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THE EFFECT OF IMPLEMENTATION OF NURSING INTERVENTIONS ON SOCIAL SUPPORT MAINTENANCE, SELF-ESTEEM AND MENTAL STABILITY IN THE FAMILIES OF CHILDREN WITH THALASSEMIA MAJOR

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ABSTRACT

Introduction and Purpose: Thalassemia major is a chronic disease with detrimental effects of individuals, families and healthcare centers. Effective coping styles decrease the negative effects of stress and improve the ability to manage environmental and internal stressors and adoption of these behaviors. The present study intended to investigate the effect of implementation of nursing interventions on social support maintenance, self-esteem and mental stability in the families of children with thalassemia major in Thalassemia Center of Mohammad Kermanshahi Hospital in Kermanshah, Iran in 2014.
Materials and Methods: This study was a quasi-experiment. The statistical population comprised 240 families of children with thalassemia major visiting the thalassemia center of Dr. Mohammad Kermanshahi Hospital in Kermanshah, Iran, amongst which 38 parents of children with thalassemia major was selected based on convenience sampling method who were randomly assigned to two case (n=19) and control (n=19) groups. The 45-item CHIP (Coping Health Inventory for Parents) was used as a pre-intervention and post-intervention questionnaire for parents. The present study utilized the subscale of social support maintenance, self-esteem and mental stability. It is worth noting that the validity and reliability of the questionnaire was confirmed. Data analysis was performed in $SPSS_{22}$ at %5 error level using frequency distribution, mean and standard deviation indices, Pearson and Spearman correlation coefficients, paired t-test, and Mann-Whitney and Kruskal-Wallis tests. Results: The results of the present study indicated that there was a significant relationship between implementation of nursing interventions and increase of social support maintenance in the families of children with thalassemia major ($P<0.05$) and the post-intervention scores of social support maintenance increased in the case group. Conclusion: Since inappropriate coping behaviors cause mental and psychological problems in families and their children, the implementation of nursing interventions and individual and group consultations to parents seem absolutely necessary.

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Introduction

Thalassemia major is a chronic disease with detrimental effects of individuals, families and healthcare centers. The families of thalassemia patients suffer from emotional pressures as well as mental and psychological concerns due to their frequent referrals to the hospital, which, in turn, decreases their social performance. These families need emotional and educational support about the symptoms, complications and outcomes of the disease [1]. About %3 of the world's population are the gene carriers of beta thalassemia major which is more prevalent in Italy and Greece as well as northern and western Africa,

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Turkey, Iran, Syria, the Arab race esp. Saudi Arabia, Pakistan and India. This disease is more prevalent in northern provinces and southern coast of Iran; however, it is more or less observed in other regions. About %10-13 of thalassemia gene carriers reside in Golestan and Mazandaran provinces in Iran and thalassemia major is most prevalent in these provinces. Gilan, Hormozgan and Khuzestan provinces with %7-10 prevalence of carriers and Fars, Kohgiluyeh and Boyer-Ahmad, Bushehr and Sistan and Baluchistan provinces with %5-7 prevalence of beta gene carriers have got the second rank. Based on a study at high-school level, the prevalence of beta gene carriers is %4 in Tehran; In general, the rate of %4 has been reported as the prevalence rate of beta gene carriers in Iran [2].

Effective coping style is an important source of creating well-being and psychological adjustment in stressful situations, affecting the physical and mental health of suffering individuals. Effective coping styles decrease the negative effects of stress and improve the ability to manage environmental and internal stressors and adoption of these behaviors. On the contrary, ineffective coping styles increase the negative effects of stress. Effective coping style is an important source of creating well-being and psychological adjustment in stressful situations, affecting the physical and mental health of suffering individuals [3]. Families with inappropriate coping behaviors cannot give sufficient support to their children, which has a negative effect on the mental health of children. Appropriate educational planning provided with the aim of enhancing the coping skills of the families of children with thalassemia major can be useful in reducing the psychological problems of children. Coping, that is in fact a response to psychological pressure, can be either adaptive or maladaptive. Individuals who use adaptive coping styles enjoy better mental health [4].

