



A REVIEW: IMPACT OF THE IMPLEMENTATION OF NURSING INTERVENTIONS ON UNDERSTANDING THE CHILD'S HEALTH OR DISEASE THROUGH COMMUNICATING WITH OTHER PARENTS, CONSULTING WITH DOCTOR OR FAMILIES WITH CHILDREN SUFFERING FROM THALASSEMIA

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ABSTRACT

Background and aim: Hemoglobinopathies are among the most common inherited diseases around the world. Any change in life, whether pleasant or unpleasant, requires a kind of readjustment. Coping strategies with life changes and stress resulting from the changes are different in different people and situations. The aim of the present study was to evaluate the impact of implementation of nursing interventions on the understanding of child health or disease through communicating with other parents or consulting with doctor families of children with Thalassemia Thalassemia Center, Dr.Mohammad Kermanshahi Hospital, Kermanshah, in 2014.

Method: This was a quasi-experimental research and data collection was carried out through field study. The sample consisted of 38 parents with children with Thalassemia who admitted to the hospital of Doctor Mohammad Kermanshahi in Kermanshah; they were selected by convenience sampling method and were randomly divided into two experimental and control groups (n=19).

In this study, a coping Health Inventory for Parents (*CHIP*) consisting of 45 items was used to collect pre- and post-intervention data among parents. Subscales of children's understanding of health and disease, or consulting with doctors through communicating with other parents, were used in this study. Before any intervention by the questionnaire, this subscale was measured and recorded. The intervention was then performed for 6 weeks. After 6 weeks of treatment, *CHIP* inventory was given to both intervention and control groups again. Analysis of the data was performed using descriptive statistics (frequency distribution and mean and standard deviation indicators) and inferential statistics (Pearson correlation coefficients and Spearman, paired t-test and Mann-Whitney and Kruskal-Wallis) using SPSS software version 22 and at 5% error level.

Results: The results of this study showed that implementation of nursing interventions had a significant relationship with increased understanding of child's health status or disease in families with children suffering from thalassemia major ($P < 0.05$) and after the intervention, scores of understanding of child's health status or disease in the experimental group were increased.

Conclusion: Since poor coping behaviors can result into psychological - mental problems in parents and consequently their children; it seems that the implementation of nursing interventions in the field and performing individual and group counseling to parents are absolutely essential.

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Introduction

Thalassemia is the most common hereditary disease in the world [1]. Thalassemia major was first described by Thomas Cooley in 1925; he described a form of severe anemia, enlargement of the spleen and bone deformities of the face and skull

in children who were mostly Italian families or immigrants from countries around the Mediterranean [2]. Beta-thalassemia is the most common hereditary disease in Iran [3]. Beta-thalassemia includes a diverse group of hemoglobin caused by reduced production of Beta globin chains [4]. The thalassemia belt includes Mediterranean, the Arabian Peninsula, parts of Africa, Turkey, Iran, India, Southeast Asia, especially Thailand, Cambodia and southern China. In these regions, the prevalence of thalassemia caused by genetic disorder is 2.5% to 15%. Its prevalence in Thailand has been reported to range between 4.8% to 10% and this syndrome is also seen in other parts of Southeast Asia, China and less common in India, Kuwait, the Middle East, Greece, Italy and Northern Europe [5]. Any change in life, whether pleasant or unpleasant, requires a kind of readjustment. Coping strategies with life changes and stress resulting from the changes are different in different people and situations. Coping strategies refer to a set of cognitive and behavioral strategies, which individuals use to cope with stress situations leading to reducing the suffering caused by it [6]. Emotion-focused coping strategies are used to handle feeling of distress [7]. Baljany et al., (2009) have shown in a study that promoting self-efficacy interventions had a positive impact on the total score and subgroups of self-efficacy [8]. In another study, which was carried out by Cheng et al. (2013), the results revealed that nursing psychological intervention can affect the personality characteristics and improve quality of life of patients with esophageal cancer [9]. Due to their professional liability and job, nurses are one of the most appropriate health team members to educate patients and their families and this is because they can take different roles in the health care system and are also able to provide support and care to families with children that are sick and increase their awareness and improve their attitudes in different areas of care [10]. According to the above, this study tries to examine the impact of the implementation of nursing interventions on the understanding of health or sickness of the child via communicating with other parents or consultation with doctors, families with children suffering from Thalassemia in Thalassemia Center, Dr.Mohammad Kermanshahi Hospital, Kermanshah in 2014.

