

# Positive psychotherapy's effectiveness in lowering depression in women with hypothyroidism

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## Abstract

The study aims to determine whether positive psychotherapy may effectively treat depression in hypothyroidism-affected women. Pre-test-post-test type semi-experimental research with a control group was used in this study. Women with hypothyroidism between the ages of 30 and 50 who visited the endocrinology clinic at Moheb Mehr Hospital made up the statistical population. The sample for this study consisted of 30 women with hypothyroidism between the ages of 30 and 50 who were chosen through Convenience sampling. Data was gathered using the Beck Depression Questionnaire (1961). These 30 individuals were divided into two experimental and control groups following the pre-test at random. The experimental group received Positive psychotherapy over the course of ten one and a half hour sessions. Both groups were invited following the intervention's conclusion, and the post-test was administered to them. Positive psychotherapy can significantly lessen depression in women with hypothyroidism, according to the findings of the covariance analysis ( $p < 0.05$ ). Based on the research's findings, it is determined that positive psychotherapy can help women with hypothyroidism, particularly their depression, manage their psychological symptoms.

**Keywords:** hypothyroidism, positive psychology, depression

## Introduction

Living things must be able to adapt to new circumstances in order to exist in a continually changing environment. Several devices and organs must operate together in a coordinated and ordered manner in order to do this matching. Activities are arranged, directed, and integrated by two neural systems and endocrine glands. From the simplest to the most complex human behaviors, the body must coordinate a variety of internal systems. Special communication technologies are necessary for the organization of these processes. This communication is carried out by two neural systems and endocrine glands. The two neural systems and endocrine glands are distinct from one another, yet they coordinate and communicate with one another so well that occasionally they are referred to as a single unit and dubbed the neuro-endocrine system. There are several diseases and endocrine conditions that have neuro-psychological symptoms. Anxiety and depression can be brought on by thyroid function issues (Yazdani, 2017).

Parafollicular cells produce the two primary (iodine) and secondary hormones that the thyroid secretes. Thyroxine, triiodothyronine, and a minor quantity of additional iodinated hormones are the two primary thyroid hormones. Triiodothyronine and triiodothyronine are the names for thyroxine, which has four iodine atoms (4 T) and three iodine atoms (3 T). These hormones control the body's metabolism and play a role in bone development, brain development, and nervous system development. Tyrosine, one of the amino acids found in blood, is converted by the follicle wall cells into the protein thyroglobulin, which is then stored in the follicle's center. This compound needs to be transformed after synthesis into monoiodotyrosine, diiodotyrosine, triiodothyronine, and tetraiodothyronine, or thyroxine. Thyroxine makes up around 90% of thyroid hormones. Active transport is a mechanism used by the follicular wall cells to pump iodine from the blood into the colloid. In order to create active transport, they first pump iodine from the blood into the colloid and then use it to create 3T and 4T. brand. Thyroxine and triiodothyronine enter the bloodstream, combine with plasma proteins, and travel to the body's tissues where they dissociate from their carrier proteins and enter the cells (Yazdani Mehr, 2017).

Optimism or positive thinking is described as a personality attribute, a superficial state of thought, or an explanatory style in various places. Positive thinking (optimism) has been viewed as an emotion by some theorists, such as Tayger (1979) (quoted by Pahlavan, Kakavand, and Kyamanesh, 2013). Positive thinking is a type of general approach and orientation toward life, which entails maintaining inner equilibrium and remaining composed in the face of difficulties in order to keep one's drive, take the right course of action, and reap the rewards of those actions. Seligman, Rashid, and Parks (2006) shown in their study on the effectiveness of positive treatment that this treatment had a considerable impact on people's levels of happiness and life satisfaction. And after receiving treatment, participants reported better levels of pleasure and life satisfaction than before.