Oroujlou and Maslak Pak (2014) found that implementation of nursing interventions for patients undergoing endoscopy can reduce patient anxiety before performing this diagnostic method [5]. George et al. (2013) showed that planned nursing cares reduce or minimize the anxiety of female patients with leprosy [6].

One of the main duties of psychiatric nurses is the individual and group consultations they give to the patients and their families through which they take necessary measures to educate, support and advise them [7]. Based on the foregoing, the present study intended to investigate the effect of nursing interventions on social support maintenance, self-esteem and mental stability in the families of children with thalassemia major in Thalassemia Center of Mohammad Kermanshahi Hospital in Kermanshah, Iran in 2014. Once the inappropriate coping behaviors were identified, they were corrected by the implementation of nursing interventions in form of training and consultation.

Materials and Methods

This study was a quasi-experiment. Data were collected based on field study. The statistical population comprised 240 families (parents) of children with thalassemia major visiting the thalassemia center of Dr. Mohammad Kermanshahi Hospital in Kermanshah, Iran, amongst which 38 parents (father or mother) of children with thalassemia major was selected based on (simple) convenience sampling method who were randomly assigned to two case (n=19) and control (n=19) groups. The 45-item CHIP[1] was used as a pre-intervention and post-intervention questionnaire for parents. The purpose of using CHIP was assessing the reaction of parents in managing their family life when they have a child with an acute or chronic disease. The items of CHIP were developed based on previous items about family stress and theories of family and health. According to the results of factor analysis, CHIP consists of 3 subscales; The present study used the second subscale of social support maintenance, self-esteem and mental stability (18 items including 42, 39, 37, 34, 33, 32, 29, 27, 24, 22, 19, 17, 14, 12, 9, 7, 4, 2) [8]. It is worth noting that the validity and reliability of the questionnaire was confirmed. The subscale of social support maintennace, self-esteem and mental stability of subjects (participants) was assessed and recorded using the aforesaid questionnaire before any intervention. Then, the interventions took place for 6 weeks. After the 6-week interventions, CHIP was given to both control and case (intervention) groups once more. Data analysis was performed in $SPSS_{22}$ at %5 error level using frequency distribution, mean and standard deviation indices, Pearson and Spearman correlation coefficients, paired t-test, and Mann-Whitney and Kruskal-Wallis tests.

Results

According to the results of descriptive statistics, %63.2 of subjects in the control group and %68.4 of subjects in the case group included the mothers of children with thalassemia. Chi-square test was used to compare both groups in terms of the relation of the participants with each other. Accordingly, not any significant difference was observed between both groups in this regard ($P<0.05$). About %63.2 of fathers in the families of control group aged 40-50 years and %42.1 of fathers in the case group aged 50-60 years. The mean age of fathers in both control and case group was equal to 49.68±8.60 and 52.42±7.70 respectively. Based on the results of t-independent test, there was not any significant difference between both groups in terms of the mean age of fathers ($P>0.05$). Moreover, %47.4 of mothers in the families of control group aged under 40 years and %52.6 of mothers in the case group aged 40-50 years. The mean age of fathers in both control and case group was equal to 41.84±7.60 and 44.74±7.51 respectively. Based on the results of t-independent test, there was not any significant difference between both groups in terms of the mean age of mothers ($P>0.05$). About %42.1 of the fathers in the families of control group and %31.6 of the fathers in the families of the case group had junior-school education. Based on

