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The Effect of Resilience Training on the Condition of Style of Coping and Parental Stress in Mothers of Children with Leukemia

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Abstract

Background

Diagnosis of cancer in children has an adverse effect on the family. Resilience refers to the ability of humans to adapt to diseases, the pain and suffering caused by parental stresses and stressful factors in the life. The aim of this study was to investigate the effect of resilience training on the styles of coping status and parental stress of mothers whose children had leukemia.

Materials and Methods

At a case- control study, 60 mothers of children with leukemia were selected by available sampling method in Mohammad Kermanshahi Hospital in Kermanshah city, Iran. They were randomly assigned into two experimental groups (n=30), and control group (n=30). Connor-Davidson Resiliency Questionnaire, coping styles and parental stress form were used for data collection. The experimental group was trained nine sessions of resilience training weekly and the control group did not receive any training.

Results

The mean score of mothers' style of coping after the training intervention in the experimental were increased (101.93±31.42 versus 89.20+ 23.84), and this difference was statistically significant (P<0.05). Also the mean of parental stress score after the training intervention in the experimental group were decreased (37.41±13.12 versus 54.23+ 21.09), and this difference was statistically significant (p<0.05).

Conclusion

The results of this study showed that mothers who were trained under resilience skills, had significant progress in increasing the style of coping and reducing parental stress in comparison with mothers in control group.

Key Words: Children, Leukemia, Parental Stress, Resilience, Style of Coping.

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1- INTRODUCTION

Cancer as a chronic life-threatening illness is the second leading cause of death in children between the ages of 1 and 12 (1). Two percent of children and adolescents under the age of 15 in Iran suffer from the disease. However, with the improvement of socio-economic status and health care in Iran, life expectancy in 70% of these people increases to more than 5 years (2). Children with cancer often have symptoms and complications that can have negative effect on their parents and can disrupt the child's coping with the disease (3, 4). Medical care and worries about early childhood death cause the feelings of despair, anger, confinement, and excessive tension in parents. Therefore, the child and family members may, in addition to the need of development of compatible and effective strategies to maintain their own performance (5, 6), and solving physical problems, need to management to deal with psychological and emotional complications (7). Informing parents of their childhood cancer is one of the most bitter and hardest experiences that can lead to psychological problems (8). Experts agree that parents of children with cancer are under severe emotional tension (9).

Asghari Nekah et al. (2015), in their study aimed at investigating the status of resilience and emotional damages in mothers with cancer children, concluded that 68.7% of mothers had parental stress, 56.2% had anxiety and 53.1% had depression. Also, there is a negative and significant relationship between mothers' resilience and parental stress, anxiety and depression (10). Also, mothers with cancer children have reported high levels of Parental Stress as signs of post-traumatic parental stress, depression, anxiety, sleep disturbances and fatigue (11). Families with cancer patients experience parental stressful events and continuous conditions with anxiety (12, 13). Today, the survival rate of children with cancer has increased due to progress in treatment. But the prognosis, life expectancy and quality of life in these children are still unclear; these factors can be introduced as the main causes of problems such as parental stress, financial problems, social isolation, and changes in the occupational and family responsibilities, recreational patterns, and family time shortages for addressing healthy children as other Parental Stressors in families with cancer children. A systemic attitude about the family states that the change in a part of the family system will affect the entire system and the internal connection of the family system is interconnected so that the change in one section causes unavoidable change throughout the system (14, 15). Therefore, the diagnosis and treatment of cancer has negative effects in the family environment (16). Parent's initial response to the diagnosis of cancer in their children is often accompanied by a shock and a complex shock. Believing that their children will be lost will be hard for them. Undoubtedly, cancer is one of the most commonly encountered events that a person can face in his life and its changes will affect not only the individual, but also the brothers and parents, and the family as a whole (17).

