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The Effectiveness of Problem-focused Coping Strategies Training on Quality of Life in Pregnant Women with Genetic Risk of Fetal Abnormalities

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ABSTRACT

Introduction: Abnormalities and genetic disorders in the fetus are one of the most important traumatic events for mothers, which can cause discomfort and stress. This study aimed to determine the effectiveness of training based on problem-focused coping strategies on Quality of Life (QOL) in pregnant women with genetic risk of fetal abnormality.

Methods: The current study is an experimental method of field trial type with a pretest-posttest and a control group. After randomly selection of 30 pregnant women with genetic risk of fetal abnormalities, a pretest of the quality of life questionnaire was done and they were randomly divided into two groups (experimental and control). Then, the experimental groups during twelve sessions (once a week, for 60 minutes) were trained coping strategies and after completion of training, from both groups, QOL post-test was performed and the descriptive statistical index and covariance analysis test was used to analyze.

Results: Results showed that Mothers' QOL scores increased significantly in post-test compared to pre-test, and significantly different. After the intervention, there was a significant increase in various dimensions of QOL including Physical Functioning (PF), Role Physical (RP), Bodily Pain (BP), General Health (GH), Vitality (VT), Social Functioning (SF), Role Emotional (RE), and Mental Health (MH). In the intervention group compared to the control ($F= 67.48$, $P< 0.01$).

Conclusion: It can be concluded that coping strategies training on QOL pregnant women with genetic risk of fetal abnormality is statistically significant in its effectiveness. In addition, it can be deduced that training of problem-focused coping strategies can serve as an effective instructive approach to prevent risks of stress among pregnant women with genetic risk of fetal abnormality.

Keywords: Coping Skills, Quality of Life, Pregnant Women, Congenital Abnormalities

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Introduction

One of the most sensitive periods in a woman's life is pregnancy, which leads to large changes, including physiological and psychological changes, and family-social-roles. These changes cause psychopathological disorders such as stress and anxiety in the mother [1].

Another area of concern and anxiety for pregnant women is the possibility of genetic and chromosomal abnormalities in the fetus. In recent years, it has been possible to diagnose fetal genetic diseases during pregnancy by performing specialized tests [2].

In these tests, firstly, by non-invasive methods and by ultrasonography in the first trimester (weeks 11-13), and then performing blood tests and measuring the hormones released by the fetus in the mother's blood the chances of a fetus are determined by chromosomal aberrations (trisomy 18, 13 and 21). Then, by measuring the other 4 hormones in the second trimester (weeks 14-18), the risk of developing the fetus is due to chromosomal aberrations mentioned above plus several other diseases, such as spinal cord prolapse and lack of brain [3]. Ultimately, if this risk is high, invasive tests will be performed by taking a sample of amniotic fluid or placental peel and, if the fetus is identified, will be issued for non-curable conditions for abortion authorization [4].

Abnormalities, disorders, or genetic defects are categorized in a variety of ways. A batch of genetic diseases makes the carrier patient infertile or in another category, due to chromosomal abnormalities, death occurs at an early age. In other categories, many genetic disorders are inherited and their reappearance in other family members is predictable. The likelihood of a genetic abnormality occurring

among the members of a family depends on the inheritance (inheritance pattern) of the disease.

Of course, several factors such as kinship, ethnicity, race, and degree of infiltration, can affect the severity of disease reappearance [5].

Genetic disorders are generally arranged into three primary groups: single-gene, chromosomal, and multifactorial disorders [6]. The most common autosomal trisomy among neonates is trisomy 18 (Edward syndrome), 21 (Down syndrome) and 13 (Patau syndrome) .That the only trisomy 21 survives, and trisomy 18 is the most common trisomy in aborted fetuses [7]. Since the first phase (non-invasive) tests only indicate the percentage of the probable incidence of disease, pregnant mothers are stressed before the test and in waiting time for the response. And then, mothers who received an intermediate response or had a high risk stressed and worried until after the invasive tests have been completed. Therefore, in this study, the efficacy of problem-focused coping strategies teaching on reducing the probable stress is investigated by examining the amount of stress in women before and after intervention [8].

Today, maternal and child health is a major and important objective for the social and economic development of any society [9].

