

# Effectiveness of the Package of Hope Therapy Based on Positivist Approach on the Life Quality and Psychological Wellbeing of Parkinson Patients

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## Abstract

**Objective:** The emergence of chronic diseases, such as Parkinson, seriously damages the patients' psychological health besides their physical health. Therefore, the present study was conducted with the aim of determining the effectiveness of the package of hope therapy based on positivist approach on life quality and psychological wellbeing of patients with Parkinson.

**Method:** The present study was quasi-experimental with pretest, posttest, control group and two-month follow-up period. The statistical population of the present study included the people with Parkinson in the city of Isfahan in the winter of 2018-19. The participants of study were 40 patients with Parkinson who were selected through non-random available sampling. The selected samples were randomly assigned into experimental and control groups (20 patients in the experimental group and 20 in the control group). The experimental group received training intervention of hope therapy based on positivist approach in ten ninety-minute sessions for three months. The applied questionnaires in this study included the questionnaires of life quality (WHO, 1994) and psychological wellbeing (Ryff, 1980). The data from the study were analyzed through repeated measurement ANOVA.

**Results:** The results showed that the training package of hope therapy based on positivist approach has significant effect on life quality and psychological wellbeing of Parkinson patients ( $f= 83.83$ ,  $f= 117.68$ ,  $p<0.001$ ). The score of the effect of training hope therapy based on positivist approach on life quality and psychological wellbeing of Parkinson patients were 77 and 83 respectively.

**Conclusion:** The findings of the present study showed that training package of hope therapy based on positivist approach can lead to the improvement of life quality and psychological wellbeing of Parkinson patients due to enjoying the methods of hope therapy and positivist psychotherapy.

**Keywords:** Training hope therapy based on positivist approach, life quality, psychological wellbeing, Parkinson.

## Introduction

Parkinson's disease (PD) is a neurodegenerative disease with a slow progression caused by gradual loss of dopamine-producing brain cells. While PD is a progressive motor and functional impairment, cognitive and linguistic changes are also observed in this disease (Skelly, Brown, Fakis, Kimber et al. 2014; Reich & Savitt, 2019). One of the main symptoms of PD is vibration of the hands and feet

in rest, slow movements, stiffness of the hands, feet and body, and the lack of balance (Fukunaga, Quitschal, Dona, Ferraz et al., 2014; Hayes, 2019). PD is the second most commonly reported disease of the central nervous system after Alzheimer's disease in the current century, which is one of the most common causes of disability in old aged people (Derry, Shah, Caie & Counsell, 2010; Unal & Emekli-Alturfan, 2019). The susceptibility to this disease increases by age in a way that approximately 1.8% of people over 65 have this disease (Aminoff, Christine, Friedman, Chou et al., 2011; Kogan, McGuire & Riley, 2019).

People with PD need to be looked after. If they are not cared by others, they may have specific

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problems in their life (Jackson, Newbrunner, Chamberlain, & Borthwick, 2017). PD affects not only on the functional abilities of patients, but also on the emotional, psychological, social, affectional and different dimensions of their quality of life (Suratos, Saranza, Sumalapao & Jamora, 2018; Lee, Kim, Chung, Kang et al, 2018). Quality of Life (QoL) is a comprehensive and general concept that embraces all physical, psychological, cognitive, social, cultural and economic aspects of the individual's life. In the physical aspect, the performance of a person is very important (Balestrino & Martinez-Martin, 2017). QoL perception is affected by the ability of a person at different ages to continue to function and to do daily activities such as self-care or going to school and work. In the mental aspect, mental health is an important component of QoL and having a positive attitude is effective in improving QoL. In the sociocultural aspect, the roles of each individual in the family and society, and social relationships are factors influencing QoL (Karow, Reimer, Schäfer, Krausz & Haasen, 2010).

It should also be noted that the occurrence of acute and chronic physical and physiological illnesses can affect the psychological well-being of affected people (Mahmoodalilu, Yarmohammadi Vasel, Bayat & Hosseini, 2015; Oraki & Sami, 2016; KCarrozzino, Siri & Bech, 2019). Psychological well-being refers to the perceived QoL and reflects the desired psychological performance and experience. Well-being is defined as a state of satisfaction with happiness, health and success, which refers to the desired psychological performance and experience. Psychological well-being is the ability to actively engage in work and recreation, creating meaningful relationships with others, expanding the sense of self-determination, having a goal in life, and experiencing positive emotions (Horwood & Anglim, 2019). Studies also reveal that the variable of Personality dimensions is amongst the most relevant indicators related to the variable of lifestyle for cognitive failures and negative emotions (Tamedi, Mo&#039 & Tangestani, 2018). Well-being includes dimensions

such as self-acceptance, positive relations with others, autonomy, environmental skills, purpose in life, and personal growth (Cho, Martin, Margrett, MacDonald & Poon, 2011). Ultimately, the proper welfare includes positive emotions, adult personality traits such as self-leadership, participation, self-fulfillment, and life satisfaction, and character strengths such as hope, compassion, and courage. Self-awareness is also referred to as the key to proper well-being, based on the fact that the characteristics of a well-being will diminish if they are not internalized and experienced spontaneously, and people are not aware of themselves and their actions (Sun, Chan & Chan, 2016).