[1] Coping Health Inventory for Parents

the results of Mann-Whitney test, there was not any significant difference between both groups in terms of the educational level of fathers (P>0.05). Furthermore, About %36.8 of the mothers in the families of control group and %31.6 of the mothers in the families of the case group had junior-school education. Based on the results of Mann-Whitney test, there was not any significant difference between both groups in terms of the educational level of mothers (P>0.05). About %52.6 of fathers in the families of control group and %52.6 of the fathers in the families of the case group were self-employed. Based on the results of Likelihood Ratio test, there was not any significant difference between both groups in terms of the occupation of fathers (P>0.05). Furthermore, all the mothers in the families of control group and %89.5 of the mothers in the families of the case group were house wives. Based on the results of Fisher's Exact test, there was not any significant difference between both groups in terms of the occupation of mothers (P>0.05). About %84.2 of parents of the control group and %89.5 of the parents of the case group were married. About %63.2 of parents of the control group and %68.4 of the parents of the case group had family marriage. About %89.5 of parents of the control group and %63.2 of the parents of the case group did not have any history of chronic disease. About %89.5 of parents of the control group and %63.2 of the parents of the case group did not have any history of hospitalization. In about %94.7 of the families of the control group and %78.9 of the families, there was not any history of chronic disease in other children of the families. In about %94.7 of the families of the control group and %78.9 of the families, there was not any history of thalassemia in other children of the families. Based on the results of Fisher's test, there was not any significant difference between both control and case groups in none of the aforesaid areas (P>0.05). In %36.8 of the families of the control group, the second child had thalassemia and in %36.8 of the families of the same group, the third child and higher had thalassemia while in %74.4 of the families of the case group, the first child had thalassemia. The age of disease diagnosis was under 1 year in %57.9 of the families of the control group and %73.7 of the families of the case group. The age of onset of blood transfusion was under 1 year in %57.6 of the families of the control group and %68.4 of the families of the case group. In %52.6 of the families of the control group, the thalassemic child received two units of blood transfusion a month while in %57.9 of the families of the case group, the thalassemic child received one unit of blood transfusion a month. The age of the thalassemic child was 20 and above in %31.6 of the families of the control group while the thalassemic children aged 16-20 in %36.8 of the families of the case group. In %63.2 of the families of the control group and in %57.9 of the families of the case group, the thalassemic child was female. In %47.4 of the families of the control group and in %63.2 of the families of the case group, the number of family members was 4-5. About %52.6 of the families of the control group and %52.6 of the families of the case group resided in city or village. Based on the results of Mann-Whitney test, there was not any significant difference between both groups in terms of child birth order, age of disease diagnosis, age of onset of blood transfusion, number of family members and age of thalassemic child (P>0.05). Furthermore, based on the results of Chi-square test, there was not any significant difference between both groups in terms of place of residence and sex of the thalassemic child (P>0.05).

Table 1. Absolute and relative frequency distribution of subjects in control and case groups based on the coping behaviors of families in terms of social support maintenance, self-esteem and mental stability

Social Support Maintenance Score	Before Intervention				After Intervention			
	Control		Case		Control		Case	
	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage
Poor (0-18)	2	10/5	0	0/0	1	5/3	0	0/0
Moderate (19-36)	17	89/5	18	94/7	18	94/7	17	89/5
Good (37-54)	0	0/0	1	5/3	0	0/0	2	10/5
Total	19	100/0	19	100/0	19	100/0	19	100/0

According to (Table 1), the coping behaviors of the control group in terms of social support maintenance, self-esteem and mental stability was poor in %10.5 of families and moderate in %89.5 of families before intervention while this rate was remained in %5.3 of families and high in %94.7 of families after intervention. On the other hand, the coping behaviors of the case group in terms of social support maintenance was moderate in %94.7 of families and high in %5.3 of families before intervention while this rate remained moderate in %89.5 of families and high in %10.5 of families after intervention.

Table 2. Mean and SD score of the coping behaviors in terms of social support maintenance, self-esteem and mental stability between control and case group before and after interventions

	Before Intervention		After Intervention		P-value
	Mean	SD	Mean	SD	
Case	27/63	4/82	29/79	3/95	0/037
Control	25/63	5/17	25/47	4/51	0/765
P-value	0/225		0/003		

According to (Table 2), the mean score of the families of the control group in terms of social support maintenance was 25.63±5.17 before intervention while it dropped to 25.47±4.51 after intervention. The results of the paired t-test did not show

any significant difference between these two interventions (t=0.304; DF=18; P>0.05). The mean score of the families of the case group in terms of social support maintenance was 27.4±63.82 before intervention while it increased to 29.79±3.95 after intervention. The results of the paired t-test showed a significant difference between the scores of pretest and posttest (t=2.257; DF=18; P<0.05). The mean score was significantly higher in the posttest. Moreover, there was not any significant difference between the scores of control and case groups before intervention based on the results of t-independent test (t=1.234; DF=36; P>0.05). However, the mean score of social support maintenance was significantly higher in the case group after intervention (t=3.136; DF=36; P<0.05).