One of the appropriate strategies to promote mental health in people is resilience. Resilience addresses the fact that a person can improve his social function and overcome the problems in spite of being exposed to severe Parental Stress and risk factors (18, 19). Resilience of families means being able to stand up to a crisis or continually challenging and returning to the first state (20). To Myers-Walls, it is better to focus on how families can succeed instead of focusing on how they fail and consider the best practices that are based on key processes for persuading the individual and family to grow up (20, 21). Asghari Nekah et al., in their study concluded that 68.7% of

mothers have Parental Stress, 56.2% have anxiety, and 53.1% have depression. Also, there was a negative and significant relationship between mothers' resilience and their Parental Stress, anxiety and depression (10). Although the idea of resilience in dealing with the unfortunate conditions existed years ago in myths, art and literature but in the late nineteenth and early twentieth centuries, when developmental psychology evolved, there was a clear desire to adapt to the environment (22). Resilience is one of the topics studied by the positive psychology. Positive psychology was established in the late 1990s, and its focus is on individual powers and abilities, rather than the search for weaknesses and deficiencies of the individual (23). Werner was one of the first scientists to use the term "resilience" in the 1970s. He studied on a group of children Qiwei areain Hawaii who were in poverty, or were living with mental or alcoholic parents or fired from work. Werner found that children grown up in very bad situations have shown malicious behaviors such as abuse and illicit births, and so on. But one-third of these kids did not have destructive behaviors, Wiener relieved the latter group. The kids and their families with this feature have different characteristics and capabilities than children and unbearable families (24, 25).

Dana defines resilience as dealing with parental stress at a time that increases self-confidence and social capability. Resilience is the ability to grow, reach maturity, and increase the ability to respond to adverse conditions. These conditions may include biological abnormalities or environmental barriers. In addition, the adverse conditions may be chronic and permanent or severe and unusual (26). In a study by Lee et al. among parents with children with leukemia, the results showed that cancer diagnosis had a negative impact on the physical and mental health of both parents and their children. Mothers also had lower levels of mental health, and the rate of depression and anxiety in mothers were higher than fathers (27). In a research conducted by Sharma et al., the results showed that anxiety levels in patients with cancer were higher and also quality of life was lower. On the other hand, the program of increasing the resilience has caused the increasing of resilience and reducing the level of parental stress and anxiety (12). Diagnosis of cancer in children will have adverse effects for the whole family. Excessive parental stress, anxiety, and coping issues are just a few issues caused by the diagnosis of cancer in children. Therefore, considering that among family members, mothers are more likely to be involved with their children's illness and they are more responsible for the care of children; and their continued presence with their children in the hospital has adverse consequences for them, and the role of mother in the family is as the heart of life, therefore, putting resilience as a relatively new perspective in improving the health of people is a worthwhile issue. According to what mentioned, the purpose of this study was to determine the effect of resilience training on styles of coping status and parental stress among mothers with cancer children.

2- MATERIALS AND METHODS

2-1. Method

A sample with 60 people was selected using available sampling method; the experimental group (30 ones), and the control group (30 ones) were randomly assigned to the control group based on the number of paired cases in the experimental group and the individual numbers in the control group. The sample has the following features: the minimum age for mothers was 35 years old and the maximum age was 50 years old and the minimum education level was junior high school degree and the maximum education

level was bachelor degree. The age of children was between 9 and 14 years old. Participants' entry criteria were as follows: the definitive diagnosis of cancer with the emphasis of a specialist physician, passing at least 6 months from the diagnosis of children with leukemia and the type of drug treatment.

2-2. Study Design and Population

The method of this study was an experimental design. In this research, the post-test pre-test was used with the control group and the mothers were replaced in an accessible manner in the experimental and control groups. The statistical population in this study was all mothers whose children had leukemia and had a medical record in Mohammad Kermanshah Hospital of Kermanshah city, Iran, in December 2015.

2-2. Measuring Tools

2-2-1. Styles of Coping Questionnaire

The "Styles of Coping Questionnaire" was used to measure the Coping scale. This questionnaire, designed by Folk man and Lazarus (1985)(28), is used to measure thoughts and actions of individuals to deal with stressful events of everyday life. It has 66 phrases and 8 subsamples, and all of the subsamples of the experimental are placed in the two main clusters, emotion-centered, and problem-oriented confrontational methods.