Various educational and therapeutic approaches have been used to improve the psychological components of PD patients. One of these treatments is hope therapy (Lannie & Peelo-Kilroe, 2019). In hope therapy, participants first get acquainted with the principles of hope theory and then they are taught how to employ these principles in their lives. Participants learn how to determine important, achievable and measurable goals, set multiple pathways to move toward these goals, identify motivational resources and the interaction of each obstacle to its motivation, review the progress towards the goal, and correct the goals and pathways if necessary (Gezelseflo & Esbati, 2012). The underlying assumption of the above approach is based on the principle that hopeful thinking and chronic physiological illness are related in two ways. First, hopeful people are more focused on the problem and more active in solving it. Accordingly, they are more likely to perform screening behaviors for themselves. Second, people who think hopefully exhibit less distress and more adaptation facing diagnosis, treatment, and medication adherence of chronic physiological diseases (Berendes, Keefe, Somers & Kothadia, 2010). So far, the effect of hope enhancement on improving QoL in chronic diseases, such as cancer patients (Sanatani, Schreier & Stitt, 2008; Duggleby, Degner, Williams & Wright, 2007), HIV-positive individuals (Gezelseflo & Esbati, 2013) and patients with essential hypertension (Sotoudeh Asl, Nashat

Doost, Kalantari, Talebi & Khosravi, 2010) have been shown in various studies. Lannie and Peelo-Kilroe (2019) have also shown that hope can make a significant contribution to the cancer treatment process. In addition, Kan'ai, Hadi, Soleimani and Arman Panah (2015) reported that hope therapy can improve QoL, hope and psychological well-being.

Positive psychotherapy is another new therapeutic intervention whose clinical trial has been approved in studies by researchers such as Flink, Smeets, Bergbom and Peters (2015); Uliaszek, Rashid, Williams and Gulamani (2016); Shoshani, Steinmetz and Kanat-Maymon (2016); Proyer, Gander, Wellenzohn and Ruch (2016); Ochoa, Casellas-Grau, Vives, Font and Borràs (2017); Walsh, Szymczynska, Taylor and Priebe (2018); and Huffman, Feig, Millstein and Freedman (2019). A review of the literature on positive psychology has shown that this approach has a well-established clinical efficacy for a wide range of individuals and situations (Mitchell, Vella-Brodrick & Klein, 2010). Positive psychotherapy is empirically a valid approach in psychotherapy that focuses its attention on building empowerment and positive emotions of the patient, and decreases mental harm and increases happiness by activating meaning in life (Rashid, 2008). Positive therapists activate positive emotions and memories in the treatment process and bring them at the center of attention (Bolier, Haverman, Westerhof & Riper, 2013).

Now, considering the mentioned cases of hope therapy and treatment based on a positive approach, it appears that combining these two approaches will have synergistic effects on the psychological well-being and QoL in PD patients. As the research background showed, hope therapy and treatment based on a positive approach have a significant effect on various psychological components in a variety of populations, but the point that emerges in this regard is that no research has been conducted to examine the effect of a package of hope therapy based on positive approach on the psychological well-being and QoL of PD patients. Therefore, the

main issue of the present study was that weather a package of hope therapy based on positive approach affects the psychological well-being and QoL of PD patients.

## Method

The present study had a semi-experimental design with pre-test and post-test, a control group, and a follow-up period of two months. The statistical population of this study consisted of those PD patients recommended by Dr. Chitsaz to participate in the experiment in the year 2019. Amongst them, 40 men and women were selected through convenience sampling and were randomly assigned to two groups including those whom hope therapy was experimented (N=20) and the control group (N=20). The experimental group was then trained by an educational package consisting of two approaches of positive intervention and hope therapy. The control group did not receive any psychological intervention during the implementation of the study. The patients in both groups continued taking their regular daily medicine. The therapeutic interventions were performed at Al-Zahra Hospital. After the training was completed, post-test was conducted by surveying based upon the previous questionnaires. After two months, the follow-up process was carried out for those individuals who gave consent to participate in the study and had PD diagnosed by a psychiatrist and neurologist, used PD drugs, had no other acute or chronic physical illnesses (e.g. depression according to the health and counseling records in the treatment centers), and did not use any psychiatric drugs based on medical records. Moreover, they were required to have minimum secondary educational level. The participants who failed to attend more than two sessions were removed from the experiment. Lack of cooperation, failure to perform the assignments specified in the class, and unwillingness to continue participating in the study were other conditions who disqualified those who were in the group. All individuals gave consent to participate in the intervention program voluntarily and were informed the intervention process. The control

group was also assured to receive the interventions after the completion of the research process. Two questionnaires were used in this study.