Table 3. Pretest and posttest mean scores of coping behaviors in terms of social support maintenance, self-esteem and mental stability between control and case groups

	Mean	**SD**	**T-test**	**DF**	**P-value**
Control	-0/16	2/27	-2/128	27/799	0/042
Case	2/16	4/17			

According to (Table 3), the pretest mean scores of the control group in terms of social support maintenance was lower than the posttest scores by 0.16 unit in average. On the contrary, the posttest mean scores of the case group was higher than the pretest scores by 2.16 unit in average. T-independent test was used to compare the differences of pretest and posttest mean scores between control and case groups. Based on the results of this test (assuming the inequality of variance between both groups), there was a significant difference between both groups (t=2.128; DF=27.799; P<0.05). Therefore, the increase in the mean scores of pretest was significantly higher than posttest in the case group. Consequently, the implementation of nursing interventions significantly increased the social support maintenance, self-esteem and mental stability in the case group in comparison to the control group

Discussion and Conclusion

The results of the present study indicated that there was a significant relationship between implementation of nursing interventions and increase of social support maintenance in the families of children with thalassemia major (P<0.05) and the post-intervention scores of social support maintenance increased in the case (intervention) group. Since inappropriate coping behaviors cause mental and psychological problems in families and their children, the implementation of nursing interventions and individual and group consultations to parents seem absolutely necessary. The results of (Table 1 to 3) were obtained and prepared to achieve the purpose of the present study i.e. determining social support maintenance, self-esteem and mental stability in the families of children with thalassemia major in Thalassemia Center of Mohammad Kermanshahi Hospital in Kermanshah, Iran in 2014 before and after nursing interventions. According to (Table 1), the coping behaviors of the control group in terms of social support maintenance, self-esteem and mental stability was poor in %10.5 of families and moderate in %89.5 of families before intervention while this rate was remained in %5.3 of families and high in %94.7 of families after intervention. On the other hand, the coping behaviors of the case group in terms of social support maintenance was moderate in %94.7 of families and high in %5.3 of families before intervention while this rate remained moderate in %89.5 of families and high in %10.5 of families after intervention. According to (Table 2), the results of paired t-test did show not any significant difference between pre-intervention and post-intervention in the control group. In contrast, there was a significant difference between the scores of pretest and posttest[2] in the case group based on the results of paired t-test and the mean scores of the posttest was significantly higher. According to (Table 3), the increase in the mean scores of pretest was significantly higher than posttest in the case group. Therefore, the implementation of nursing interventions significantly increased the social support maintenance, self-esteem and mental stability in the case group in comparison to the control group, which was consistent with the findings of Roseland et al. (2013). They found that the current participation and attendance of friends in the life of chronic patients and their families increase their social support and improve their self-confidence [9]. In this regard, the results of the study were in line with findings of Maslak Pak et al. (2014) who investigated the effect of implementation of Orem's self-care model on the self-esteem of elderlies in the nursing homes of Urmia in 2014. Accordingly, the implementation of Orem's self-care model had a positive effect on the self-esteem of the elderlies [5]. One of the limitations of the present study was that the mental and psychological status of the intended families was uncontrollable despite the researcher's efforts to control them. According to the results of the present study, nursing education planners are recommended to provide the patients and their families with practical trainings and suggestions about chronic diseases in order to improve nursing interventions programs. Furthermore, researchers are recommended to study the coping behaviors of the siblings of children with thalassemia in order to measure and record the effect of interventions before and after implementing nursing interventions or other interventions.

[2] Pre-intervention and Post-intervention

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