

# Effects of Quality of Life Therapy on the Ability to Cope with Stressful Situations, Anxiety and Irrational Fears in Electrical Network Workers at Risk of Death

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## Abstract

**Objective:** The main aim of this research was to investigate the effects of quality of life therapy on increasing the ability of coping with stressful situations, reducing anxiety and irrational fears in at risk workers of electricity distribution companies in Isfahan.

**Method:** This research method is semi-experimental with pre-test, post-test and follow-up with the control group. Population consisted of 250 at risk workers of Isfahan Electricity Distribution Company. Five people were randomly selected from each unit, and a total of 40 people were randomly assigned to the experimental and control groups. The experimental group participated in 90-minute sessions of quality of life improvement training for 8 weeks, held at the New Technology Park of Isfahan Electricity Distribution Company. Experimental group was compared with a waiting control group. Measurement tools were Endler and Parker Coping Inventory for Stressful Situations (CISS) and Mental Disorders Symptoms Checklist (SCL-90-R) that were administered on at risk workers in the pre-test, post-test and follow-up phases. Repeated measure analysis of variance was used to analyze the data.

**Results:** Data analysis showed that the intervention sessions had a significant effect on all scales of coping with stressful situations, anxiety and irrational fears in the experimental group in the post-test and follow-up stages.

**Conclusion:** The results indicate that psychotherapy based on improvement of quality of life was effective on tranquility, mental health and the quality of life of at risk workers in Isfahan Electricity Distribution Company.

**Keywords:** Life therapy, Coping, anxiety, irrational fears, Death

## Introduction

Work-related accidents are now the third leading cause of death in the world and the second leading cause of death in Iran after traffic accidents and one of the most important health, social and economic risk factors in industrialized and developing societies (Bentley & Haslam, 2001). On the other hand, studies on unsafe behaviors have shown that stressful vocational factors have a significant role in worker's unsafe acts by the reduction of concentration, distraction, memory impairment, hesitation in doing things and reducing decision making power (Goldenhar, 2003).

The findings of research in medicine indicates that there is a strong correlation between physical illnesses and stress. Continuous stress weakens the immune system and set the stage for physical ailments such as heart disease, gastrointestinal, endocrine and metabolic diseases. (Loyd 2011, Marvi & Latifi, 2017). Electrical workers experience severe stress due to the nature of their work, which always put them at risk for electrocution.

One of the work environments that can be considered as one of the most dangerous occupational ones is the work place of at risk workers in electricity distribution company. Study on the causes of the work environment in the electricity distribution companies indicates that the human factor account for the vast majority of the

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incidents. Thus, it seems that the most important psychological factors that can be involved in work-related incidents in at risk workers are stress and strategies to deal with it. Stressful situations can lead to various emotional reactions such as anxiety, anger, discouragement, and psychosomatic disorders. When stressful situations persist, depending on the success of the person in coping with it, one may become emotionally unstable (Seligman, 2003).

Another psychological factor that causes ineffective reactions is anxiety. Nervousness, feelings of pressure and tremors in the body organs, as well as sudden fears, feeling of dread, fear and worry about the future, and some physical changes are among anxiety symptoms. For some people anxiety becomes so frequent or so intense that it begins to take over their lives. In addition to maladaptive anxieties, extreme irrational and persistent fears of an object or a particular situation can be problematic due to the extreme fear and avoidance (Ganji, 2015). Anxiety or morbid fears involve symptoms such as intense fear of a person, place, particular object, or a situation while these fears are disproportionate to the fearful stimulus and lead to avoidance behavior and escape from that stimulus. Irrational fears include: fear of open spaces, fear of being alone, fear of traveling by bus or train or plane, avoiding a specific place because of fear, discomfort in crowded places, and fear of fainting in public (Fathi & Dastani, 2011). On the other hand, the quality of life has always been a matter of human interest. Nowadays, quality of life in addition to happiness and enjoyment consists of contentment and prosperity (Denis, Gelernter, Hart & Kranzler, 2015).

Since psychotherapy based on quality of life improvement, utilizes life-satisfaction approach to increase happiness and quality of life and skills are taught to identify and fulfill the most important needs in different areas of life, this type of treatment is used both for clinical and non-clinical patients

(Ghasemi, Kajbaf & Rabiei, 2011).

