The Effect of Fathers' Participation in the Care of Hospitalized Child in Pediatric Intensive Care Unit on Fathers' Stress and Coping Strategies

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ABSTRACT---- Introduction*: Hospitalization of a child in pediatric intensive care unit (PICU) is a stressful experience for parents. High stress in father can result in decline in psychological adaptation and associated problems. The present study aimed to determine the effect of fathers' participation in the care of hospitalized child in the PICU on fathers' stress and coping strategies* .

Materials and methods: This is a clinical trial with 60 fathers with children admitted to the PICU in intervention and control groups. Fathers in intervention group participated in the care of the child in 5 times, during a 5-days course. Fathers' stress and coping strategies were surveyed in intervention group before and after participation course and in control group before and after a 5-days course.

Result: Fathers' stress in intervention group decreased significantly after participation (p<0/001) but in control group difference was not significant after time course. Fathers in both groups applied similar coping strategies that majority were emotion-focused.

Conclusion: Fathers with children in the PICU would experience a lot of stress. Their participation in the care of the children would be very effective to decline their stress and reach most adaptation with disease, cure and cares in children.

Keywords---- Coping Strategies, Fathers' Participation in Care, Hospitalized Child, Pediatric Intensive Care Unit (PICU), Stress

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1. INTRODUCTION

Recent advances in technology in survival of patients have caused most children with severe diseases to undergo special cares [1, 2]. According to statistics of National Association of Children's Hospitals and Institutions, each year approximately 150 to 200 thousand children are hospitalized in PICUs [3]. Hospitalization of a child in these units is a really stressful experience for the child and family [4, 5, 6]. Among the stressful factors that parents face in these conditions, environment of the intensive care unit with very aggressive interventions, unfamiliar equipment, the nature and severity of the diseases and their unknown outcome might create a lot of stress for them [7, 8, 9]. Their high stress affects their parenting role and there is also a relationship between parental stress and parents' and family's negative performance [10].

Most researches have just evaluated the stress and needs of mothers who have a child hospitalized in an intensive care unit and there are very few studies about fathers' experiences that have critically ill children [11]. Meanwhile, today fathers are more involved than ever in the daily lives of their children [12] and their roles in the care of their children have been developed due to the rapid social and economical changes and also change in society's perception and expectations of fathers' roles [13]. High stress in father can create intense physiological reactions, aggressive behaviors, and subsequently social and family problems, thereby not meeting the family members' expectations of father's roles and as a

result dissatisfaction of his performance. This creates feelings of disappointment and depression in father and can affect his physical and mental health, confidence and self-esteem and decrease his psychological adaptation [4]. Coping strategies are individuals' cognitive and behavioral efforts to interpret and cope with the stressful situations [14]. If a father uses more effective coping strategies in dealing with the stressful situation, he achieves adaptation; otherwise his stress level will increase [12]. Therefore, it is important to understand the level of stress in fathers of children hospitalized in the PICU and how they cope with this stressful situation [11].

Different references have suggested that the highest level of stress in parents in the PICU is related to changes in the normal process of parents' relationship with the child and changes in parents' role [1, 5, 6, 15, 16]. So, one of the most important interventions to minimize parents' stress in these units is to determine the ways by which parents can continue their parenting performance. These can include participation in feeding or bathing the child, and the like [6]. Parents' participation in the care of child is one of the key components of family-oriented care [17]. Based on the concept of family-oriented care, parents should participate in all care treatment measures for the sick child in and out of the hospital. Family-oriented care has many benefits for parents including help to maintain family relationships, skill acquisition and feelings of competence to care for the child after discharge, reduced stress and anxiety, improved relationship with health care staff and empowerment in making significant decisions on caring. Furthermore, it has many benefits for the child such as reduced emotional stress and behavioral disorders, improved coping with illness and hospitalization and increased sense of security. Despite the passage of more than four decades of family-oriented care implementation, in fact there is no collective agreement between health care providers regarding parents' participation in the care of hospitalized child [5, 18] and some PICUs limit parents' access to their children very much [19].