Individuals respond to each item on a four-point Likert scale(1= completely false), and (4 = always true)(29). Minimum score is 66 and maximum score is 264.Lazarus has an internal consistency of 0.66 - 0.79 for each coping styles have been reported (30). The reliability of this tool has been reported by Cronbach's Alpha method in general (0.84) according to the inner and foreign studies (31, 32). In this study, Cronbach's alpha was 0.76.

2-2-2. Parental Stress Scale Short Form Questionnaire

This questionnaire was taken in response to the need of clinical experts and researchers to provide a valid scale for measuring Parental Stress in parent-child relationships that could be implemented at a limited time, directly from the long form of this scale, developed by Abidin (1995)(33). The scale was developed based on the theory that the overall parental stress experienced by parents is a function of child behavioral attributes, parents' personality characteristics, and psychological parental stresses of the family environment directly related to parenthood roles (34).

The short form of parental stress scale has 36 questions and includes the questions with the same terms as there are in the main 101-question form. This scale was designed to measure overall Parental Stress in addition to the three areas of parental stress. On Likert scale, the score is (0 = completely false), and (5 = always true).The minimum score is 0 and the maximum score is 180. Reliability was assessed by open-ended test of 530 mothers at a time interval of 6 months and the reliability coefficient of overall parental stress was 84% (35). In the research done by Kaveh, the reliability of this questionnaire in Iranian society was 92% (36). In this study, Cronbach's alpha was 0.86.

2-3. Procedure

At first, the research assistant of Kermanshah Medical Sciences University was granted permission and 60 cases were randomly selected by referring to the oncology department of Dr. Mohammad Kermanshahi Hospital, Kermanshah; based on the file number, the pairs numbers were assigned to the experiment group and the individual numbers to the control group. The training was carried out by a psychologist with a PhD degree who completed the training course at Dr. Mohammad Kermanshahi Hospital. Then all mothers were pre-tested based on

parents' styles of coping and parental stress questionnaires. Subjects in the experiment group received 9 sessions of resilience training once a week for two months and one week and the control group did not receive any training. One month after the completion of treatment sessions, both groups received a post-test. It should be noted that the curriculum adjusted for resilience was summarized in three aspects: familiarity with the concept of resilience and the characteristics of resilient people, internal and external factors, familiarity with ways to create resilience (36),and was trained during 9 sessions, each session for one hour (**Table.1**).

Table-1: The resilience skills training protocol in this study

Number of session	Content of session
First session	Pre-test- Providing the guidance for members' participation and explain how to do the work: 1. Introducing the researcher 2. Introducing the members Explaining the general lines of the sessions for the members.
Second session	Introduction to the general framework of the discussion: 1. Define of Resilience 2. Introducing the characteristics of resilient people: 1. Happiness 2. Wisdom and insight 3. Humor 4. Sympathy 5. Rational adequacy 6. Purposefulness in life 7. Stability.
Third session	Solution: understanding unpleasant situations of life and increasing coping and tolerance in the individual domain. Purpose: introduction to the internal support factors. 1. The concept of optimism. 2. Self-esteem. 3. Control source. Solution: Understanding the talents and interests and emphasizing them and willingness to use them.
Forth session	Purpose: introduction to the external support factors. 1. Social Support System. 2. Individual responsibility and acceptance of significant roles. Solution: Feeling of belonging affiliated and valued and willingness to participate.
Fifth session	Purpose: introduction to ways to provide resilience. 1. Establishing and maintaining contact with others. 2. The Framework for Parental Stress. 3. Acceptance.
Sixth session	Purpose: to continue the ways to provide resilience. 1. Purposefulness and hope for the future. 2. Acting.
Seventh session	Purpose: to continue the ways to provide resilience. 1. Self-awareness. 2. Developing the confidence.
Eighth session	Purpose: to continue the ways to provide resilience 1. Self-care.
Ninth session	Purpose: Conclusion and implementation of post-test.