Hence, studying the factors that lead to a better life and more adaptation of man to the needs and threats of life are among the most important research structures that are the basis of QOL [10]. The QOL is, in fact, an overview of the goals of health care that assess the health effects of a person's health [11]. Despite the general agreement on the potential value of elements, dimensions, and QOL scales, there is no clear agreement on the definition of QOL. Each field and subject, and according to their own viewpoint, the direction of the research provides a specific definition in relation to this concept. However, the reality of multidimensional QOL has been accepted, which is more indicative of physical, psychological and social dimensions. In fact, people consider something different in their QOL, but what is important in defining the QOL is that health dimension should always be considered [12]. The ways people use to deal with events or stressful stimuli are different with each other. Coping strategies used by the individual may lead to reduced psychological pressure and hence an effective coping approach, but some coping responses may worsen the problem or create a new problem [13]. Researchers assume that although

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having a mentally lagged child as a wellspring of stress can put at risk the mental safety of parents, particularly mothers, but its impact depends in part on the cognitive assessment and coping skills of the individual. A number of studies have reported that problem-focused coping strategies more than emotion-focused is related to mental health. Usually, people who use problem-focused coping strategies are better suited to stressful situations and exhibit lesser symptoms and therefore have higher mental health [14].

Anwar A. Ahamd et al. investigated the role of stress and its predictive factors in pregnant women and confirmed the role of interventions that reduce stress [15]. Also, Ghane et al. examined the effectiveness of problem-focused coping strategies on the burden on caregivers of hemodialysis patients. Results indicate problem-focused coping strategies on the burden on caregivers of hemodialysis patients are effective [16]. In another study, Akbari et al. examined the effectiveness of the coping skills training program on pain and QOL in breast cancer patients. Findings showed that stress coping skills are effective on QOL and pain levels in patients with breast cancer [17].

Although, no research has yet examined the effectiveness of training based on problem-focused coping strategies on QOL in pregnant women, the aim of this study is to investigate the effectiveness of teaching based on problem-focused coping strategies on QOL in pregnant women with genetic risk of fetal abnormality.

This research is an applied research. The basic purpose of this kind of research is to develop applied knowledge in a particular context. The present study is based on the method of the experimental research with pre-test and post-test design and a control group.

Methods

The current study is an experimental method of field trial type with a pretest-posttest and a control group. The statistical population consists of pregnant women who referred to laboratories and specialized genetic clinics during the fall of 2016, and their fetus has been diagnosed with a genetic disorder. The number of people in this period was 109. Based on sampling criteria for experimental research, the selection of 15 people for each group is sufficient in these studies [18]. A simple random sampling randomly by lottery was used to determine the sample of this research. Therefore, among pregnant women referring to specialized laboratories and medical centers in the north, center, and south of Tehran in the fall of 2016, among the 44 people who obtained the lowest score in the QOL scale, 30 were selected as the sample. This size of the sample is consistent with the research of Nazmiye et al. [4] and Pourmohamadreza-Tajrishi et al [19]. In the sample size formula $\alpha=0.05$ and $\beta=0.2$, also power statistics of %80 and confidence level of %95 were determined A pre-test of the QOL questionnaire (SF-36) was done and they were divided randomly into two control and experimental groups (each with 15 subjects). Then, for the experimental group, problem-based coping training was provided in 12th sessions of 60 minutes for four months. After completing the training, both groups responded to the QOL questionnaire (SF-36). Finally, the collected data were analyzed.

The QOL questionnaire (SF-36), which is a self-reporting tool is developed by Ware and Sherbourne [20]. One of the most commonly used tools for evaluating health-related QOL is the 36-item health questionnaire (SF-36) [21]. Eight scales are estimated by SF-36: role emotional (RE), physical functioning (PF), role physical (RP), mental health (MH), bodily pain (BP), general health (GH), social functioning (SF), and vitality (VT). Based on component analyses, two distinct concepts measured by the SF-36: a physical dimension, deputed by the physical component summary (PCS), and a mental dimension, deputed by the mental component summary (MCS). For the scoring of both physical component summary and a mental component summary amounts all scales do chip in different proportions [22]. The right estimation of SF-36 synopsis estimates PCS and MCS requires the utilization of uncommon calculations, which are totally controlled by a

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privately owned business [23]. Research on QOL shows that SF-36 questionnaire has a high validity and reliability [24]. Validity and reliability of the SF-36 were evaluated for the first time in Iran by Montazeri et al. [25]. The problem-focused coping strategy which was used in the present study was identified by Folkman and Lazarus [26]. The problem-focused coping strategies program was presented to the experimental group for 12 sessions (once a week, 60 minutes. The scheme of the intervention sessions is presented in Table 1.