Moreover fathers have limited participation in the care of their hospitalized child especially the children in PICUs in our country and their participation is usually limited to purchase medicine and medical equipment for the child. Fathers' absence and lack of relationship with their children can lead to increased level of stress in fathers and their use of ineffective coping strategies to cope with the situation. Hence every effort should be made with respect and sympathy to assist them to cope with the current situation. Therefore, the researcher decided to examine the effect of father's participation in the care of hospitalized child in the PICU on his stress and coping strategies.

2. MATERIAL AND METHODS

This research is a randomized clinical trial conducted for 6 months at Amir Kabir Hospital of Arak University of Medical Sciences. All eligible fathers whose children were hospitalized in the PICU could participate in this study. The number of samples was 30 fathers in each group estimated based on previous similar studies with a 95% confidence level. Accordingly, 60 fathers participated in this study and were randomly assigned in two intervention or control groups. Instrument for data collection included Parental Stressor Scale questionnaire: the PICU (Carter & Miles, 1989), Ways of Coping questionnaire (Revised) (Folkman and Lazarus 1985), along with a questionnaire containing demographic information on father and the child.

Parental Stressor Scale in the PICU was designed by Carter and Miles in 1982 and revised in 1984 and 1989. This self-report instrument includes 37 items with Likert scoring style that can measure parents' stress in the PICU in seven domains including child's appearance, sights and sounds of the unit, procedures done to the child, child's behavioral and emotional responses, professional staff behavior, professional staff communication, and parental role revision. The instrument's total score is 37-185 and the high scores indicate parents' high stress. Internal consistency of the instrument was obtained 0.82.

Ways of coping questionnaire was used to evaluate coping strategies used by fathers to cope with child's hospitalization in the PICU. This questionnaire was designed by Lazarus and Folkman in 1980 and revised in 1985. This self-report instrument includes 66 items with Likert scoring that evaluates coping strategies by the individual in two problem-oriented and emotion-focused parts. Problem-oriented strategies include two groups as follows:

- Confrontative coping: aggressive efforts to change situation

- Planful problem solving: deliberate efforts to solve or analyze the situation in order to reach a solution and also to perform direct measures to correct the problem

Emotion-focused strategies include six groups as follows:

- Positive reappraisal: attempt to find a positive meaning in the experience with an emphasis on personal growth and sometimes with a religious tone

- Accepting responsibility: acceptance of their role in causing the problem while trying to organize things

- Self controlling: individual's efforts to regulate and control his feelings

- Escape-avoidance: attempt to escape or avoid situations or a feeling of uncritical satisfaction with the current situation

- Seeking social support: efforts in line with gaining emotional support and information from others

- Distancing: intellectual efforts in order to separate the situation or create a positive attitude [20, 21]. The mean score of each strategy group is between 0 and 3 and high scores reflect the high use of that strategy by the individual to deal with the problem. Internal consistency of the instrument was obtained 0.83.

The researcher went to the PICU every day and recognized fathers with intended research characteristics, explained the research objectives and obtained informed consent from them. Then the selected fathers were randomly assigned to control and intervention groups. The two groups were separated in order to prevent exchange of information between them.

In both groups, fathers completed demographic and stress questionnaires within 24-48 hours after their child's hospitalization. Then, fathers in the intervention group were individually trained for providing care for the hospitalized child and were given a training manual. After coordinating with the researcher, they participated in caring for their child in collaboration with the researcher or alone once a day for 5 days. Care included foot bath, limbs physiotherapy, eye and ear care, skin care, mouth care, oral feeding and feeding through NG-tube. After performing 5 care sessions in 5 days, the stress questionnaire was filled out again. In the control group no intervention was done other than short routine meetings and usual supports in the unit and the stress questionnaire was filled out again with an interval of 5 days after the initial completion of the questionnaire.