2-4. Ethical Consideration

It must be mentioned that mothers had been briefed about objectives of the research. Moreover, written consent had been obtained from the mothers before they were included in the study.

2-5. Data Analyses

The results were analysis with descriptive statistics (mean and standard deviation [SD]), and compared pre-test and post-test mothers' style of coping and parental

stress by (covariance analysis) using SPSS version 23.0 software.

3- RESULTS

The aim of the study was to investigate the effect of resilience training on increasing coping and reducing the parental stress of mothers with children with cancer. Totally, 60 mothers entered the study; 29% of the mothers were in the age group of 35-50 years old. The mean age of mothers in experimental group was 39±12.36 years old and in control group was 38.70+11.41 (p=0.12).

The most of children were in the age group of 9-14 years old. The mean age of children in experimental group was 11.8±2.3 and in control group was 12.3+2.81 months (p=0.47). There were no differences in age and maternal educational degree between two groups (**Table.2**). Descriptive statistics indices include the mean and standard deviation for both experimental and control groups in both pre-test and post-test positions. The mean of mothers' coping score after the training intervention in the experimental group were (101.93±31.42) and in the control group were (88.60 ± 32.03) (of the total score 264). Also mean of parental stress score after the training intervention in the experimental group were (37.41±13.12) and in the control group were (50.45±32.22) (of the total score 180) which was statistically significant (p<0.01) (**Table.3**).

Levin test showed that since the significance level is greater than p<0.05, therefore, there was no significant differences between two groups in terms of variance (**Table.4**). The calculated F-statistic (38.14) was statistically significant for comparison of post-test of control group and experimental group after removal of pre-test effects at the level (p <0.001). According to the ITA coefficient, 22% of the changes in mothers' coping and Parental Stress scores were due to the effect of training the resilience skills (**Table.5**).

Table-2: Demographic characteristics in mothers and their children

Variables		Experimental	Control	P-value
Age of Mothers		39±12.36	38.70±11.41	0.12
Age of Children		11.8±2.3	12.3±2.81	0.47
Maternal educational degree / number (%)	Under Diploma	8 (24%)	6 (18%)	0.15
	Diploma	22 (76%)	24 (82%)	0.23

*Significant (P≤0.05).

Table-3: The mean and standard deviation for mothers' coping and Parental Stress status scores in experimental and control groups

Group	Variables	Pre-test		Post-test		P-value
		Mean	Standard deviation	Mean	Standard deviation	
Experimental	Style of Coping	89.20	23.84	101.93	31.42	0.012*
Control	Style of Coping	87.90	22.96	88.60	32.03	0.10
Experimental	Parental Stress	54.23	21.09	37.41	13.12	0.018*
Control	Parental Stress	52.51	22.01	50.45	23.22	0.09

*Significant (P≤0.05).

Table-4: The Levin test results based on the assumption of equality of variances in the covariance analysis test

Variable	Coefficient F	df	Mean of Squares	P-value
Parental Stress	0.001	1	1368.59	0.73
Style of Coping	0.001	1	1763.25	0.81

F: Analysis of Covariance Statistics; df: Degrees of Freedom.

Table-5: The results of covariance analysis for comparing the post-test scores of the experimental group with the control group in the mothers' style of coping and parental stress scale

Measure	Mean of Squares	df	Analysis of Covariance Statistics	P-value	ITA
Pre-test	1368.59	1	33.08	0.001	0.46
Intergroup variance	8023.12	1	38.14	0.002	0.22
In-group variation	51.135	27	1763.25		
Total	241345	30			

df: Degrees of Freedom; ITA: The original Information Technology Agreement.