According to Stalarad (2008), who was cited by Heydari (2016), "teaching positive thinking skills emphasizes improving individual abilities in order to face negative situations and focus on positive skills." In this regard, Khanjani's research from 2016 shown that the positive psychotherapy program was successful in boosting students' life satisfaction, optimism, and happy emotions, and the findings held steady after two months of follow-up. In conclusion, the findings of this study show that the positive psychotherapy program is effective in raising students' levels of life satisfaction, optimism, and creation and enhancement of positive emotions, and that this program can be used to enhance the mental health of freshmen at universities. . The research of Kahler and others (2014), which was done to determine the efficacy of positive treatment on reducing People's smoking, shows that this treatment has significantly reduced smoking in people. This research shows that positive psychotherapy has been used successfully in the field of reducing smoking.

Assarzagagan and Raisi (2018) conducted a study on the effectiveness of education based on positive psychology on the quality of life and happiness in type 2 patients and came to the conclusion that this training had an impact on the quality of life and happiness of these patients. Positive psychotherapy is an effective treatment in the field of helping people with type 2 diabetes, which various researches have proven to be effective in relation to these patients. Additionally, a study by Sarbi and Sadeghi (2017) titled "The Effect of Positive Psychotherapy on Life Expectancy and General Health of Type 2 Diabetic Patients" demonstrated that group positive psychotherapy significantly lowered anxiety disorders and increased life expectancy in the intervention group compared to the control group. It takes place in a crowd. On the other hand, numerous studies have demonstrated the efficacy of this therapy in relation to conditions including cancer, multiple sclerosis, and schizophrenia. For instance, Pour Faraj and Rezazadeh (2017) said that positive treatment can be an effective strategy that raises the degree of pleasure and life expectancy of cancer patients.

Depression is not a mental condition brought on by problems with the nerve or brain systems. An emotional disorder, depression. In other words, erroneous and dishonest beliefs cause a variety of negative emotions, including depression, which is characterized by feelings of melancholy and low self-esteem, boredom and apathy, weakness and exhaustion, despair and hopelessness, etc. These negative emotions also encourage the victim to commit suicide. Because of this, it should be acknowledged that irrational, unreal, and deceitful ideas are the root and driving force of depression. Additionally, depression will be treated if these thoughts are changed (Mamoun et al., 2018).

When used in its morbid definition, depression is very different from the temporary low mood that most individuals experience in response to a loss, and it has an impact on many different facets of a person's functioning. A morbidly depressed person experiences sadness and frequently sheds tears. He is tormented by remorse and feels as though he is failing other people. He gets more agitated and anxious and uptight than normal. When depression reaches its most severe stage, it may lose the capacity for emotional reaction and progress to the point when both positive and negative emotions have little bearing on it. These people find it challenging to take pleasure in life and develop a passion for carrying out regular chores. They try to avoid doing the things they used to do and may sit slumped over in a chair or spend hours in bed as their energy levels decline and everything becomes a chore. They find it difficult to focus on what is being read or said and to recall it, making simple pleasures like watching television or reading a newspaper difficult and intolerable. They are always thinking about how awful they are and the difficulties they have

encountered that seem insurmountable. Even the most fundamental physical processes might develop issues. Most dangerously, it looks that there is no end to this state and that nothing can be done to modify it as time goes on. Sleep becomes challenging, hunger declines, and sexual desire fades. Approximately 15% of those who suffer from severe depression commit suicide (Brown and Harris, 1978). Depression typically has a short lifespan. Untreated episodes often end after three to six months if they are not treated, but recurrence is common and 15 to 20 percent of individuals experience a chronic course.

One of the most prevalent psychiatric ailments is depression. In the limited medical meaning, depression is a mood disorder or sickness, and at the normal level, it is mostly a symptom of a low mood. Apathy, lack of appetite, insomnia, extreme anxiety, feelings of shame and worthlessness, and melancholy are a few of its symptoms (Ismaili Shad and others, 2019).