### **World Health Organization Quality of Life (WHOQOL)**

WHOQOL has 26 items scored based on a 5-point Likert scale (from 1 to 5). The purpose of this project was to create an international and non-cultural-dependent tool for assessing the quality of life of individuals. WHOQOL evaluates individuals' perceptions of value and cultural systems as well as personal goals, standards and concerns. Higher scores in this questionnaire are indicative of higher levels of QoL in various physical, psychological and social domains (WHO, 1994). WHOQOL has four domains of physical health, psychological health, social relationships, and health of the living environment (Yang, Kuo, Su, Wang & Lin, 2006). The reliability coefficient of this tool in Iranian studies was between 0.67 and 0.84, and its concurrent validity was approved by a significant correlation with the general health questionnaire (Hosseini, Ghasemzadeh & Niknam, 2011). In a study by Poorkmali, Yazd-khasti, Sharifi and Chitsaz (2016), the reliability of this tool was calculated through two formula of Cronbach's alpha (0.84) and split-half reliability (0.74). The reliability of WHOQOL in the present study using Cronbach's alpha coefficient was 0.85.

### **Ryff's Psychological Well-Being Scales (PWB)**

PWB was developed by Ryff with 54 items and 6 subscales in 1980, and a shorter 18-item form was suggested for it in the subsequent studies (Bayani & Mohammad Kuchaki 2008). The present study used its 54-item version with 6 subscales. The subscales of PWB include: self-acceptance, positive relations with others, autonomy, environmental mastery, purpose in life, and personal growth. Each of the items in this questionnaire has a 6-degree spectrum (Totally Disagree= Score 1, Somewhat Disagree= Score 2, Disagree= Score 3, Agree= Score 4, Somewhat Agree= Score 5, and Totally Agree= Score 6). Questions that are scored inversely are

54, 50, 49, 46, 44, 43, 41, 40, 39, 32, 31, 30, 27, 26, 25, 24, 22, 20, 18, 16, 14, 13, 12, 10, 8, 7, 5, and 3. The psychological well-being score is obtained by summing the scores of all 54 items. A higher score indicates better psychological well-being. The correlation results of the 54-item PWB with Satisfaction With Life Scale, Oxford Happiness Questionnaire, and Rosenberg's Self-Esteem Scale indicated an acceptable construct validity of PWB in Iranian population (Bayani et al., 2008). In addition, Bayani et al. (2008) estimated the reliability of PWB using test-retest (0.82) and Cronbach's alpha (0.89). Dierendonck (2005) used a version of PWB in his study and reported the Cronbach's alpha of its subscales between 0.79 and 0.85, and approved its content validity and construct validity. The reliability of WHOQOL in the present study using Cronbach's alpha coefficient was 0.85.

### **Implementation**

After making arrangements with treatment centers of PD patients in Isfahan and performing sampling (as mentioned above), the selected patients (N=40) were randomly assigned to the experimental (N=20) and control (N=20) groups. The experimental group received interventions of educations about hope therapy based on positive approach for three months in weekly 90-minute sessions. The control group did not receive any intervention during this study.

In order to develop the educational intervention, first, the literature on hope therapy and positive psychotherapy, including papers and books, extracted concepts, and discussed themes were studied. In the next step, the collected content was categorized (coded) and conceptual-content subcategories were formed focusing on education of hope therapy based on positive approach. The conceptual-content subgroups were then transformed into 10 to 12 skill domains focused on hope therapy based on positive approach. After that, the developed educational intervention was presented to five positive psychology experts at hope therapy based on positive approach to study the package and provide their comments on the

structure, process and content of each session in the form of a survey questionnaire that was included with the package of hope therapy based on positive approach provided to each of them. Additionally, at this stage, an open response comments form was presented to each expert to provide the corrective suggestions and comments for enhancing the content, structure and process of the educational intervention of hope therapy based on positive approach. In the next step, experts' opinions were collected and their corrective comments were applied to the educational intervention of hope therapy based on positive approach. After this process, the educational package, along with forms of final survey and calculation of the agreement of the experts on the process, structure and content of the educational package of hope therapy based on positive approach were provided to the experts.