Method:

This was a quasi-experimental research and data collection was carried out through field study. The sample consisted of parents with children with Thalassemia who admitted to the hospital of Doctor Mohammad Kermanshahi in Kermanshah. The center works on two morning and afternoon shifts and admits patients with thalassemia major without age restrictions. Convenient (easy) sampling was used in this study. Of 240 patients, the researcher selected 46 parents who were referred to the thalassemia ward with their child and agreed to participate in the study after providing informed consent to them. In practice, 8 of parents were excluded from the study because of poor response and a number of questions remain empty as well as lack of willingness to cooperate. The study was performed on 38 parents who were selected randomly and were assigned into two experimental and control groups (n=19). CHIP inventory consisting of 45-item was used to before the intervention and after the intervention among the parents of this study. CHIP consists of three subscales which we examined the subscales of understanding the health status or disease of the child through contacting with other parents or consultation with doctors ← subscale III, (items 5,10,15,20,25,30,35,40) ← 8 questions (11) in the study. Mccubin et al., obtained Cronbach's alpha to measure internal consistency of the tool during two separate studies as 0.79 and 0.71. Given that the majority of clients was referred to the Thalassemia Center twice a month, there were 4 sessions of 2 hours for interventions for each sample. Before any intervention by the questionnaire, this subscale was measured and recorded. The intervention was then performed for 6 weeks. After 6 weeks of treatment, CHIP inventory was given to both intervention and control groups again. Analysis of the data was performed using descriptive statistics (frequency distribution and mean and standard deviation indicators) and inferential statistics (Pearson correlation coefficients and Spearman, paired t-test and Mann-Whitney and Kruskal-Wallis) using SPSS software version 22 and at 5% error level.

Findings:

According to the descriptive findings, 63.2% of subjects were in the control group and 68.4% of subjects were in the experimental group of mothers of children with thalassemia. Chi-square test was used to compare two groups in terms of participants of study with children with thalassemia, and based on the results of this test, no significant difference was observed between the two groups ($p < 0.05$). 63.2% of fathers in families of control group aged 40-50 years and 42.1% of fathers in the family group aged 50- 60 years. The average age of fathers in both control and experimental groups were 49.68 ± 8.69 and 52.42 ± 7.70 , respectively. Based on the results of the independent t-test, no significant difference was observed between the two groups in terms of mean age of fathers ($p > 0.05$). In addition, 47.4% of mothers in the families of control group aged under 40 years and 52.6% of mothers in the families of experimental group aged 40-50 years. The average age of mothers in the control and experimental groups was 41.84 ± 7.60 and 44.74 ± 7.51 years, respectively. Based on the results of the independent t-test, no significant difference was observed between the two groups in terms of mean age of mothers ($p > 0.05$). 42.1% of fathers in the families of control group and 31.6% of families in the experimental group had a primary school degree. According to Mann-Whitney test, no significant difference was observed between the two groups in terms of educational level of parents ($p > 0.05$). Furthermore, 36.8% of mothers in the control group and 31.6 percent of mothers in the families of the experimental group had a primary school. According to Mann-Whitney test, no significant difference was observed between the two groups in terms of educational level of mothers ($p > 0.05$). 52.6% of fathers in the families of control group and 52.6% of fathers in the families of experimental groups were self-employed. Based on the test results, likelihood ratio was not significantly different between the two groups in terms of father's occupation ($p < 0.05$). All mothers in the families of control group and 89.5% of mothers in the experimental group were housekeeper. According to Fisher's exact test, no significant