Aaron Beck (1970) shown that persons who are hopeless and pessimistic experience depression. Beck first thought that healthy people are practical and depressed people are unrealistic, but through his work with depressed patients, he made astonishing discoveries. Beck instructed his depressed patients in cognitive therapy to question their unfavorable views. He noted that the majority of depressed people have realistic perceptions of the world, and that as their symptoms of depression lessen, so does their tendency to be too optimistic. Beck became aware of the error of his initial theory as a result. Positivity is a personality feature that psychologists who are interested in individual variations have identified. These psychologists contend that every person is born with a baseline degree of optimism that differs from person to person. Optimism has a natural curve, just like other personality qualities. In other words, the majority of people have a moderate level of optimism, and there aren't many people who have excessive optimism or who are really bad. Additionally, as Niknam (2016) noted, our experiences can influence our optimism or pessimism.

The field theory of Kurt Lewin and George Kelly's theory of personal constructs offer a useful foundation for comprehending how positive thoughts affect behavior. A perspective on personality based on a person's expectation of future events was recognized thanks to Julian Rutter's social theory of learning and the idea of generalized expectations (locus control and sure). The decline of the traditional stimulus-response perspective on learning and the replacement of the cognitive perspective with an emphasis on the role of expectations, as cited by Lopez and Schneider in 2002 and Shirdel Mohammadabad in 2016, were two factors that led psychologists to become interested in the subject of optimism.

The tenets and presumptions of normal psychology, particularly clinical psychology, are in some way at odds with those of positivist psychology. The key distinctions pertain to the underlying ideas and presumptions about human nature. The researchers observe that the dominant human idea in contemporary psychology, or medical psychology, is one that is heavily based on pathology, frailty, and malfunction. This psychology, according to Maddox, adheres to the ideology of disease, whose underlying tenets include weakness, illness, and a contempt for people's potential. However, the fundamental tenet of positivist psychology is that human beings have the capacity for improvement and progress from birth. The definition of a human being in positivist psychology is the same as Maslow's Self-actualization inclinations or tendencies; it is a being with the potential for growth and transformation (Niknam, 2016). Numerous papers discuss the value of psychotherapy for people with hypothyroidism.

The purpose of this study is to ascertain whether positive psychotherapy is useful in lowering depression in women with hypothyroidism, as stated above.

## **Research Method**

Pre-test-post-test type semi-experimental research with a control group was used in this study. In this kind of study, one group is tested twice: once before and once after the experimental method. The other group was measured twice as well, but they did not get any treatment. Women with hypothyroidism between the ages of 30 and 50 who visited the endocrinology clinic at Moheb Mehr Hospital made up the statistical population. The sample for this study consisted of 30 women with hypothyroidism between the ages of 30 and 50 who were chosen through Convenience sampling.

30 women with hypothyroidism were chosen as being Convenience and completed the pre-test before being asked to complete the Beck Depression Questionnaire in order to reach the sample participants. The clinic was identified through the letter of introduction made available to the researcher by the university. A total of 30 persons were divided into two groups, one experimental and one control. Ten sessions of positive psychotherapy, each lasting an hour and a half, were given to the experimental group. Both groups were invited following the intervention's conclusion, and the post-test was administered to them. The subjects were given the assurance that their confidentiality rights would be upheld throughout the research and that the answers would be assessed in the context of a broad

conclusion in order to safeguard ethical considerations and personal privacy. They were commended for their participation at the conclusion.

The following resources were employed in this study:

### The Beck Depression Inventory

In 1961, Beck and his associates created the initial version of the Beck Depression Inventory. The individual is requested to consider his sentiments from the previous two weeks as he responds to the questions in this questionnaire. This 21-item survey is intended to assess the severity of depression in adults and adolescents 13 years of age and older. Each of the 21 items on the Beck Depression Inventory 2 (BDI-II) consists of four statements, and the respondent is instructed to circle the sentence that best describes their feelings and behavior. A person might receive a score in this questionnaire between 0 to 63 because each item is graded from 0 to 3 (Marnat, 2014).