The areas presented in this approach are as follows: 1. Health and physical health, 2. Self-esteem, 3. Spiritual goals and values, 4. work and occupation, 5. Money and income or standards of living, 6. Recreation and entertainment, 7. Learning, 8. Creativity, 9 - Helping others, 10 - Love and intimate relationships, 11 – Friends, 12 – Children, 13 – Relatives, 14 – Society, 15 - Home and neighborhood, and 16 - Life in general (Frisch, Clarrk, Rouse, Rudd, Paweleck & Greenstone, 2005).

As far as researcher knows no study has been done to address the psychological problems of the at risk worker of the electricity distribution company so far and the majority of studies are focused on safety training, while in a constant manner, this group is exposed to severe stress due to fear of death, definitely affecting their mental health, physical health and interpersonal communication. Some of the related studies are presented in this article.

Seligman and Mccellan found that there is a correlation between the attribution style and the well-being of individuals. People who had an optimistic attitude towards bad events and attribute them to unstable and specific external factors, had a better mental health compared to those who had negative attitudes towards bad events and attribute them to stable, overall causes (Seligman, Castellon, Cacciola, Schulman, Luborksy, Ollove & Downing, 1988).

Kimweli & Stilwel in a research entitled “Subjective well-being of communities, personality traits and quality of life-based treatment” examined the factors that were important for rising mental well-being and the quality of life of communities and individuals. They found that in the mental well-being and quality of life dimension in societies, variables such as positive and negative social relationships and characteristics such as marital status and perception of the future (for example,

having a good attitude towards future) contribute to the development of mental well-being and the quality of overall life. In the mental well-being and quality of life dimension of communities, psychological factors such as the homogeneity or basic values of the society, attachment and having personal and external power and demographic variables such as age, gender and religion play a role in progress of these two variables (Kimweli & Stilwell, 2002).

In a study entitled "Stress Management and Depression Symptoms in Adult Patients with Heart Failure", Vollman, Lamontagne and Hepworth (2010) found that coping styles are predictive of the treatment outcomes in cardiac transplant patients. Additionally, patients who used less denial and emotion oriented styles have been more successful than others. Slade in his study emphasized the importance of using positive psychology approaches along with medical-related services and training for employees (Slade, 2010). Scholars found that the components of a positive psychology approach have been effective in reducing anxiety and depression and increasing the life satisfaction, mental health, hope and happiness of individuals (Dockray & Steptoe, 2010). Rodrigue, Mandelbrot and Pavlakis in a research, entitled "A psychological intervention to improve the quality of life and reduce the psychological discomfort in expectant adults for Renal Transplantation", compared the efficacy of the three types of treatment. Sixty-six patients in the waiting list for kidney transplantation were divided into three groups of quality of life improvement based treatment, supportive treatment, and standard care. For each treatment, the quality of life, mental discomfort and social intimacy of patients were evaluated before and after treatment. The results indicated that people in the quality of life group obtained more scores on the quality of life and social intimacy than the other two groups. Both groups of quality of life improvement and standard care showed lower psychological

discomfort than those receiving standard care (Rodrigue, Mandelbrot & Pavlakis, 2011). Diner and Chan (2011) and sin (2011) showed that positivist approach was effective on adolescent's quality of life. Sanjuan, Ruiz and Perez showed that life satisfaction and other positive adjustment indicators could be a strong predictor of the level of emotional incongruity (depression and anxiety) in men with heart disease (Sanjuan, Ruiz & Perez, 2011). Lyubomirsky and Layous (2013) argue that positivist interventions can reduce depression and enhance happiness and psychological well-being by increasing positive emotions, thoughts and behaviors. Torre-Luque, Gambará, Lopez, and Cruzado (2016) examined the effect of quality of life improvement based treatment on cancer patients. They reported that quality of life-based treatment could improve psychological problems in cancer patients.