difference was observed between the two groups in terms of mother's occupation ($p < 0.05$). 84.2% of parents in the control group and 89.5% of the experimental group were married. 63.2% of parents in the control group and 68.4% of experimental group of parents had consanguineous marriage. 63.2% of parents in the control group and 68.4% of parents in the experimental group had no history of chronic disease. 89.5% of parents in the control group and 63.2% of parents in the experimental group had no history of hospitalization. In 94.7% of families in the control group and 78.9% of families in the experimental group, no history of chronic disease was observed in other children in the family. 94.7% of families in the control group and 78.9% of families in the experimental group had no children with thalassemia. And based on the Fisher test results, no significant difference was observed between control and experimental groups in any of these cases ($p > 0.05$). In 36.8% of families in the control group, the child with thalassemia was the second child in the family and in 36.8% of the families in this group, the child with thalassemia was the third child in the family or above. In 74.4% of the families in the experimental group, the child with thalassemia was the first child in the family. In 57.9% of families in the control group and 73.7% of families in the experimental group, age of diagnosis in the child with thalassemia was under 1 year. In 52.6% of the families in the control group and 68.4% of the families in the experimental group, age of blood transfusion was under 1 year. In 52.6% of the families in the control group, the child with thalassemia received two units of blood transfusion per month and in 57.9% of the families in the experimental group, the child with thalassemia received one units of blood transfusion per month. 31.6% of the child with thalassemia in the control group aged over 20 years and 38.8% of families in the experimental group aged 16-20 years. In 63.2% of the families in the control group and 57.9% of the families in the experimental group, the child with thalassemia was girl. In 4.47% of the families in the control group and 63.2% of families in the experimental group, the number of family members was 4-5 persons. And 52.6% of the families in the control group and 52.6% of the families in the experimental group were residing in the city or village. Mann-Whitney test results did not show a significant difference between the two groups in terms of child birth, age of diagnosis, age of blood transfusion, the number of transfused blood units, family size and age of children suffering from thalassemia ($p > 0.05$). Moreover, according to the result of the chi-square test, significant difference was observed between the two groups in terms of location and gender of children with thalassemia ($p > 0.05$).

Table 1: Absolute and relative frequency of subjects based on the basis of family coping behaviors in terms of perceived health status or disease through contact with other parents or consultation with physicians in the control and experimental groups

Maintaining social protection	Before the intervention				After the intervention			
	Control		Experimental		Control		Experimental	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Weak(0-8)	19	100.0	19	100.0	19	100.0	18	94.7
Medium(9-16)	0	0.0	0	0.0	0	0.0	1	5.3
Good(17-24)	0	0.0	0	0.0	0	0.0	0	0.0
Total	19	100.0	19	100.0	19	100.0	19	100.0

Based on the results presented in (Table 1), the coping behaviors for understanding the child's health status or disease before and after the intervention in 100% of the families in the control group were poor. The coping behaviors for understanding the child's health status or disease before and after the intervention in 100% of the families in the experimental group were poor; in 94.7% of the families, this rate was weak and in 5.3% of the families it was average after the intervention.

Table 2: Mean and standard deviation of coping behaviors in understanding the child's health or disease through contact with other parents or consulting with doctors in the control and experimental groups

	Before the intervention		After the intervention		P-value
	Mean	Standard deviation	Mean	Standard deviation	
Experimental	13.11	2.31	15.63	2.36	<0.001
Control	11.95	2.17	12.21	1.90	0.413
P-value	0.120		<0.001		

Based on the results presented in (Table 2), the mean scores of the families in understanding the health status or disease of children in the control group before the intervention was 11.95 ± 2.17 , which has been increased by the amount of 12.21 ± 1.90 after the intervention. Paired t-test results did not show a significant difference between the two tests ($t=0.839$, $df=18$, $p<0.05$). Before the intervention, the mean scores of families in understanding the health status or disease of children in the experimental group were 13.11 ± 2.31 , which has been increased in the group by the amount of $15.63 \pm 2/36$ after the intervention. Based on the results of the paired t-test, a significant difference was observed between pre-test and post-test scores ($t=5.265$, $df=18$, $p<0.05$) and the average score was significantly higher after the test. In addition, before the intervention, the results of independent t-test showed a significant difference between the control and experimental groups ($t=-1.593$, $df=36$, $p<0.05$).