A high-level review of numerous attempts to quantify internal consistency in order to assess the reliability of the Beck depression questionnaire revealed that the obtained coefficients ranged from 0.73 to 0.92 with an average of 0.86 (Marnat, 2014). According to a sample of 94 Iranians, the reliability of this questionnaire was 0.91 for Cronbach's alpha, 0.89 for the correlation between the test's two halves, and 0.94 for the retest coefficient (Fati, 2012). Sharifi Awadi and Ghasemi Davari (2015) cite Mansour and Dadestan's research, which has a reliability rate of 0.83 and a validity rating of 0.80. According to Sharifi Amadari and Ghasemi Davari's research from 2013 (Sharifi Amadari and Ghasemi Davari, 2014), the reliability and validity of Beck's depression questionnaire were estimated to be 0.85 and 0.76, respectively.

According to Motabi (2014) and Alavi (2015), the correlation between the first edition and the Beck depression questionnaire was 0.93. The combined use of the Beck Hopelessness Scale (1988) and the Scale for Suicide Ideation Scale (1979) allowed the 21-question Beck depression questionnaire to achieve convergent validity (Beck et al., 1996). Additionally, the Hamilton psychiatric rating scale for depression and the MMPI depression scale had correlation coefficients of 0.73 and 0.74, respectively, for the Beck depression questionnaire (Sharifi Awadi and Ghasemi Davari, 2013). The reliability rate is 0.83 and the validity is 0.80 in Mansour and Dadestan's study (1977, as cited by Sharifi Awadi and Ghasemi Davari, 2012). According to Sharifi Amadari and Ghasemi Davari's research from 2013 (Sharifi Amadari and Ghasemi Davari, 2014), the reliability and validity of Beck's depression questionnaire were estimated to be 0.85 and 0.76, respectively.

The reliability of the Beck depression questionnaire was assessed in the current study using the Cronbach's alpha method, and the overall reliability coefficient was 0.82, which is considered to be an acceptable value.

The data was analyzed using descriptive and inferential statistical approaches. In descriptive statistics, central indices like mean and dispersion indices like standard deviation were utilized, along with generating tables and graphs. Levene's test, Mbox, and the covariance analysis method were also employed to assess the desired hypotheses using SPSS 24.

## Findings

### Detailed findings

**Table 1:** The statistical breakdown of depression scores at two different assessment stages for the experimental and control groups

Variable	Group	Stage	N	Mean	Std.
Depression	Control	Pretest	15	23.60	9.627
		Posttest	15	24.53	10.309
	Experminatal	Pretest	15	27.47	10.514
		posttest	15	22.13	10.736

Table 1 displays descriptive data for the mean and standard deviation of depression variable scores at the pre-test and post-test for members of the experimental and control groups separately. As can be observed, there was little difference in the control group's average results between the pre- and post-tests. In contrast, we observe a bigger decline in scores in the experimental group in the post-test as compared to the pre-test.

### Data normality test

It is important to check the normality of the data distribution before testing the hypotheses. This assists the researcher in selecting the best statistical test to evaluate the hypotheses. The Kolmogorov-Smirnov test was employed

to ascertain the kind of data distribution in this case. Table 3-4 displays the findings from an investigation into the distribution of data pertaining to the research variables at the significance level of 0.05 conducted for this purpose.

**Table 2:** The results of the test used to determine if the distribution of scores is normally distributed

variable	Pretest		Posttest	
	Z Kolmogorov Smirnov	Sig.	Z Kolmogorov Smirnov	Sig.
<b>Depression</b>	775.0	586.0	521.0	949.0

The Kolmogorov-Smirnov test was used to determine if the distribution of pre-test and post-test scores was normal. The results are shown in Table 2. The significance level of the calculated statistics for all variables is greater than 0.05 based on the results shown in the table, and it is therefore recognized that the distribution of scores is normally distributed.