Researchers in a research entitled "Systematic Review of Stress-Coping Strategies in Patients with Heart Failure" found that personality traits such as neuroticism and extraversion are related to the use of problem-oriented and emotion oriented coping skills. The results showed that personality plays an essential role in determining how cardiac patients use coping skills in dealing with stressful issues and problems (Graven, Grant, Vance, Pryor, Grubbs & Karioth, 2014). The other researchers reviewed the quality of life report and self-esteem in students with anxiety and depression. The results showed that a low quality of life and low self-esteem are associated with the risk of depression and anxiety (Martinson, Neumer, Holen, waaktaar, Sund & Kendall, 2016). Nazemi ,Bahram, Alipour and Bayat (2019) showed a significant effect of the stress management intervention on depression. Balazadeh and Akbari Abolghasemi (2020) reported that Cognitive-behavioral stress management training and positive therapy are effective in the self-regulation behaviors of women with primary hypertension.

Given the above, the purpose of this study was to investigate the effectiveness of quality of life improvement based psychotherapy on increasing the coping with stressful situations and reducing anxiety and irrational fears in at risk workers of electricity distribution company in Isfahan. Therefore, the main question of this research was whether quality of life improvement based psychotherapy could increase coping with stressful situations and reduce the anxiety and irrational fears in at risk workers in Isfahan's electricity distribution company.

## Method

### Participants

This research was semi-experimental with pre-test, post-test and follow-up with the control group. Population consisted of all at risk workers of Isfahan Electricity Distribution Company (n=250). Of them, 40 workers were randomly selected and assigned into the two groups of experimental and control groups (20 in each group). The mean age of the sample was 31.63 years old (SD= 4.67). Of the sample members, 22.2% had associate, 41.7% had undergraduate, and 36.1% had master degrees. Among them, 22% were single and 77.8% were married. In terms of working experience, 22.2% of the respondents worked less than 5 years; 50% worked between 6 to 10 years, 13.9% worked between 11 to 15 years, and 13.9% worked more than 16 years in the current organization. A total of 13 members had experienced accidents and 10 members had witnessed an accident or disaster of others. Endler and Parker's Coping Inventory for Stressful Situations and Symptom Checklist-90-Revised (SCL-90-R) were administered on both groups at pretest. In the next stage, the experimental group participated in 90-minute sessions of quality of life improvement training for 8 weeks. They were taught quality of life improvement strategies. Both control and experimental groups were subjected to post-test after the completion of the sessions.

In the post-test phase, two people drop out of experimental group. Both groups were subjected to the follow-up test forty-five days after the post-test. Finally, the data were analyzed by repeated measures of variance analysis. Entry criteria were: being at risk workers of electricity distribution company; satisfaction with participating in the study; nonparticipation in other psychological programs; minimum degree of diploma. Exclusion criteria included: absence of more than two sessions, disagreement to participate in the study, and the interference of treatment sessions (time table) with work missions.

### Ethical considerations

Ethical considerations include getting the informed consent, respecting the participants, and taking into account the confidentiality of data.

### Research instruments

1. Coping style: The Coping Inventory for Stressful Situations, developed by Endler and Parker, is a reliable measure of coping strategies. This 48 items questionnaire is a self-assessment tool comprising three coping styles: problem-oriented (16 items), emotion-oriented (16 items), and avoidant (16 items). Respondents are asked to indicate how often they engage in various activities when they encounter stressful situations and answer each item ranging from 1 for 'Not at all' to 5 for 'Very much'. The CISS contains three 16-item scales to assess Task-oriented coping (Task scale), Emotion-oriented coping (Emotion scale), and Avoidance-oriented coping (Avoidance scale) (Endler & Parker, 1990).

2. Anxiety & irrational fears: The Symptom Checklist-90-Revised: The SCL-90-R developed by Derogatis is a self-report instrument containing 90 items designed to measure nine current psychiatric symptoms, as well as psychological distress. The SCL-90-R subscales assess followings psychiatric symptoms: Somatization, Obsessive

Compulsive Disorder, Interpersonal Sensitivity, Depression, Anxiety, Hostility, Phobic Anxiety, Paranoid Ideation, and Psychoticism. Each item has five following response categories: 0 = Not at all, 1= little, 2 = some, 3 = very, 4 = severe. Although this instrument has been developed in 1970's, it is still useful to understand psychiatric disorder as classified in DSM-IV (Derogatis, Rickels & Rock., 1976). The calculated Cronbach's alpha in the present study for the Morbid fear and anxiety aspects were 0.61 and 0.77, respectively.