Table 1. The program of problem-focused coping strategy teaching [26]

Sessions	The content of each session
1	Introducing and recognizing the stress and its symptoms
2	Explaining effective and non-effective coping strategies with stress
3	Awareness of effective factors (like relaxation) in forming coping styles
4	Explaining the role of problem-solving skill in the promotion of mental health.
	participants were asked to do relaxation from 4th to 12th sessions.
5	Training problem-solving skills (thought rain, creating alternative solutions, selecting the best one)
6	Applying the selective solution, its evaluation, and awareness about its barriers
7	Introducing internal and external locus of control, recognition of negative thoughts
8	Training communicative skills, interpersonal and different styles of behavior, their advantages and disadvantages, awareness of anger management methods.
9	Introducing assertiveness and awareness of the disadvantages of passive behavior styles and advantages of assertiveness
10	Awareness of the factors creating waste of time and ability for time management
11	Training coping by using senses of humor and explaining the advantages of social support
12	Summing up of the previous sessions with emphasizing on the usage of coping skills

Results

SPSS software version 13 was performed as statistical analysis. The statistical method used in this research is descriptive statistics test. In order to a normal distribution of quantitative variables the Kolmogorov-Smirnov test was applied. So as to examine comparison the mean of QOL in experimental and control groups, analysis of covariance (ANCOVA) was performed.

According to Table 2 in the experimental group, the mean of total QOL scores before the test was 13, which changed to 15.78 after the test, this difference is statistically significant. In the control group, the mean of total QOL scores before the test was 12.753, but after the test was 12.756, and these mean values indicate that there was no significant change in the control group. Also, as shown in Table 2, there was a significant difference between the mean components of bodily pain, vitality, physical function, role physical, role emotional, social functioning, mental health and general health, in the experimental and control groups ($p < 0.001$). In other words, problem-focused coping therapy increased the above components at the post-test stage in the experimental group. The results of the Kolmogorov-Smirnov test analysis show that pvalues are bigger than 0.05 and it is clear that the distribution of data is in all aspects of normal.

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Table 2. Descriptive statistics of the score of the variables of the research in two groups divided by pre-test and post-test

QOL Components		Experimental group M	Experimental group SD	Control group M	Control group SD
Physical functioning	pre-test	27.01	4.78	24.92	4
	post-test	29	3	24.30	3
Social functioning	pre-test	4.95	1.08	6.31	0.72
	post-test	7.85	0.85	7.02	0.925
Role physical	pre-test	6.20	2	6.53	2.03
	post-test	9	0.702	6.81	1.84
Bodily pain	pre-test	5.90	2	5.72	2.01
	post-test	7.13	1.87	5.68	1.95
Mental health	pre-test	23.5	7.11	22.05	1.65
	post-test	26.25	2	21.36	2.03
Role emotional	pre-test	4.12	0.85	4.35	1.30
	post-test	8.15	0.22	4.86	1.63
General health	pre-test	16.58	1.63	17.12	1.85
	post-test	19.11	1.25	16.92	1.54
Vitality	pre-test	15.70	1.16	15.03	1.65
	post-test	19.75	1.66	15.11	1.62
Total	pre-test	13	2.57	12.753	1.90
	post-test	15.78	1.43	12.756	1.8

According to Table 3, the effect of pre-test interaction on QOL with the group is not significant (p>.05). So, the slope of regression is homogeneous, and this assumption is not violated. Thus, the necessary preconditions for the covariance analysis test are met; therefore data were able to run this test in order to investigate the research hypothesis.

Table 3. Results of Tests of Between-Subjects Effects and covariance analysis on the mean of post-test scores of QOL in the experimental and control group

Tests of Between-Subjects Effects	covariance analysis on the mean of posttest scores of QOL in the experimental and control groups				Covariance analysis (ANCOVA)		
P	P	F	Value	Factors	Stage	F	P
0.28	0.78	93.4	0.78	Pillai's Trace	Pre-test	0.64	17.22
	0.78	93.4	0.14	Wilks Lambda	Group	0.82	67.48
	0.78	93.4	6.33	Hotelling-Lawley Trace			
	0.78	93.4	6.33	Roy's Greatest Root			

The results of covariance analysis show a consequential difference between F total of 93.4 with a value of 0.14 Wilks Lambda at a level of $p < 0.001$. This is evidence that experimental intervention has been effective at least in improving one of the dependent variables. Moreover, according to the Wilk's Lambda index, it can be concluded that the experimental intervention explains 78% of the variance of recovery. It was showed that all predictors could differentiate between two groups.

ANCOVA was utilized so as to compare the QOL of experimental and control groups in the post-test. The results reported F is calculated for the difference between the post-test scores of the two groups by matching the pre-test scores to 67.48. Besides, according to effect size, 82% of variation can be reported by

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participating in problem-focused coping therapy sessions. Therefore, the consequences of ANCOVA demonstrated that problem-focused coping strategies had the positive and striking effect ($p < 0.001$) on QOL of the experimental group.