### Research finding

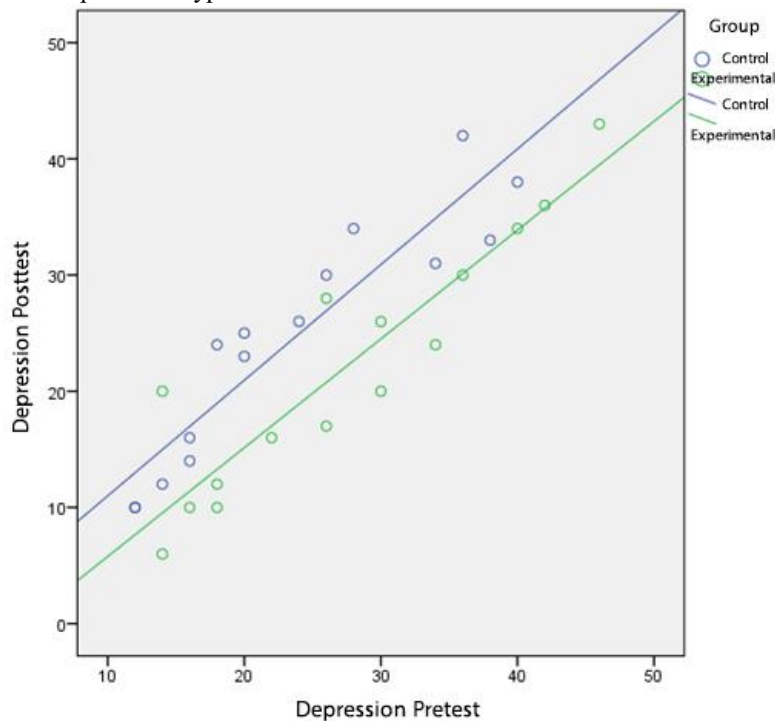
In women with hypothyroidism, positive psychotherapy reduces depression.

A one-way analysis of covariance was conducted to examine the impact of positive psychotherapy on lowering depression in hypothyroidism-affected women. Below are reported the findings from running this test and verifying its presumptions.

**Table 3:** The analysis's findings for a regression line with the same slope as the covariance analysis's premise

Source of Variation	sum of squares	Dof	mean square	F	Sig.
<b>Group * pre-test</b>	2.442	1	2.442	0.138	0.713

The study of the same slope of the regression line's results are presented in Table 3. The significance level of the interaction between group and pre-test ( $p=0.713$ ) is greater than 0.05 based on the data presented. Regression homogeneity is therefore accepted as a hypothesis.



**Figure 1:** Shows the group-specific distribution of pre- and post-test depression scores

A scatter diagram, which displays the connection between the pre-test and post-test scores individually for two groups, was also utilized to verify the premise that the regression coefficients are homogeneous. Given that the correlation lines did not cross, it is inferred that the homogeneity of the regression coefficients assumption is upheld.

**Table 4:** The outcome of Levine’s test to determine whether variances are homogeneous

Variable	F	Dof 1	Dof 2	Sig.
depression	0.248	1	28	0.623

The findings of Levin's test are not significant, as indicated in Table 4. This confirms the null hypothesis that the variance of the variables is homogeneous. The assumption of homogeneity of variances is established in this way, it is inferred.

**Table 5:** The findings of the covariance analysis used to compare depression in the experimental group and the control group

Source of variations	Sum of squares	Dof	Mean square	F	Sig.	Effect size
pre-test	2639.080	1	2639.080	154.103	0.001	0.851
group	270.601	1	270.601	15.801	0.001	0.369
error	462.387	27	17.125			
Total	3144.667	29				

In order to compare depression scores between the experimental and control groups in the post-test phase, Table 5 displays the findings of the analysis of covariance. At the alpha level of 0.01 (P 0.01), the obtained F value of 15.801 is significant. As a result, the research hypothesis is supported and the null hypothesis is rejected. It may be inferred from this and taking into account the lower average scores of the experimental group on the post-test that Positive Psychotherapy is successful in alleviating depression in women with hypothyroidism.

## Conclusion

The findings of the research hypothesis test revealed a statistically significant difference between the post-test results for "depression" for the "experimental group" and the "control group." The average level of depression in the experimental group's post-test has dramatically decreased following the intervention, as the results also demonstrate. As a result, depression in women with hypothyroidism has been successfully treated by positive psychotherapy.