However, scores in understanding the health status or disease of children in the experimental were significantly higher after the intervention ($t=-4.917$, $df=36$, $p<0.05$).

Table 3: The average difference between the pre-test and post-test scores of coping behaviors in the realm of understanding children's health status or disease by communicating with other parents or consulting with doctors in the control and experimental groups

	Mean	Standard deviation	Test statistics	Degrees of freedom	p- value
Control	0.26	1.37	-3.97	36	<0.001
Experimental	2.53	2.09			

Based on the results presented in (**Table 3**), scores of understanding the health status or disease of children have increased by an average of 0.26% unit than pretest scores in the control group. But the average scores of families have increased by an average of 2.53% unit than pre-test scores in the experimental group. Independent t-tests were used to compare differences between pre-test and post-test scores in both control and experimental groups. Based on the results of this test, a significant difference was observed between the two groups ($t=-3.947$, $df=36$, $p<0.05$). Therefore, the increase in scores from pre-test to post-test in the experimental group was significantly higher. Accordingly, the intervention has caused a significant increase in coping behaviors of families in terms of understanding the child's health status or disease in the experimental group compared to the control group.

Discussion and conclusion:

The results of this study showed that implementation of nursing interventions had a significant association with an increased understanding of children's health or disease in families with children with thalassemia major ($P < 0.05$) and scores of understanding children's health or disease in the experimental group were increased after the intervention. Since poor coping behaviors can result into psychological - mental problems in parents and consequently their children; it seems that the implementation of nursing interventions in the field and performing individual and group counseling to parents are absolutely essential. The results in (**Table 1 to 3**) for achieving the aim of this study i.e., to determine the coping behaviors of perceived health status or disease for children through communicating with other parents or consulting with doctors in families with children suffering from thalassemia were provided Thalassemia Center, Dr. Mohammad Kermanshahi Hospital, Kermanshah before and after implementation of nursing interventions in 2014. Based on the results presented in (**Table 1**), the coping behaviors for understanding the child's health status or disease before and after the intervention in 100% of the families in the control group were poor as well as the coping behaviors for understanding the child's health status or disease before and after the intervention in 100% of the families in the experimental group were poor in 94.7% of the families, this rate was poor and in 5.3% of the families it was average after the intervention. Based on the results presented in (**Table 2**), paired t-test results did not show a significant difference before and after the intervention in the control group. However, paired t-test showed a significant difference between pre-test and post-test scores in the control group and post-test scores were significantly higher; therefore, based on the results presented in (**Table 3**), an increase of scores from pre-test to post-test in the experimental group revealed that the implementation of nursing interventions significantly increased scores of coping behaviors in the understanding of health status or disease for children in the experimental group compared to the control group, which are in line with the results of research by Lavasani et al., study entitled as Educational effect of social skills on the social adjustment and educational function among late-to-learn students in the experimental group in Zanjan province. The results of this study also suggest that the intervention had a significant effect on social adjustment and academic performance of male late-to-learn students in the experimental group [10,11] Furthermore, these results are consistent with the study of Naderi et al. (2007) entitled as Impact of social skills training on individual socio compatibility, aggressiveness and assertiveness in female high school students at-risk; the results of this study showed that social skills training will help promote compatibility in the quality of life of children and adolescents, this training will also reduce aggression and increase assertiveness of female high school students at-risk [12,13]. Among the limitations of the study was, because the majority of the patients aged over 20 years, they alone referred to Thalassemia Center for blood during blood transfusion and other cares and their parents did not accompany them which made it difficult for researcher to access to 38 parents. According to the research findings, it is suggested that the results of the present study are presented to the authorities of thalassemia centers in order to support the comprehensive plan for the establishment of counseling centers especially for patients and their families. It is also recommended that the coping behaviors for parents of children with chronic disease are compared with coping behaviors of other healthy children.

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