After the final corrections, the educational package of hope therapy based on positive approach was prepared. The inter-rater Kappa agreement coefficient was 0.82. The intervention was conducted in ten 90-minute sessions once a week for three months in groups of five by the researcher. The procedure is summarized in Table 1.

In this research, two levels of descriptive and inferential statistics were used to analyze the data. The mean and standard deviation were used in the descriptive part, and the Shapiro-Wilk test to examine the normal distribution of variables, Levene's test to examine the equality of variances, Mauchly's test to verify the assumption of sphericity of the data, and repeated measures ANOVA to investigate the research hypothesis were used at the inferential level. Statistical results were analyzed using the SPSS-23 software.

**Table 1.** Summary of sessions of the educational package of hope therapy based on positive approach

Session	Description
First session	Introducing group members to one another and having initial communications, reviewing the group's rules, the structure and objectives of the sessions, providing a perspective of the program of future sessions.
Second session	Understanding the principles of hope, familiarity with the characteristics of hopeful people, impact of hope in life, and a brief description of hope therapy. Reviewing the story of a positive introduction and identifying and discussing the capabilities within the story, asking clients to design a specific plan to implement their capabilities.
Third session	Familiarity with the concept of disappointment, familiarity with the characteristics of disappointed people, methods of overcoming disappointment, the association of thoughts, feelings and behaviors.
Fourth session	Use of fictional techniques in the field of hope (expressing one's life story), finding hope, agency and paths of thought, focusing on optimism, teaching the concept of attributions to the clients, teaching internal, overall, and sustained attributions to the clients to increase their hope and optimism.
Fifth session	Selecting goals and features of the right goals, using the technique of creating clear practical goals, focusing on the structure of gratefulness and introducing its benefits in terms of psychological, physical and interpersonal outcomes, and in particular, increasing the sense of satisfaction with life.
Sixth session	Expression of two strategies to achieve the goal. First strategy: Reviewing the list of goals; Second strategy: challenging selected goals.
Seventh session	Introduction of three strategies to achieve the goal. First strategy: Selecting objective goals along with the end point; Second strategy: setting targeted goal; Third strategy: Dividing the goals into smaller goals.
Eighth session	Familiarity with the concept of quality of life, introducing the components of satisfaction in every areas of life, providing techniques for mental health, teaching effective communication, focusing on love and attachment, and advising clients to communicate with others.
Ninth session	Teaching planning for everyday activities to create a feeling of self-efficacy. Teaching satisfaction against perfectionism to the clients and engaging clients in assignments to increase satisfaction with life.
Tenth session	Getting feedback from members, reviewing progress and achievements, conclusions, discussion about generalizations of the findings and application of the topics in life, and conducting the post-test

## Results

The age mean of the subjects was 63. Among the participants, 21 were male (52.5%) and 19 were female (47.5%). Also, 7 (17.5%) had secondary school educational level, 11 (27.5%) had a high school diploma, 14 (35%) had a bachelor's degree, and 8 (20%) had a master's degree. The mean and standard deviations of dependent variables in the pre-test, post-test and follow-up stages based on the experimental and control groups are presented in Table 2.

Before presenting the results of repeated measures ANOVA, parametric tests presumptions were examined. Accordingly, the results of the Shapiro-Wilk test confirmed the presumption of normal distribution of data in the variables of QoL and psychological well-being in the experimental and control groups in the pre-test, post-test and follow-up stages ( $f=0.55$ ,  $p>0.05$ ;  $f=0.59$ ,  $p>0.05$ ;  $f=0.63$ ,  $p>0.05$ ). Equality of variance was examined by Levene's test, the results of which were not

significant, indicating that equality of variances was observed ( $p>0.05$ ). On the other hand, the results of  $t$ -test showed that the pre-test scores of the experimental and control groups were not significantly different in dependent variables (QoL and psychological well-being) ( $p>0.05$ ). The results of Mauchly's test indicated that the data sphericity assumption was observed in the variables of QoL and psychological well-being ( $p>0.05$ ).

As Table 3 shows, F is the effect of interaction between stages and groups for the QoL variable (83.83) and for the psychological well-being variable (117.68) which is significant at the 0.001 level. This finding shows that the experimental and control groups have significant differences in terms of research variables (QoL and psychological well-being) in three stages of pre-test, post-test and follow-up. Table 4 shows the comparison results of the mean of the experimental and control groups in three stages of pre-test, post-test and follow-up to examine the difference between the two groups in

**Table 2.** Mean and Standard Deviation of QoL and psychological well-being in the experimental and control groups in pre-test, post-test and follow-up stages