Researchers like Assar Zadegan and others (2018), Sarbi and others (2017), Pour Faraj and others (2017), Mohammadi and others (2015), Rahimi and others (2014), Parks Shiner (2020), Bridon (2019), J. The current result is consistent with the findings of these researchers as well as others. A study by Assar Zadegan and Raisi (2018) titled The effectiveness of education based on positive psychology on quality of life and happiness in patients with type 2 came to the conclusion that this training had an impact on the quality of life and happiness of these patients and that it is advised to use this therapeutic approach because Jang et al. (2017) and Jang (2017) are congruent. According to Pourfaraj and Rezazadeh (2017), effective treatment can raise the level of satisfaction and life expectancy of cancer patients. Positive psychology was found to be successful in greatly reducing the subjects' depression in a study by Mohammadi and Ebadi (2015) that sought to ascertain its impact on the depression of cancer patients. Researchers Khodabakhsh, Khosravi, and Shahangian (2014) found that Positive Psychotherapy was beneficial in lowering depression, enhancing capability, and raising the level of meaningful, pleasurable, and dedicated life for cancer patients.

In a semi-experimental study, Rahimi, Borj Ali, and Sohrabi (2014) shown that using positive psychology interventions to boost patients' resilience can be a successful strategy. Rezaei's research from 2013 showed that cognitive behavioral stress management therapy was effective in enhancing the general health of female asthma patients, and he took into consideration the necessity of paying close attention to psychological treatments in this patient population. The impact of positive group psychotherapy on 110 depressed students was examined by Parks Shiner (2020). Final results showed that the students who got effective psychotherapy had much fewer depressed symptoms and more life satisfaction. In his research, Brydon (2019) came to the conclusion that optimism helps to prevent the inflammation caused by psychological stress. According to Ji Jang and colleagues' (2017) research, optimistic persons exhibit stability and self-confidence in the face of stressful situations and have a propensity to think more about positive future prospects than problem-oriented coping mechanisms. & Jang's (2017) research on Korean individuals found that optimism is a key factor in raising life happiness.

In the context of the current explanation, it may be argued that optimistic thinking is described in many places as a superficial state of thought, a personality attribute, and an explanatory style. Positive thinking (optimism) has been viewed as an emotion by some theorists, such as Tiger (1979) (quoted by Pahlavan and others, 2012). Positive thinking is a type of general approach and direction in life, or having a proper inner balance and being composed in the face of difficulties so that a person may maintain his or her own motivation, take the necessary action, and benefit from the activity he or she takes. Feel better as a result, promoting positive thinking skills places an emphasis on enhancing personal capabilities to help students deal with challenging circumstances and concentrate on positive traits (Stalarad, 2008; cited by Heydari, 2016).

One of the most prevalent mental diseases is depression. According to the limited definition of medicine, depression is a mood disorder or disease, and at its most basic level, it is a condition characterized by a low mood (Abreu et al., 2018). Apathy, lack of appetite, sleeplessness, high levels of anxiety, feelings of shame and worthlessness, social withdrawal, and melancholy are a few of its symptoms (Ali and others, 2019).

The tenets and presumptions of normal psychology, particularly clinical psychology, are in some way at odds with those of positivist psychology. The key distinctions pertain to the underlying ideas and presumptions about human nature. The researchers observe that the dominant human idea in contemporary psychology, or medical psychology, is one that is heavily based on pathology, frailty, and malfunction. This psychology, according to Maddox, adheres to the ideology of disease, whose underlying tenets include weakness, illness, and a contempt for people's potential. However, the fundamental tenet of positivist psychology is that human beings have the capacity for improvement and progress from birth. According to positivist psychology, man is a sentient entity with the capacity for development and transformation. Maslow's flourishing tendencies or inclinations are conceptualized similarly (Niknam, 2016).

In positive psychology, the therapist actively participates in the conversation and asks questions in addition to listening to what the patient says while receiving treatment. How, what? And... It is requested. This type of questioning by the therapist during the training will clarify the deleted, distorted, and generalized information concealed in the therapist's words. Additionally, by moving up to the more detailed levels of the words, which are placed behind specific experiences, the context of change in attitude is provided, and the therapist is given understanding.