4- DISCUSSION

Cancer, in addition to being a physical illness, is considered as a mental illness and it should be considered the psychological factors in the disease and work on it. Cancer can also be a disease associated with living conditions. The aim of this study was to investigate the effect of resilience training on increasing coping and reducing the parental stress of mothers with children with cancer. According to the results, mothers' style of coping score after the training intervention in the experimental group increased and the mean of parental stress score after the training intervention in the experimental group decreased but did not change in the control group. These results are consistent with the results of the studies done by Kaveh (36), Stinhard and Dolbier (37), Noone and Hestings (38), Kaboudi et al. (39), and Nazari et al. (12). The results of a study entitled "parental stress and coping in a Child with Cancer" revealed that mothers' tension in the first year after the diagnosis of cancer was lower than the first months (40). In another study, it was found that the parents' style of coping with children cancer increases over time. In other words, coping in the first 2 weeks after diagnosis was different from 24 weeks after diagnosis (41). In line with the findings of the present study, these results confirm that although the uncertainty about diagnosis, treatment, and prognosis of the disease is a never-ending process, it seems that with time, its severity and the resulting tension will be reduced (42). Probably, the mother accepts the child's illness over the time, and observing the effects of the treatment and, in some cases, relative healing will also increase their coping (43). The results of the research done by Pirbodaghi et al. (44),showed that there is a significant relationship between the duration of diagnosis and the improvement of children with cancer with their mothers' coping. Also, the results of a study titled " Stress and Coping in a Child with Cancer" showed that the parental stress in the first year after the diagnosis of cancer is lower than the first months, in other words, the coping increases with increasing days of diagnosis and relative improvement (45). Parental stress is a response to a real or imaginary perceived threat that results in

physiological reactions. Skehill (2001) in his research, concluded that resilience is associated with effective and useful coping strategies (34). In explaining this result, it can be said that people with high resilience, are directly involved with the problem when confronted with a stressful situation and use all their power; these conditions make their minds and reduce their emotional parental Stress. In addition, the use of resilience skills in stressful situations leads to focusing on the problem and the individual attempts to resolve it as a result of this provided intellectual coherence and identifies the source of stress, which makes the source of stress conditionally valued. In this case, even if the problem is not resolved, identifying the source of parental stress on one hand and increasing the awareness and feeling of control over parental stressors on the other, help improving the mental health. Increasing the resilience skills activates the individual's mental processes, and this cognitive activity increases the view of the individual towards the problem and the source of Parental Stress.

As a result, the chance of reaching an effective solution and coping with parental stress will increase. Resilience acts as a moderator in the relationship between stressful events and outcomes such as cancer, cure or relapse of it. Resilient people are more secure because they deal with stressful phenomena in a logical and problem-solving way and in conditions such as cancer, family members do not hurt their lives, and they can cope with stress more comfortable(46). One of the reasons and explanations for the impact of resilient domain interventions is that the most of these interventions create changes in the style of people's documents. According to Dent (2013), the ability to solve problems and conflict resolution skills is one of the obvious character of resilient people (40). Therefore, resiliency is a protective agent that acts like a vaccine. People with high resilience use effective coping strategies to deal with lifestyle issues, and they look at problems in a way that they consider problems as an opportunity for learning and growth (47). McGrath (2000) concluded that individuals learn strategies and skills to confront with the unpleasant life events. The resilience enhancement program makes people with high resilience confront optimism, self-expression and self-esteem with Parental Stressful events (41). As a result, these events can be controlled. Optimistic attitudes make information processing more effective, and it employs more active coping strategies and increases the ability to cope with difficult situations.

Therefore, resilience increases the flexibility of the individual and this will increase the coping of people with different conditions. Resilience also increases mental health by decreasing negative emotions, and increases the level of satisfaction of life (48). At the end, it is suggested that educational programs for improving the mental health of parents with children with cancer, such as resilience programs, should be provided by the organizations and authorities in the list of services provided to them and educational interventions for parents should be considered as a part of treatment program for children with cancer.