Discussion

The results of this study indicate that the intervention has been effective in improving the dependent variable. However, due to the novelty and interdisciplinary nature of the subject, a research that directly evaluates the effectiveness of problem-focused coping training on the quality of life of pregnant women with genetic risk of fetal abnormality has not been found. In the present study, participants knew how to master over their mind, change their complaints to requests, forget the anger relating to previous times, and use problem-solving method for managing their anger. It is possible that the individuals who apply problem-focused coping strategies, their complaints about cardio-vascular, gastrointestinal, and respiratory systems will be less than before.

Problem-focused coping training is strategies that relate directly to a stressful state or stimulus that ultimately reduces it. The finding of the current study indicated that problem-focused coping strategy has reduced anxiety in pregnant women with genetic risk of fetal abnormalities. This was in agreement with a study by Shakeri et al. which they studied suicidal people in terms of identity characteristics, psychosocial stress, adapting with stress and religious orientation [27]. The participants could utilize a progression of adapting reactions in secondary examination; when they figured out how to evaluate each distressing boost at first to decide the undermine or harm coming about because of it. It is expected that the best adapting reactions are problem-focused ones since it is made out of components such consciousness promoting, data processing, behavior correction, getting smooth and relaxed solutions [28].

However, the outcomes of this investigation are consistent with the results of Golnar Ghane et al.

That they studied the burden on Caregivers of Hemodialysis Patients who were trained problem-focused coping strategies in their research. The results showed that after the intervention, the QOL of carers increased in the test group and before and after intervention, there was a notable difference in their quality of life, while there was no considerable difference between the quality of life in the control group before and after the intervention [16]. In another similar study, Niloofar Mikaeli et al. found the role of coping strategies, perceived social helping, improve social functioning and change in foretokening the quality of life of patients with multiple sclerosis. According to the findings, a significant positive relevance exists between perceived social support and quality of life [29]. Similarly, the outcomes of this research are aligned with the results of the research of Alagheband, et al. [2] entitled "the efficacy of coping-therapy on the mental well-being of mothers with genetic and non-genetic mentally lagged children". The results indicated that coping-therapy has a positive effect on the mental health of mothers with genetically mentally retarded children. Mothers somatic symptoms like complaints of bodily pain has been reduced by this treatment and their sleeping, social influence and social function have been improved. Finally, there was no relationship between age and educational degree of mothers with coping-treatment [30].

Conclusion

The results showed that problem-focused coping training for a wide range of challenges and psychological pressures of life that are somewhat manageable improves mental health and also increase personal happiness. In addition, it has been shown that teaching problem-solving skills increase psychological compatibility.

Among the limitations, it should be noted that the economic, social and cultural status of mothers during the screening of this study is not considered.

Regarding the effectiveness of problem-focused coping strategies on the quality of life of pregnant women, it is suggested that public or private

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centers associated with screening tests, problem-focused coping strategies be included in their educational and counseling programs.

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Conflict of Interest

The authors declare that they have no conflicts of interest.