Components	Groups	Pre-test		Normality	Post-test		Normality	Follow-up		Normality
		Mean	Standard deviation	P-value	Mean	Standard deviation	P-value	Mean	Standard deviation	P-value
Quality of Life	Experimental group	28.92	4.39	0.15	20.76	4	0.38	19.53	1.94	0.62
	Control group	28	4.39	0.16	29.07	4.45	0.29	28.38	4.42	0.65
Psychological well-being	Experimental group	10.07	2.38	0.17	4.53	1.39	0.16	3.76	1.09	0.47
	Control group	9	2.91	0.22	8.76	2.69	0.61	8.69	2.79	0.33

**Table 3.** Repeated measures ANOVA to examine the inter- and intra-group effects for QoL and psychological well-being variables

Variables	Sum of squares	Degrees of freedom	Mean squares	F-value	P-value	Effect size	Test power	
Quality of Life	Stages	168.48	2	84.24	100.83	0.0001	0.80	1
	Grouping	141.34	1	141.34	24.68	0.0001	0.51	1
	Interaction of stages and grouping	140.07	2	70.04	83.83	0.0001	0.77	1
	Error	40.10	48	0.83				
Psychological well-being	Stages	292.02	2	146.01	87.66	0.0001	0.78	1
	Grouping	570.78	1	570.78	27.15	0.0001	0.53	1
	Interaction of stages and grouping	392.02	2	176.01	117.68	0.0001	0.83	1
	Error	79.94	48	1.66				

terms of the research variables.

As Table 4 shows, the difference between the mean of the experimental and control groups in terms of the QoL and psychological well-being variables is not significant in the pre-test stage (0.87 and 0.71, respectively), and as a result, there is no significant difference between the two groups in this stage. However, the difference between the mean of the experimental and control groups was significant in the post-test (0.0001 and 0.0001, respectively) and follow-up (0.0001 and 0.0001, respectively) stages. As a result, the mean of the experimental group in these two stages was significantly different from control group. This means that the educational package of hope therapy based on positive approach has been able to improve QoL and psychological well-being of PD patients in the post-test and follow-up stages.

### Conclusion

The purpose of this study was to investigate the effectiveness of a package of hope therapy based on positive approach on QoL and psychological well-being of PD patients. The results showed that the educational package of hope therapy based on positive approach had a significant effect on QoL and psychological well-being of PD patients ( $p < 0.001$ ). This package was able to improve QoL and psychological well-being of PD patients. The first finding of the study showed that the package of hope therapy based on positive approach improved QoL of PD patients. This was in line with previous research findings. Sanatani, Schreier and Stitt (2008) and Duggleby et al. (2007) showed the effect of hope therapy on QoL of people with chronic diseases. Gezelseflo and Esbati (2013)

and Sotoudeh Asl, Nashat Doost, Kalantari, Talebi and & Khosravi (2010) showed the effect of this treatment on QoL of HIV-positive men and people with essential hypertension. Lannie and Peelo-Kilroe (2019) have also shown that hope can make a significant contribution to the cancer treatment process. On the other hand, Flink et al. (2015), Uliaszek et al. (2016), Ochoa et al. (2017), and Walsh, Szymczynska, Taylor and Priebe (2018) also suggested that positive psychotherapy improve patients' psychological, social, communicational and emotional processes by creating positive thinking and optimism.

Explaining the effect of the package of hope therapy based on positive approach on QoL of PD patients, it can be said that in the hope therapy approach, we can focus on what the clients do well in their lives and what they want to achieve, and thus we can use treatment to enrich the positive aspects of life (Sanatani, Schreier & Stitt, 2008). In addition, teaching hope helps PD patients to consider the obstacles they face as challenges, not a point to stop. Accordingly, PD patients change their attitude in the course of this treatment, because they do not consider the disease as a barrier to enjoy life. This process makes them experience a higher QoL. On the other hand, in the process of providing positive psychotherapy, people try to understand their abilities, capabilities and the positive aspects of those around them, which leads to improvement of their attitude toward others such as family members and their friends (Uliaszek et al., 2016). In this approach, we can have a positive effect on people's mental health by emphasizing talents and abilities, optimizing happiness, focusing more on positive issues and emotions,

**Table 4.** The results of the comparison of the means of the experimental and control groups in three stages of pre-test, post-test and follow-up in terms of the research variables

Components	Stage	T-value	Degrees of freedom	Difference of means	Standard error of the estimate	Significance level
Quality of Life	Pre-test	53.53	53.26	0.26	0.74	0.87
	Post-test	44.20	52.80	-8.60	1.89	0.0001
	Follow-up	40.53	52.06	-11.53	1.85	0.0001
Psychological well-being	Pre-test	41.93	41.26	0.66	1.81	0.71
	Post-test	32.93	41.80	-8.86	1.54	0.0001
	Follow-up	30.46	39.40	-8.93	2.22	0.0001

and preventing the arrival of negative emotions to the personal domain, as well as increasing positive communication, which is one of the foundations of a positive approach. Moreover, one of the most important factors in positive psychotherapy is optimism. Optimism is an instrument that helps PD patients overcome the depression, disappointment, and absurdity resulted from the disease, and thus experience a higher QoL.