Due to the specific conditions of cancer patients, this study had certain limitations, including the inability to find out the generalizability of findings to other types of patients, the generalizability of findings to other patients in other cities, data collection using a questionnaire, the use of available sampling, and a low sample size because of the specificity of the sample. Therefore, it is suggested to use the other tools such as interviews that in the future researches in addition to the questionnaire. Also, the random sampling method to be used and the effect of the factors studied in this study on other patients be also

investigated. Since the mothers of cancer patients are used as a sample, it can be considered as a research limitation; because of having a close emotional relationship between the mother and the patient, they may not have the usual response in terms of resilient mechanisms, coping with Parental Stress and coping, which are the main variables under study and this should be taken into consideration in future research, and it should be better to use sample of healthy people from both parents. Also, self-reporting of the research tool is a limitation, so in future research, more objective tools that have less bias in relation to the subject's viewpoint should be used. Given that this study was conducted on mothers of cancer children, it is suggested that these variables be investigated on own patients and both parents. It is suggested that in future studies, other variables could be considered in the study on the mothers of cancer patients and compared with the present study. Longer follow-up periods can be used to get better results.

5- CONCLUSION

According to the findings of this study, it can be concluded that the resiliency effectiveness leads to a difference in the level of style of coping and parental stress in mothers with cancer children. Therefore, the development of a comprehensive care program in mothers with cancer children is recommended by reinforcing the resilience and improving strategies for coping with parental stress and increasing their coping. Finally, we can use psychosocial treatments along with medical treatments and work on the features discussed in this study to improve the level of coping and parental stress and improve the mental health of mothers with a child with cancer. The present study can make us aware of the factors involved in the conditions and life of mothers with cancer patients, and our awareness provides the basis for helping and creating better conditions for these mothers. Other practical applications can be to increase knowledge about the treatment of these patients. With knowledge of the underlying variables, resilience is a protective factor that acts as a kind of vaccination. High-resilience individuals use effective coping strategies to deal with life-related issues and they look at problems in such a way that the problems are as an opportunity for learning and growth.

6- CONFLICT OF INTEREST: None.

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8- REFERENCES

1. Jafroodi M, Ghandi Y. Epidemiologic evaluation of pediatric malignancies in 17 shahrivar hospital. Journal of Guilan University of Medical Sciences. 2009;17(68):14-21.

2. Abrams AN, Hazen EP, Penson RT. Psychosocial issues in adolescents with cancer. Cancer treatment reviews. 2007;33(7):622-30.

3. O'Conner-Von S. Coping with cancer: A web-based educational program for early and middle adolescents. Journal of Pediatric Oncology Nursing. 2009;26(4):230-41.

4. Reshadat S, Saeidi S, Zangeneh AR, Khademi N, Khasi K, Ghasemi S, et al. Spatiotemporal Distribution of Gastrointestinal Tract Cancer through GIS over 2007-2012 in Kermanshah-Iran. Asian Pacific Journal of Cancer Prevention. 2015;16(17):7737-42.

5. Akbarbegloo M, Habibpour Z. Investigating the relationship between mental

health and using coping Strategies in parents of thalassemia and hemophilia children. Journal of Urmia Nursing and Midwifery Faculty. 2010;8(4):191-6.

6. Hassani P, Abbasi P, Zagheri Tafreshi M, Zayeri F, Ziapour A. Persian version of Family Crisis Oriented Personal Evaluation Scales: Psychometric Properties. International Journal of Pediatrics. 2018;6(1):6919-30.

7. Zareifar S, Almasi-Hashiani A, Karimi M, Tabatabaee SH, Ghiasvand R. Five-year survival rate of pediatric leukemia and its determinants. Koomesh. 2012;14(1):13-9.

8. Jantien Vrijmoet-Wiersma C, van Klink JM, Kolk AM, Koopman HM, Ball LM, Maarten Egeler R. Assessment of parental psychological Parental Stress in pediatric cancer: A review. Journal of Pediatric Psychology. 2008;33(7):694-706.