### **Limitations**

It must be acknowledged that the current study had limitations, just like all other studies have. The following flaws should be eliminated in other researchers' future studies:

1. Because only women with hypothyroidism between the ages of 30 and 50 who visited the endocrinology clinic at Moheb Mehr Hospital made up the study's sample, it is challenging to extrapolate the findings to other groups of people and other contexts.
- 2- It is without a doubt possible for intervening factors, such as the impact of attitudes and social and economic conditions, to have an impact on the findings of this study.
3. Another existing restriction was the difficulty in organizing simultaneous gatherings of people for training sessions because of the corona sickness.
- 4- This study is cross-sectional, and longitudinal research in this area is required for more complete knowledge.
5. Lack of follow-up because of the corona disease's contemporary effects on society.

### **Suggestions**

1. It is advised to apply additional information-gathering techniques, such as interview and observation, in order to enhance the research findings.
- 2- It is recommended that interventional factors including the impact of attitudes and social and economic conditions be taken into account in upcoming studies.
3. It is recommended that the next study sample people from different age groups, societies, and social settings.
- 4- It is advised to hold more meetings and hands-on training sessions.
5. Longitudinal and follow-up studies were applied in subsequent investigations.

## References

- Abreu, M.S., Friend, A.J., Demin, K.A., Amstislavskaya, T.G., Kalueff, A.V. (2018). Zebrafish models: do we have valid paradigms for depression? *Journal of Pharmacological and Toxicological Methods*, 94, 16-22.
- Ali, A.M., Green, J. (2019). Factor structure of the depression anxiety stress Scale-21 (DASS-21): Unidimensionality of the Arabic version among Egyptian drug users. *Subst Abuse Treat Prev Policy*, PMID: 31533766, doi: 10.1186/s13011-019-0226-1
- Amiri, M., Jumhori, R.A., Tolai Zavareh, A. and Bejstani, Sh. (2014). Comparison of anxiety and stress in hypothyroid patients under regular drug treatment with normal subjects. *Health Research Journal*, 1(1), 32-46.
- Asar Zadegan, M. and Raisi, K. (2018). The effectiveness of education based on positive psychology on quality of life and happiness in patients with type 2 diabetes. *Health Psychology Quarterly*, 8(3), 100-116.
- Bolier, L., Haverman, M., Westerhof, G.J. et al. Positive psychology interventions: a meta-analysis of randomized controlled studies. *BMC Public Health* 13, 119 (2013). <https://doi.org/10.1186/1471-2458-13-119>
- Dehghani Arani, F., Basharat, M.A., Pour Hossein, R., Bahrami, A. and Agha Mohammadi, A. (2013). The effectiveness of an attachment-based intervention model on the health and attachment indicators of children with chronic diseases. *Contemporary psychology*. 9(2), 16-3.
- Empirical validation of interventions. *American Psychology*, 60(5), 410-421.
- Fakharian, N; Samari Safa, J.; Ghazalsafrou, M. (2018). The effectiveness of education based on acceptance and commitment on anxiety, depression and psychological well-being of patients with Hashimoto's hypothyroidism. *Iranian Journal of Endocrine and Metabolism*; 21 (2): 65-72.
- Goodwin, E. M. (2010). Does group Positive Psychotherapy help improve relationship satisfaction in a stressed and/or anxious population? Palo Alto University.
- Hakimi, S; Astrologer, S; Rahimian, A; Kern, M. (2016). The effectiveness of positive psychotherapy on depression, well-being and academic progress of students in mathematics and experimental sciences. *Journal of Educational Psychology Studies*, 14(28), 49-82.
- Jafaripour Zare, S.L. (2016). The effect of a multimedia familiarization tour on the anxiety and satisfaction of patients with thyroid cancer candidates for iodine therapy, Imam Khomeini Hospital Complex (RA), Tehran. Master's thesis. Nursing training group. University of Rehabilitation Sciences and Social Welfare.
- Khanjani, M. (2016). The effectiveness of positive psychotherapy on life satisfaction, optimism and positive emotions in students. *Clinical Psychology Studies*, 7(27), 137-159.
- Li, S.W., Chan, S.Y. (2020). Management of overt hypothyroidism during pregnancy. *Best Practice & Research Clinical Endocrinology & Metabolism*, 3(6), 369- 375.
- Love, A.L., Love, R. (2019). Anxiety Disorders in Primary Care Settings. *Nursing Clinics of North America*, 54(4), 473- 493.
- Maleki, P.; Sardari, B. (2019) The effectiveness of positive psychotherapy with emphasis on religious teachings on improving the psychological adjustment of students with suicidal thoughts. *Practical issues of Islamic education and training*; 5 (2): 115-142.
- Mao, Y., Zuo, X.N., Ding, C., Qiu, J. (2020). OFC and its connectivity with amygdala as predictors for future social anxiety in adolescents. *Developmental Cognitive Neuroscience*, 44, 804- 814.
- Meyer, P. S., Johnson, D. P., Parks, A. C., Iwanski, C. & Penn, D. L. (2012) Positive living: A
- Nasiri Takami, G; Najafi, M.; Astrologer, S; Makund Hosseini, Shahrukh. (2018). Comparing the effectiveness of positive psychotherapy and cognitive behavioral therapy on psychological well-being and depression in adolescents with depressive symptoms. *Scientific Quarterly Journal of Counseling Research*; 18 (70):105-129.
- Niknam, M. (2016). The effectiveness of positive-oriented group psychotherapy on the self-esteem of teenage girls in Yazd. Master's thesis. Department of Psychology. Faculty of Humanities. University of Science and Art.
- Parks-Sheiner AC. (2020). Positive psychotherapy: Building a model of empirically supported self-help. East Eisenhower Parkway. University of Pennsylvania.
- Parvin, J.; Asghar, A; Mohsen, G. (2016). Investigating the effectiveness of Iranian-Islamic positive therapy on anxiety, stress and depression of infertile women, *Journal of Isfahan Medical College*, 35(418), 70-76.
- pilot study of group positive psychotherapy for people with schizophrenia. *Journal of Positive*
- Pour Faraj, M. and Rezazadeh, Z. (2017). The effectiveness of positive psychotherapy on happiness and life expectancy of cancer patients. *Scientific Research Quarterly of Counseling and Psychotherapy Culture*, 9(3), 119-136.
- Psychology*, 7, 239 -248.
- Rahimi, S., Burj Ali, ; and Sohrabi, F. (2014). The effectiveness of positive psychology interventions in the recovery of patients with MS. *Journal of Positive Psychology*, 1(3), 1-10. Rezaei, F. (1390).