For educational purposes, Frisch's 16 areas that constitute overall quality of life were used.

## Results

The mean and standard deviation of the variables under study for the two experimental and control groups are presented in Table 2.

The pre-test mean scores of irrational fears and anxiety for the experimental group were 10.22 and 12.27 and the post-test mean were 8.05 and 9.38, respectively. The pretest mean score for coping with stressful situations for the experimental

group was 144.05 and the post-test mean score was 156.22. Also, the pre-test mean scores of the problem-oriented, emotional-focused approach and avoidance approach for the experimental group were 62.11, 34.61 and 47.33, respectively, and the post-test mean scores were 67.88, 31.22 and 42.44, respectively. A repeated measure of variance analysis was used to investigate the effectiveness of psychotherapy based on quality of life improvement in increasing the ability to coping with stressful situations and reducing anxiety and irrational fears in at risk workers in Isfahan Electric Distribution Company. To do this, the assumptions of variance analysis were considered.

The first assumption of variance analysis is: dependent and covariate variables should be interval or ratio, given the fact that in the method of scoring the questionnaires, scales are of interval kind. The first assumption of analysis of variance have been satisfied. To satisfy the second assumption of analysis of variance, the Kolmogorov-Smirnov test was used to examine the normal distribution of pre-test and post-test scores. P values in the

**Table 1.** Summary of Quality of Life therapy sessions.

Sessions	Content
First session	Teaching basic topics of the quality of life therapy such as: happiness, positive and negative emotions, optimism, life satisfaction
Second session	Learning to identify and challenge negative dysfunctional thoughts, control emotions in general, and anger control in particular, and familiarizing members with sixteen domains of life, based on quality of life improvement psychotherapy.
Third session	Familiarizing members with the fivefold pattern of satisfaction and using it to evaluate each of the 16 areas of life, teaching them the principles of overall improvement of quality of life, and familiarizing members with the goals and values and spiritual life dimension.
Forth session	Familiarizing electricians with the First Pillar of Quality of Life Improvement Therapy: Inner Richness, familiarizing electricians with Learning and Creativity dimension.
Fifth session	Familiarizing electricians with the second pillar of quality of life improvement: Quality of time, familiarity with self-esteem and health dimensions based on the principles and dimensions of quality of life improvement therapy.
Sixth session	Familiarizing electricians with the Third Pillar of Quality of Life Improvement: The meaning of life, familiarity with the domain of interpersonal relationships, and helping based on the Quality of Life Improvement approach.
Seventh session	Familiarity with the work, entertainment, money and living standards based on quality of life improvement theory.
Eight session	Familiarity with environmental conditions dimension: home, others and community based on quality of life approach

**Table 2.** The mean and standard deviation of the variables under study for the two experimental and control groups.

Sub-scale	test type	experimental		control	
		Mean	SD	Mean	SD
Irrational fears	pre-test	10.22	3.05	10.50	3.01
	Post-test	8.05	2.46	9.83	2.06
	Follow-up	8.38	2.44	9.83	2.22
Anxiety	pre-test	12.27	2.88	13.27	4.02
	Post-test	9.38	3.90	12.77	3.37
	Follow-up	9.27	3.05	12.66	3.08
Problem-oriented Approach	pre-test	62.11	9.43	63.77	6.21
	Post-test	67.88	10.15	62.61	5.14
	Follow-up	67.11	10.49	61.77	5.27
Emotion-oriented Approach	pre-test	34.61	11.55	33.05	7.83
	Post-test	31.22	12.87	32.44	6.99
	Follow-up	31.83	12.02	32.03	6.54
Avoidance Approach	pre-test	47.33	8.23	45.44	5.29
	Post-test	42.44	10.53	44.05	6.69
	Follow-up	42.00	8.80	45.16	5.04
Coping with Stressful Situations	pre-test	144.5	19.91	142.27	10.53
	Post-test	156.22	9.20	1139.11	12.61
	Follow-up	155.61	19.58	140.33	11.74

Kolmogorov and Smirnov tests are greater than 0.05. Therefore, the second assumption of variance analysis has not been violated.