9. Kazak AE, Boeving CA, Alderfer MA, Hwang W-T, Reilly A. Posttraumatic Parental Stress symptoms during treatment in parents of children with cancer. Journal of Clinical Oncology. 2005;23(30):7405-10.

10. Asghari Nekah S, Jansooz F, Kamali F, Taherinia S. The resiliency status and emotional diParental Stress in mothers of children with cancer. Journal of Clinical Psychology. 2015;7(1):15-26.

11. Ljungman L, Cernvall M, Grönqvist H, Ljótsson B, Ljungman G, von Essen L. Long-term positive and negative psychological late effects for parents of childhood cancer survivors: a systematic review. PLoS one. 2014;9(7):e103340.

12. Nazari B, Bakhshi S, Kaboudi M, Dehghan F, Ziapour A, Montazeri N. A Comparison of Quality of Life, Anxiety and Depression in Children with Cancer and Healthy Children, Kermanshah-Iran. International Journal of Pediatrics. 2017; 5(7):5305-14.

13. Heydarpour F, Siahkamari R, Heidarisharaf P, Ziapour A, Dehghan F. Relationship between Self-Esteem and Attachment Styles and Parenting Styles in Dyslexic Children of Kermanshah City. International Journal of Pediatrics. 2018:In Press.

14. Shahabi S, Fazlalizadeh H, Stedman J, Chuang L, Shariftabrizi A, Ram R. The impact of international economic sanctions on Iranian cancer healthcare. Health Policy. 2015;119(10):1309-18.

15. Babanejad M, Izadi N, Rai A, Sohrabzadeh S, Alavian SM, Zangeneh A. Prevalence of HBsAg amongst healthy children in eastern Mediterranean and middle eastern countries: A systematic review and meta-analysis. Iranian Red Crescent Medical Journal. 2017;19(1):e41507.

16. Robinson KE, Gerhardt CA, Vannatta K, Noll RB. Parent and family factors associated with child adjustment to pediatric cancer. Journal of Pediatric Psychology. 2006;32(4):400-10.

17. Eiser C. Children with cancer: The quality of life: Routledge; 2004.

18. Kaboudi M, Kianipour N, Ziapour A, Dehghan F. A Study of Health Literacy Components and their Relationships with Health-Promoting Behaviors in Students at Kermanshah University of Medical Sciences. International Journal of Pediatrics. 2017;5(12):6721-29.

19. Heydarpour S, parvane e, Saqqezi A, Ziapour A, Dehghan F, Parvaneh A. Effectiveness of Group Counseling Based on The Reality Therapy on Resilience and Psychological Well-Being of Mothers with an Intellectual Disabled Child. International Journal of Pediatrics. 2018:In Press.

20. Walsh F. Strengthening family resilience: Guilford Publications; 2015.

21. Myers-Walls JA. Strengthening Family Resilience. Wiley Online Library; 2017.

22. Wright MOD, Masten AS, Narayan AJ. Resilience processes in development: Four waves of research on positive adaptation in the context of adversity. Handbook of resilience in children: Springer; 2013. pp. 15-37.

23. Neenan M. Developing resilience: A cognitive-behavioural approach: Taylor and Francis; 2017.

24. Werner EE. High-risk children in young adulthood: A longitudinal study from

birth to 32 years. American journal of Orthopsychiatry. 1989;59(1):72.

25. Montazeri N, Kianipour N, Nazari B, Ziapour A, Bakhshi S. Health Promoting Behaviors among University Students: A Case-Sectional Study of Kermanshah University of Medical Sciences. International Journal of Pediatrics. 2017;5(6):5091-9.

26. Dana LB. Relationships among job satisfaction, professional efficacy, student and school performance, and teacher absenteeism: The University of Southern Mississippi; 2014.

27. Wu LM, Sheen JM, Shu HL, Chang SC, Hsiao CC. Predictors of anxiety and resilience in adolescents undergoing cancer treatment. Journal of advanced nursing. 2013;69(1):158-66.