The second finding of the study showed that the package of hope therapy based on positive approach improved psychological well-being of PD patients. In line with this finding, Shoshani et al. (2016), Proyer et al. (2016), and Huffman et al. (2019), showed that positive psychotherapy can improve the components related to social communication and QoL in individuals. In addition, Kan'ai, et al. (2015) reported that hope therapy can improve QoL, hope and psychological well-being.

In explaining this finding, it can be concluded that people with chronic physiological problems that often struggle with fatigue, pain, and difficulty can hardly be hopeful, happy, and positive. On the other hand, disappointment is associated with the change in the immune system (Qiong, Weihua, Longfei, Wenhao & Yang, 2019). Therefore, physiological diseases such as PD can significantly affect the hope of the patient for future. Accordingly, hope therapy can bring hope back to the patients. It is also worth saying that hope is the most important factor of happiness, lack of concern, anxiety and depression, the achievement of assurance, and the basis of any kind of happiness. Empirical research has shown that people who have high hopes believe in controlling their behavior and outcome of their experiences (Gezelseflo & Esbati, 2013). As a result, these people have high internal control power, are less exposed to psychological and emotional negative and harmful factors, have more self-regulatory and adaption skills, and thus experience a higher level of well-being. In another explanation, it should be said that positive psychotherapy activates the optimism of trained people. Evidence suggests that optimism plays an effective role in maintaining a person's mental health (Kelberer,

Kraines & Wells, 2018). Optimism, as a protective factor, may lead to resisting adverse psychological and physiological outcomes. Similarly, optimism can lead to improved psychological well-being (Luszczynska, Gutierrez-Dona & Schwarzer, 2005).

The limited scope of this study to PD patients in Isfahan, lack of using a random sampling method, and lack of control of variables affecting QoL and psychological well-being of PD patients were the limitations of this study. Therefore, in order to increase the generalizability of the results, it is recommended to conduct this study in other provinces and regions with different cultures, other diseases (such as cancer, thalassemia, etc.), controlling the mentioned factors, and using a random sampling method. Considering the effectiveness of the package of hope therapy based on positive approach on QoL and psychological well-being of PD patients, it is suggested that the package be taught to psychologists and counselors of health centers through specialized workshops so that they can take a practical step towards improving QoL and psychological well-being of PD patients by using this intervention for them.

#### **Conflicts of interest**

The authors expressed no conflict of interests.

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#### **References**

- Aminoff, M.J., Christine, C.W., Friedman, J.H., Chou, K.L., Lyons, K.E., Pahwa, R., et al. (2011). Management of the hospitalized patient with Parkinson's disease: current state of the field and need for guidelines. *Parkinsonism Relate Disorder*; 17(3), 139-142.
- Balestrino, R., Martinez-Martin, P. (2017). Reprint of "Neuropsychiatric symptoms, behavioural disorders, and quality of life in Parkinson's disease". *Journal of the*