### Research hypotheses

Main hypothesis: Quality of life improvement psychotherapy could be effective in coping with stressful situations, reducing anxiety and irrational fear of at risk workers in Isfahan Electricity Distribution Company.

Repeated measure ANOVA was used to analyze the effectiveness of the intervention. One of the assumptions for repeated measurements is the Mauchly test of Sphericity. This test examines the similarity of relationships between the dependent and independent variables to examine covariance equality in repeated measures. Due to the

significance of Mauchly test for the three scales, assumption of covariance equality was confirmed ( $P < 0.01$ ).

The values of the Wilks Lambda test are given in Table 3. Values range from 0 to 1, with values close to 0 showing a significant difference between the mean of the groups.

According to Table 3 and values of 0.38, 0.18 and 0.13, for between-group, within-group and interactive effects of psychotherapy based quality of life improvement on the scale of coping with stressful situations, anxiety and irrational fears, it can be said that, psychotherapy based on quality of life improvement have been effective on at least one of the dependent variables. In the following section, the results of the between-group and within-group analysis of variance at the pre-test,

**Table 3.** Wilks Lambda test for investigation of the difference between means of coping with stressful situations, anxiety and irrational fears.

Source	Value	F	df	Significant	Eta	Power
Between group	0.38	9.74	5	0.01	0.62	1.00
Within group	0.18	11.09	10	0.01	0.81	1.00
Interaction effect	0.13	15.83	10	0.01	0.86	1.00

**Table 4.** Between-subject and within-subject variance analysis with three measurements of pre-test, post-test and follow-up for coping with stressful situations, anxiety and irrational fears.

Scale	Source		Sum of squares	df	F	Sig	Eta	Power
Coping with stressful situation	Within subject	Factor	371.90	2	9.66	0.01	0.22	0.97
		Interaction	163.16	2	42.58	0.01	0.55	1.00
		Error	1307.92	68	-	-	-	-
	Between subject	Group	4370.08	1	6.25	0.02	0.15	0.68
		Error	23765.79	34	-	-	-	-
Anxiety	Within subject	Factor	37.72	2	36.38	0.01	0.25	0.99
		Interaction	34.24	2	17.12	0.01	0.14	0.83
		Error	212.70	68	-	-	-	-
	Between subject	Group	181.48	1	181.48	0.01	0.19	0.78
		Error	775.51	34	-	-	-	-
Irrational fears	Within subject	Factor	43.16	2	24.58	0.01	0.42	1.00
		Interaction	11.16	2	6.50	0.01	0.16	0.89
		Error	58.33	68	-	-	-	-
	Between subject	Group	367.75	1	3.76	0.05	0.09	0.47
		Error	320.75	34	-	-	-	-

post-test and follow up phases are shown in Table 4.

According to Table 4 and the significance of factors within the groups, there was a significant difference between the three measurements of pre-test, post-test and follow-up for coping with stressful situations, anxiety and irrational fear scales at the level of  $P < 0.01$ . Also, due to the significance of the source of the group among the groups, it can be said that there is a significant difference between the experimental and control groups for coping with stressful situations, anxiety and irrational fears scales at the level of  $P < 0.05$ . A pairwise comparison for the scales under study, between three pre-tests, post-test and follow-up

measurements, using Bonferroni's post hoc test is demonstrated in Table 5.

According to Table 5, pre-test scores has significant difference with post-test and follow-up of all scales of coping with stressful situations, anxiety and irrational fears, and the post-test scores in the follow-up scales has remained relatively constant and the effect of the quality of life improvement psychotherapy is still durable. The results of this study indicate that quality of life improvement psychotherapy has increased the ability to cope with stressful situations, reduce anxiety and irrational fear in at risk workers of electricity distribution company in Isfahan. Moreover, the increases in all the above mentioned

**Table 5.** Bonferroni's post hoc test for comparing coping with stressful situations, anxiety and irrational fears scales using a pair wise approach in the timed lag.

