-Smirnov test also showed that the data was normally distributed among the three variables.

Table 1. Kolmogorov-Smirnov test for normality of pre-test and post-test quality of life and physical symptoms variables in acceptance and commitment, and control treatment groups

| | | Acceptance and Commitment Group Psychotherapy | | Control | |
|-------------------|-----------|---|-------------|---------------|-------------|
| Variable | Time | Levene Static | Asymp. Sig* | Levene Static | Asymp. Sig* |
| Quality of life | Pre-test | 0.12 | 0.2 | 0.13 | 0.2 |
| | Post-test | 0.18 | 0.1 | 0.12 | 0.2 |
| Physical symptoms | Pre-test | 0.1 | 0.2 | 0.21 | 0.07 |
| | Post-test | 0.19 | 0.14 | 0.10 | 0.2 |

* Asymptotic Significance

Table 2. The standard mean and deviation of the variables studied in the pre-test and post-test divided in the intervention and control groups, and the covariance analysis test to compare the variables between the two groups in the pre-test post-test

| Variable | Time | Acceptance and Commitment Group Psychotherapy | Control |
|-------------------|-----------|---|------------|
| Quality of life | Pre-test | 7.44±55.25 | 8.65±60.25 |
| | Post-test | 8.5±65.56 | 7.44±57.93 |
| Physical symptoms | Pre-test | 7.17±20.93 | 7.12±20.18 |
| | Post-test | 6.74±14.43 | 6.25±20.68 |

Table 3. Levene's test to assess the homogeneity of variances in terms of the variables considered

| variable | Time | Levene Statistic | Sig* |
|------------------|-----------|------------------|-------|
| Quality of life | Pre-test | 0.42 | .0.52 |
| | Post-test | 0.49 | 0.48 |
| Physical symptom | Pre-test | 0.27 | 0.60 |
| | Post-test | 0.08 | 0.76 |

Significance Level

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As shown in Table 4, there was a significant difference between the intervention and control groups regarding the quality of life score. In the covariance test to assess the hypothesis, the mean squares obtained for the pre-test was 495.2 and for group component was 1033.3. Furthermore, the F component in the pre-test variable was 16.25 and in the group variable 33.9. The level of significance was less than 0.05. For the mean squares of the pretest and group components, 367.11

Commitment group therapy on quality of life and 190.88 were observed, respectively. In addition, the conducted analysis in order to prove the hypothesis was calculated 0.04 which is less than 0.05 and confirms the third main hypothesis. According to Tables 4-5, the results of analysis of variance demonstrated that there was a significant difference between the intervention and control groups in terms of physical symptoms variable.

Table 4. Covariance analysis test to compare groups with pre-test control (quality of life)

| Source | Type III Sum of Squares | DF* | Mean Square | F** | Sig.*** |
|--------------|-------------------------|-----|-------------|--------|---------|
| patient | 495.277 | 1 | 495.277 | 16.257 | .000 |
| pre.TotalQLQ | 1033.388 | 1 | 1033.388 | 33.920 | .000 |
| Error | 883.487 | 29 | 30.465 | | |

* Degrees of Freedom

** F statistic

*** Significance Level

Table 5. Covariance analysis test to compare groups with the pre-test control (physical symptoms)

| Source | Type III Sum of Squares | DF* | Mean Square | F** | Sig.*** |
|--------------|-------------------------|-----|-------------|-------|---------|
| patient | 367.117 | 1 | 367.117 | 9.872 | .004 |
| pre.phy.symp | 190.880 | 1 | 190.880 | 5.133 | .031 |
| Error | 1078.495 | 29 | 37.189 | | |

* Degrees of Freedom

** F statistic

*** Significance Level

DISCUSSION

Group psychotherapy based on acceptance and commitment improves the quality of life in cancer patients: Quality of life is a multidimensional component which is influenced by various factors. Social, financial, psychological, and physical factors are the main influential ones, in a way that the impact of the mentioned factors are considered to be direct. There are other factors which are indirectly effective but the rate of their impact is less than the main four factors.

One of the main factors affecting life satisfaction is the desirability of physical health. So that a person in any age would be satisfied with her/his physical health. People's physical health is affected by a variety of issues that cover the entire life span of each individual which depends on one's past and future decisions and choices. When people in late adulthood suffer from chronic and severe illnesses, they consider the reason to be caused by their past decisions to some extent. Moreover, they do not recognize their present state of health to be suitable or satisfactory, and all of these factors lead to a general dissatisfaction with the present situation. This dissatisfaction reduces the quality of life component in patients.

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As shown in the findings, there was a significant difference between the two groups in terms of symptoms of quality of life in cancer patients. The results of the present study are in line with the study of Winnie [16]. The effectiveness of psychotherapy on improving the quality of life, which is discussed in this study, is in line with [7] Bachmann's research as well. In explaining these findings, it could be argued that the etiology of treatment and life expectancy hopefulness is the key main component of quality of life in cancer patients, for by aiming to increase the mental flexibility and acceptance and commitment stemming from life values, it increases the mental peace and hope for treatment. These components also improve the quality of life in patients with many chronic diseases, which is in agreement with the results of Long and Hayes [10].

Physical symptoms are very evident in cancer patients, and the perception of physical problems is partly related to the individual's mental health. By placing the cancer patients, who perceived severe physical symptoms, in the intervention group and group therapy, they were able to have a clearer understanding of the physical symptoms of their illness. In addition, they could also consider these symptoms as a part of their illness, embrace them and try

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to analyze and control them with an open mind and without prejudice. It is easier to control these symptoms by techniques taught in the treatment group, and patients are self-aware that they need to act diligently to reduce the symptoms. The above mentioned explanations have been obtained in the studies of Feros [17] and Mohabbat-Bahar [18] and their results are in line with the present study.

CONCLUSION

By increasing hope of treatment, life expectancy, and mental flexibility, the quality of life would be increased as well. Moreover, the mentioned group therapy causes improvement in physical symptoms of gastro-intestinal cancer patients by improving psychological control over symptoms of gastro-intestinal cancer in patients.

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