- Neurological Sciences*, 374: 3-8.
- Bayani, A.A., Mohammad Koochekya, A., Bayani, A. (2008). Reliability and Validity of Ryff's Psychological Well-being Scales. *IJPCP*, 14 (2), 146-151. [in Persian].
- Berendes, D., Keefe, F.J., Somers, T.J., Kothadia, S.M., Porter, L.S., Cheavens, J.S.(2010). Hope in the Context of Lung Cancer: Relationships of Hope to Symptoms and Psychological Distress. *Journal of Pain and Symptom Management*, 40(2), 174-182.
- Bolier, L., Haverman, M., Westerhof, G., Riper, H., Smit, F., Bohlmeijer, E. (2013). Positive psychology interventions: A meta-analysis of randomized controlled studies. *Public Health*, 13, 119.
- Carrozzino, D., Siri, C., Bech, P.(2019). The prevalence of psychological distress in Parkinson's disease patients: The brief symptom inventory (BSI-18) versus the Hopkins symptom checklist (SCL-90-R). *Progress in Neuro-Psychopharmacology and Biological Psychiatry*, 88, 96-101.
- Cho, J., Martin, P., Margrett, J., MacDonald, M., Poon, L.W. (2011). The Relationship between Physical Health and Psychological Well-Being among Oldest-Old Adults, *Journal of Aging Research*, Article ID 605041, 8pages.
- Derry, P.C., Shah, K.J., Caie, L., Counsell, C.E.(2010). Medication management in people with Parkinson's disease during surgical admissions. *Postgrad Medicine Journal*, 86, 334-337.
- Dierendonck, D. (2005). The construct validity of Ryff Scale of psychological well-being its extension with spiritual well-being. *Personality and Individual Differences*, 36, 629-643.
- Duggleby, W.D., Degner, L., Williams, A., Wright, K., Cooper, D., Popkin, D., "et al".(2007). Living with hope: initial evaluation of a psychosocial hope intervention for older palliative home care patients, *Journal of Pain Symptoms Manage*, 33(3), 247-257
- Flink, I.K., Smeets, E., Bergbom, S., Peters, M.L. (2015). Happy despite pain: Pilot study of a positive psychology intervention for patients with chronic pain, *Scandinavian Journal of Pain*, 7: 71-79.
- Fukunaga, J.Y., Quitschal, R.M., Dona, F., Ferraz, B., Gananc, M., Caovilla, H. (2014). Postural control in Parkinson's disease, *Brazilian Journal of Otorhinolaryngology*, 80(6), 508-514.
- Ghezselfloa, M., Esbati, M. (2013). Effectiveness of Hope-Oriented Group Therapy on Improving Quality of Life in HIV+ Male Patients. *Social and Behavioral Sciences*, 84, 534-537.
- Hayes, M.T.(2019). Parkinson's Disease and Parkinsonism. *The American Journal of Medicine*, 132(7), 802-807.
- Horwood, S., Anglim, J.(2019). Problematic smartphone usage and subjective and psychological well-being. *Computers in Human Behavior*, 97, 44-50.
- Hosseiniyan, S., Ghasemzadeh, S., Niknam, M. (2011). The prediction of the quality of life of female teachers based on the variables of emotional intelligence and spiritual intelligence. *Quarterly Journal of Occupational and Organizational Counseling*, 3(9), 42-60. [in Persian].
- Huffman, J.C., Feig, E.H., Millstein, R.A., Freedman, M., Healy, B.C., Chung, W., Amonoo, L.H., Malloy, L., Slawsby, E., Januzzi, J.L., Celano, C.M.(2019). Usefulness of a Positive Psychology-Motivational Interviewing Intervention to Promote Positive Affect and Physical Activity after an Acute Coronary Syndrome. *The American Journal of Cardiology*, 123(12), 1906-1914.
- Jackson, G.A., Newbronner, L., Chamberlain, R., Borthwick, R., Yardley, C., Boyle, K.(2017). Caring for people with dementia with Lewy bodies and Parkinson's dementia in UK care homes – A mixed methods study. *European Geriatric Medicine*, 8(2), 146-152.
- Kanani, K., hadi, S., Soleimani, M., Arman Panah, A. (2015). Examining the effect of hope therapy on the improvement of life quality, hope and psychological well-being in mothers of mentally retarded children. *JPEN*, 1(3), 34-47. [in Persian].
- Karow, A., Reimer, J., Schäfer, I., Krausz, M., Haasen, C., & Verthein, U. (2010). Quality of life under maintenance treatment with heroin versus methadone in patients with opioid dependence. *Drug and Alcohol Dependence*, 112, 215-209.
- Kelberer, L.J.A., Kraines, M.A., Wells, T.T.(2018). Optimism, hope, and attention for emotional stimuli. *Personality and Individual Differences*, 124, 84-90.
- Kogan, M., McGuire, M., Riley, J.(2019). Deep Brain Stimulation for Parkinson Disease. *Neurosurgery Clinics of North America*, 30(2), 137-146.
- Lannie, A., Peelo-Kilroe, L.(2019). Hope to hope: Experiences of older people with cancer in diverse settings. *European Journal of Oncology Nursing*, 40, 71-77.
- Lee, S.J., Kim, S.R., Chung, S.J., Kang, H.C., Kim, M.S., Cho, S., Kwon, H.K., Kim, J., Jung, S.Y.(2018). Predictive model for health-related quality of life in patients with Parkinson's disease. *Geriatric Nursing*, 39(2), 204-211.