Scale	Phase A	Phase B	Mean diff	Standard err.	Sig
Coping with stressful situation	Pre-test	Post-test	-4.50	1.25	0.01
		Follow-up	-3.80	1.19	0.02
	Post-test	Follow-up	0.70	0.44	0.06
Anxiety	Pre-test	Post-test	1.69	0.53	0.01
		Follow-up	1.80	0.47	0.01
	Post-test	Follow-up	0.11	0.10	0.33
Irrational fears	Pre-test	Post-test	1.41	0.26	0.01
		Follow-up	1.25	0.25	0.01
	Post-test	Follow-up	-0.16	0.09	0.07

scales were maintained at follow-up stage. Given to the results, the main hypothesis of the research was confirmed, i.e. psychotherapy based on quality of life improvement have been effective on increasing coping ability with stressful situations, decreasing anxiety and irrational fear in workers at risk of Isfahan Electric Distribution Company.

### **Discussion**

The main aim of this research was to investigate the effects of psychotherapy based on quality of life improvement on increasing the ability of coping with stressful situations, reducing anxiety and irrational fears in at risk workers of electricity distribution companies in Isfahan. Given to the results, the quality of life improvement psychotherapy has been effective in coping with stressful situations, anxiety and irrational fears, and changes were maintained at the follow-up. These results are in line with the results of Grant et al. (1993), Lyubomirsky et al. (2013), Torre et al. (2016) and Martinsen et al. (2016), Salmabadi, Farogh Sadeghbojd, Farshad, and Zolfaghari (2019).

In explaining the effectiveness of the intervention on increasing the coping ability with stress, it can be said that in quality of life improvement psychotherapy, participants are trained to identify their pessimistic (negative automatic) thoughts. They also learn that their negative automatic thoughts are involuntary situation specific thoughts, which invade their minds in the face of stressful situations. The preparation of a checklist of negative automatic thoughts and challenging them through the method of lie detection and confronting the beliefs that become activated in struggling with difficult situations can change people's reactions. In other words, learning logical challenging with negative thoughts and learning problem-oriented management, instead of an emotional reaction with everyday life stressors, had a positive effect on participant's ability to cope with stressful situations.

Anger control training might also have been influential on the ability to cope with stressful situations. Concerning the effect of quality of life improvement psychotherapy on the reduction of anxiety and irrational fears in at risk workers of the Isfahan Electricity Distribution Company, the use of quality of life improvement techniques, and having an opportunity for renewal, has led participants to a deep sense of relaxation and has encouraged them to do their favorite activities (Seligman, 2003; Frisch, Clarrk, Rouse, Rudd, Paweleck & Greenstone, 2005).

Using inner abundance principle that they learned from quality of life improvement psychotherapy, participants found that with wisely and friendly caring for themselves, deep tranquility, vitality, concentration, kindness, vigilance and readiness for facing the daily challenges of life is actually attainable.

### **Conclusion**

Generally, several factors may have contributed to these findings. In quality of life improvement psychotherapy, the positive emotions of people are clarified and negative emotions are compared with positive emotions and people find that negative emotions (fear, sadness, and anger) are the first line of defense to deal with external threats.

They also find that, to get rid of these negative emotions, it is better to change internal situations instead of changing external ones. It seems that people's familiarity with the three concepts of positive emotions in the past, present and future, and changing feelings about the past, would change how they think about the future and how they experience it and would increase the positive emotions of the future (optimism, hope, faith, and trust), the emotions of the present (joy, passion, tranquility, enthusiasm, pleasure), and emotions of the past (satisfaction, joy, happiness, and peace). Finally, it can be said that the quality of life improvement psychotherapy attempts to

change the cognitions by using the cognitive and behavioral approach and helps people to replace old or negative thinking with positive thinking by using positive psychology and also can enhance coping with stressful situations and reduce anxiety and irrational fears in people through its effects on the positive and negative emotions.

A limitation of this study is that it is merely conducted on at risk workers of the electricity distribution company. The second limitation relates to the use of self-report scales for data collection. Future research should study the effectiveness of quality of life improvement psychotherapy on other samples with using other measurement scales such as interview.

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