References

1. Ghorbani M, Dolatian M, Shams J, et al. Anxiety, post-traumatic stress disorder and social supports among parents of premature and full-term infants. Iranian Red Crescent Medical Journal. 2014; 16(3): e13461.
2. Alagheband M, Aghayousefi AR, Kamali M, et al. Effect of coping-therapy on mental health of mothers with genetic and non-genetic mentally retarded children. Journal of Shahid Sadoughi University of Medical Sciences. 2011; 19(1): 104-113. [Persian]
3. Geraedts J. Healthy children without fear: Reproductive options for patients or couples carrying inherited diseases. EMBO reports. 2017; 18(5): 666-669.
4. Nazmiye F, Sheikhha M, Kamali Zarch M. The effects of coping therapy on general health of pregnant women with high risk of genetic abnormalities in their fetus. Journal of Shahid Sadoughi University of Medical Sciences. 2016; 24(8): 607-617. [Persian]
5. Turnpenny P, Ellard S. Emery's elements of medical genetics. 15th ed. Philadelphia: Elsevier/Churchill Livingstone; 2017.
6. Mahdieh N, Rabbani B. An overview of mutation detection methods in genetic Disorders. Iranian Journal of Pediatrics. 2013; 23(4): 375-388.
7. Faramarzi S, Homaie R, Izadi R. Efficacy of cognitive behavioral group training of life skills on mental health of women with handicapped spouses. Social Welfare Quarterly. 2011; 11(40): 217-235. [Persian]
8. Santa Cruz J. Why a growing number of U.S. mothers are turning to midwives, rather than physicians, for prenatal care, labor, and delivery. Available at: URL: https://www.theatlantic.com/health/archive/2015/06/midwives-are-making-a-comeback/395456/. Accessed Sep 16, 2018.
9. Hinton L, Locock L, Knight M. Support for mothers and their families after life-threatening illness in pregnancy and childbirth: a qualitative study in primary care. The British Journal of General Practice, 2015; 65(638), e563–e569
10. Campbell-sills L, Cohan SL, Stein MB. Relationship of resilience to personality, copying and psychiatric symptoms in young and adults. Behavior Research and Therapy. 2006; 44(4), 585-599.
11. Topp CW, Ostergaard SD, Sondergaard S, et al. The who-5 well-being index: a systematic review of the literature. Psychotherapy and Psychosomatics. 2015; 84(3): 167–176.
12. Fava GA, Bech P. The concept of euthymia. Psychotherapy and Psychosomatics. 2016; 85(1): 1–5.
13. Adams D, Rose J, Jackson N, et al. Coping strategies in mothers of children with intellectual disabilities showing multiple forms of challenging behaviour: Associations with maternal mental health. Behavioural and Cognitive Psychotherapy. 2018; 46(3): 257–275.
14. Cherewick M, Doocy S, Tol W, et al. Potentially traumatic events, coping strategies and associations with mental health and well-being measures among conflict-affected youth in Eastern Democratic Republic of Congo. Global Health Research and Policy. 2016; 1(1): 1-18.
15. Ahmed AE, Albalawi AN, Alshehri AA, et al. Stress and its predictors in pregnant women: a study in Saudi Arabia. Psychology Research and Behavior Management. 2017; 10(1): 97-102.
16. Ghane G, Ashghali Farahani M, Seyedfatemi N, et al. Effectiveness of problem-focused coping strategies on the burden on caregivers of hemodialysis patients. Nursing and Midwifery Studies. 2016; 5(2): e35594.
17. Akbari M, Alipour A, Zare H. The effect of coping skills training program on pain and quality of life in breast

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cancer patient. Quarterly Journal of Health Psychology. 2015; 4(15): 20-36. [Persian]
18. Delavar A. Fundamental of theoretical and practical in research of human and social science. Tehran: Roshd Publication; 2016. [Persian]
19. Pourmohamadreza-Tajrishi M, Azadfallah P, Hemmati Garakani S, et al. The effect of problem-focused coping strategy training on psychological symptoms of mothers of children with down syndrome. Iranian Journal of Public Health. 2015; 44(2): 254-262.
20. Ware Jr JE, Sherbourne CD. The mos 36-item short-form health survey (SF-36). I. Conceptual framework and item selection. Medical Care. 1992; 30(6): 473-483.
21. Lins L, Carvalho FM. SF-36 total score as a single measure of health-related quality of life: Scoping review. SAGE Open Medicine. 2016; 4: 1-12.
22. Saris-Baglama RN, Dewey CJ, Chisholm GB, et al. QualityMetric health outcomes™ scoring software 4.0. Lincoln, RI: QualityMetric Incorporated; 2010.
23. Optum. SF-36 health survey. Available at: URL: http://www.webcitation.org/6cfdiZOJI. Accessed October 30, 2015.
24. Bunevicius A. Reliability and validity of the SF-36 Health Survey Questionnaire in patients with brain tumors: a cross-sectional study. Health and Quality of Life Outcomes. 2017; 15(1): 92-98.
25. Montazeri A, Goshtasebi A, Vahdaninia M, et al. The short form health survey (sf-36): translation and validation study of the Iranian version. Quality Life Research. 2005; 14(3): 875–882.
26. Lazarus RS, Folkman S. Stress, appraisal and coping. New York: Springer Publishing Company; 1984.
27. Shakeri J, Parvizifard AA, Sadeghi K, et al. Personality traits, stress, coping and religious attitudes among individuals attempting suicide. Iranian Journal of Psychiatry and Clinical Psychology. 2006; 12(3): 244– 250. [Persian]
28. Seaward BL. Essentials of Managing Stress. 3rd ed. Sudbury, Massachusetts: Jones and Bartlett Publishers; 2013.
29. Michaeli N, Mokhtarpourhhabashi E, Maysamy S. The role of perceived social support, coping strategies and resiliency in determining quality of life in patients with multiple sclerosis. Journal of Social Psychology (New Findings in Psychology). 2012; 7(23): 5-17. [Persian]
30. Braun-Lewensohn O, Sagy S, Roth G. Coping strategies as mediators of the relationship between sense of coherence and stress reactions: Israeli adolescents under missile attacks. Anxiety Stress Coping. 2011; 24(3): 327–341.

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