- Luszczynska, A., Gutierrez-Dona, B., Schwarzer, R. (2005). General self-efficacy in various domains of human functioning: evidence from five countries. *Interpersonal Journal of Psychology*, 40, 80–89.
- Mahmoud Alilou, M., yarmohammadi vassel, M., Bayat, A., Hosseini, E. (2016). Surveying the psychological well-being components of heart patients referred to Ekbatan hospital of Hamedan, in association with gender, age and education in 2012. *RJMS*, 22(139), 35-45. [in Persian].
- Mitchell, J., Vella-Brodrick, D., Klein, B. (2010). Positive psychology and the Internet: A mental health opportunity. *E-Journal of Applied Psychology*, 6(2), 30–41.
- Ochoa, C., Casellas-Grau, A., Vives, J., Font, A., Borràs, J. (2017). Positive psychotherapy for distressed cancer survivors: Posttraumatic growth facilitation reduces posttraumatic stress. *International Journal of Clinical and Health Psychology*, 17(1), 28-37.
- Oraki, M., Sami, P. (2015). The Effect of Mindfulness Integrated Behavior-Cognitive Therapy on psychological well-being and quality of life among multiple sclerosis patients. *Quarterly Journal Of Health Psychology*, 5(20), 34-47. [in Persian].
- Pourkamali, T., Yazdkhasti, F., Oreizi, H.R., Chitsaz, A. (2017). Compare the effectiveness of dosah-hou treatment and massage therapy on improvement of happiness, social adjustment, hope, mental health and quality of life in patients with parkinson's disease. *Quarterly Journal of Health Psychology*, 6(22), 145-162. [In Persian].
- Proyer, R.T., Gander, F., Wellenzohn, S., Ruch, W. (2016). Nine beautiful things: A self-administered online positive psychology intervention on the beauty in nature, arts, and behaviors increases happiness and ameliorates depressive symptoms, *Personality and Individual Differences*, 94, 189–193.
- Qiong, W., Weihua, X., Longfei, R., Wenhao, W., Yang, W. (2019). The relationship between hope and post-traumatic stress disorder in Chinese shidu parents: The mediating role of perceived stress. *Journal of Affective Disorders*, 251, 23-30.
- Rashid, T. (2008). *Positive psychotherapy*. In: Lopez SJ, editor. *Positive psychology: Exploring the best in people*. Westport CT: Greenwood publishing Company, 146-70.
- Reich, S.G., Savitt, J.M. (2019). Parkinson's Disease, *Medical Clinics of North America*, 103(2), 337-350.
- Sanatani, M., Schreier, G., Stitt, L. (2008). Level and direction of hope in cancer patients: an exploratory longitudinal study, *Support Care Cancer*, 16(5), 493-499.
- Shoshani, A., Steinmetz, S., Kanat-Maymon, Y. (2016). Effects of the Maytiv positive psychology school program on early adolescents' well-being, engagement, and achievement, *Journal of School Psychology* 57, 73–92.
- Skelly, R., Brown, L., Fakis, A., Kimber, L., Downes, C.H., Lindop, F., Johnson, J., Bartliff, C., Bajaj, N. (2014). Does a specialist unit improve outcomes for hospitalized patients with Parkinson's disease? *Parkinsonism and Related Disorders*, 20, 1242-1247.
- Sotodeh-Asl, N., Neshat-Dust, H.T., Kalantari, M., Talebi, H., Khosravi, A.R. (2010). Comparison of effectiveness of two methods of hope therapy and drug therapy on the quality of life in the patients with essential hypertension, *Journal of Clinical Psychology*, 2(1(5)), 27-34
- Sun, X., Chan, D.W., Chan, L. (2016). Self-compassion and psychological well-being among adolescents in Hong Kong: Exploring gender differences. *Personality and Individual Differences*, 101, 288-292.
- Suratos, C.T.R., Saranza, G.R.M., Sumalapao, D.E.P., Jamora, R.D.G. (2018). Quality of life and Parkinson's disease: Philippine translation and validation of the Parkinson's disease questionnaire. *Journal of Clinical Neuroscience*, 54, 156-160.
- Tamedi, A., Mo'39, Tangestani, Y. (2018). A Prediction Model of Cognitive Failures Based on Personality Dimensions and Lifestyle in the Elderly. *Iranian Journal of Health Psychology*, Vol 1(2), 45 – 54.
- Uliaszek, A.A., Rashid, T., Williams, G.E., Gulamani, T. (2016). Group therapy for university students: A randomized control trial of dialectical behavior therapy and positive psychotherapy, *Behavior Research and Therapy*, 77, 78-85.
- Unal, I., Emekli-Alturfan, E. (2019). Fishing for Parkinson's Disease: A review of the literature. *Journal of Clinical Neuroscience*, 62, 1-6.
- Walsh, S., Szymczynska, P., Taylor, S.J.C., Priebe, S. (2018). The acceptability of an online intervention using positive psychology for depression: A qualitative study. *Internet Interventions*, 13, 60-66.
- WHOQOL Group. (1994). Development of the WHOQOL: rationale and current status. *Journal of Mental Health*, 23(3), 24-56.
- Yang, S., Kuo, P., Su, S., Wang, J., Lin, M. (2006). Development and Psychometric Properties of the Dialysis Module of the WHOQOL-BREF Taiwan Version. *Journal of the Formosan Medical Association*, 105(4), 299-309.