28. Folkman S, Lazarus RS. An analysis of coping in a middle-aged community sample. Journal of health and social behavior. 1980:219-39.

29. Connor KM, Davidson JR. Development of a new resilience scale: The Connor-Davidson resilience scale (CD-RISC). Depression and anxiety. 2003;18(2):76-82.

30. Lazarus RS. Psychological Parental Stress and coping in adaptation and illness. The International journal of psychiatry in medicine. 1974;5(4):321-33.

31. Labrague LJ, McEnroe-Petitte DM, Papathanasiou IV, Edet OB, Tsaras K, Leocadio MC, et al. Parental Stress and coping strategies among nursing students: an international study. Journal of Mental Health. 2017:1-7.

32. Sheu S, Lin H-S, Hwang S-L. Perceived Parental Stress and physio-psycho-social status of nursing students during their initial period of clinical practice: the effect of coping behaviors. International journal of nursing studies. 2002;39(2):165-75.

33. Abidin R. Parenting Parental Stress index . Florida: Psychological Assessment Resources. Inc; 1995.

34. Skehill CM. Resilience, coping with an extended stay outdoor education program, and adolescent mental health. Unpublished honours thesis, University of Canberra, ACT, Australia Retrieved January. 2001;27:2008.

35. Field CB. Managing the risks of extreme events and disasters to advance climate change adaptation: special report of the intergovernmental panel on climate change: Cambridge University Press; 2012.

36. Kaveh M. Developing a Resilience Exercise Against Parental Stress Program and its Impact on its Education on Quality of Life Components of Parents with Mentally Childed Dissertation, "Exceptional Mental Discipline". Tehran: Allameh Tabatabai University; 2008.

37. Steinhardt M, Dolbier C. Evaluation of a resilience intervention to enhance coping strategies and protective factors and decrease symptomatology. Journal of American college health. 2008;56(4):445-53.

38. Noone SJ, Hastings RP. Building psychological resilience in support staff caring for people with intellectual disabilities: Pilot evaluation of an acceptance-based intervention. Journal of Intellectual Disabilities. 2009;13(1):43-53.

39. Kaboudi M, Dehghan F, Ziapour A. The effect of acceptance and commitment therapy on the mental health of women patients with type II diabetes. Annals of Tropical Medicine and Public Health. 2017;10(6):1709-13.

40. Dent M. Stop Stealing Childhood in the Name of Education: A plea to ask Why? 2013.

41. McGrath H. The Bounce Back! Resiliency Program: A Pilot Study. 2000.

42. Norberg AL, Lindblad F, Boman KK. Coping strategies in parents of children with cancer. Social Science & Medicine. 2005;60(5):965-75.

43. Dahlquist LM, Czyzewski DI, Jones CL. Parents of children with cancer: A longitudinal study of emotional diParental Stress, coping style, and marital adjustment two and twenty months after diagnosis. Journal of pediatric psychology. 1996;21(4):541-54.

44. Pirbodaghi M, Rasouli M, Ilkhani M, AlaviMajd H. An Investigation of Factors Associated Adaptation of Mothers to Disease of Child with Cancer Based on Roy Model

Testing. Qom Univ Med Sci J. 2016;9(11):41-50.

45. Reshadat S, Saeidi S, Zangeneh A, Ziapour A, Choobtashani M, Saeidi F. A Study of Children's Geographic Access to Health Services (Health Centers and ClinicalLaboratories) in Kermanshah City. International Journal of Pediatrics. 2018; 6(2): 7241-51.

46. Medicine PVoACfSC. Preservation of upper limb function following spinal cord injury: a clinical practice guideline for health-care professionals. The journal of spinal cord medicine. 2005;28(5):434.

47. Bigalke KL. Coping, Hardiness, and Parental Parental Stress in Parents of Children Diagnosed with Cancer. 2015.

48. Rajabi S. Living Contingent Lives Online: How Mediations of Trauma Foster Meaning-Making and Articulations of Voice in Digital Spaces: University of Colorado at Boulder; 2017.