- Saidi, Z; Bahrainian, A; Ahmadi, M. (2015). Effectiveness of positive group psychotherapy on reducing depression, stress and death anxiety of cancer patients undergoing chemotherapy. *Journal of Mental Health Principles*, 18 (Special Issue of the Third International Conference on Psychology and Educational Sciences), 547-552.
- Sarbi, Kh. and Sadeghi, J. (2017). Investigating the effectiveness of Positive psychotherapy on mental health and life expectancy of diabetes patients. The second national meeting of the psychology of educational and social sciences.
- Sayahi, A. (2016). The effectiveness of stress management skill training (cognitive-behavioral) on reducing anxiety and over-anxiety of conditional students. Master's thesis. Department of Psychology. Faculty of Literature and Humanities. Kerman Shahid Bahonar University.
- Seligman, M. E. P., Steen, T., Park, N., & Peterson, C. (2005) Positive psychology Progress:
- Sergeant, S., & Mongrain, M. (2014). An online optimism intervention reduces depression in pessimistic individuals. *Journal of consulting and clinical psychology*, 82(2), 263–274.
- Vodjani, S; Golzari, M.; Barjali, A. (2014). Effectiveness of positive psychotherapy on depression and marital satisfaction of depressed women, *Applied Psychology Quarterly*, 8(2), 7-21.
- Wang, W., Wang, H. (2020). Effects of Hypothyroidism and Subclinical Hypothyroidism on Sexual Function: A Meta-Analysis of Studies Using the Female Sexual Function Index. *Sexual Medicine*, 8(2), 156- 167