Ways of coping questionnaire was also completed in both groups 72 hours after the hospitalization of child (after stabilizing child's physical conditions and fathers' mental conditions) and was completed again after an interval of 5 days. Finally, fathers' stress and coping strategies in intervention group before and after participation and also in control group on day zero and 5 days after were compared. SPSS statistical software version 18 was used for data analysis.

3. RESULTS

No significant difference was observed in demographic variables between the two groups (Table 1). The mean age of fathers was 32.35±5.77 years. Most samples' level of education was high school diploma (41.66%), they were self-employed (48.33%) and had two children (43.33%) and had no experience of children's hospitalization in the intensive care unit (83.77%). The mean age of children was 39.58±23.72 months. The majority of them were girls (53.33%) and they were also the family's first child (46.67%) and had no history of hospitalization in intensive care unit (73.33%).

A significant difference was observed in the intervention group between the scores of fathers' stress in two stages i.e. before and after participation in the care of the child and fathers' stress was reduced after participation compared to before participation. However, no significant difference was observed in the control group between the scores of fathers' stress in the interval of 5 days (Table 2).

In contrast, fathers of both groups in the second stage of completion of ways of coping questionnaire significantly used a group of strategies including planful problem solving, positive reappraisal, individual control, seeking social support and distancing. Besides, the strategy of accepting responsibility in the intervention group and escape-avoidance in the control group were also used more. As can be seen, most of these strategies were from emotion-focused strategies (Table 3).

4. DISCUSSION

The results of the current study indicated that fathers' participation in the care of their hospitalized child in the PICU will reduce fathers' stress. The results of the study by Smith et al. in the United States were also in line with the current research. In this study, the effect of the frequent attendance of parents in the PICU on their stress was investigated [9]. Also Kamodari in his study in Italy showed that the perception of stress in parents of a hospitalized child due to an acute disease is significantly affected by parents' participation in the care of the child [22]. The results of the research by Molina and Marcon in Brazil refer to parents' need to do simple and complicated cares of their hospitalized child in the PICU [23]. Also Browne and Talmi in the United States found similar results on the effect of family-oriented interventions on stress of mothers with premature infants hospitalized in infants intensive care unit [24]. But in the study by Lao in Canada, in which parents just met their infants in the intensive care unit and had no participation in the care of their infants, scores of fathers' stress showed no significant reduction 24 hours and one week after admission compared to the first meeting [25]. People naturally evaluate a new situation that has harmful aspects for him as a threat. Most parents have no experience of the hospitalization of their child in the intensive care unit and may consider the events of these units as a threat or unpredictable adverse situation with uncertain outcomes. This will create a lot of stress in them [26].

Regarding fathers' coping strategies to deal with the hospitalization of their child in the PICU, the results of the current study indicated that fathers in both groups often used similar emotion-focused strategies to cope with the situation. Moreover, Pangnukroh in Thailand observed that mothers of children hospitalized in the PICU often used emotion-focused strategies to deal with the situation [26]. It seems that fathers' evaluation of invariant stressful conditions in a short period has made them use emotion-focused strategies for maintaining hope and optimism. Both problem-oriented and emotion-focused coping methods help the individual's adjustment with the stressful situation [27]. In most cases, emotion-focused strategies primarily reduce stress and problem-oriented strategies increase a sense of control over the situation, self efficacy and eventually stress management capability [25].

5. CONCLUSION

Given the results of this research, fathers experience a lot of stress in the PICU. In this situation, it seems necessary to take some measures to support fathers during the acute stage of hospitalization of their child in the intensive care unit. Fathers' participation in the care of their children is effective in reducing stress and also reaching maximum adjustment with the disease, the treatment and cares of the child. The early and acute stage of hospitalization of a child in the PICU that is a threatening and unfamiliar experience for the parents can change to an experience of a sense of familiarity and security for parents through staff's intimacy with parents and helping them to adjust better with the situation.

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Table 1: Distribution of units under research based on some individual characteristics in two intervention and control groups

Variable	Intervention group	Control group	p
	Number (percent)	Number (percent)	
Father's age (years)	32.33±5.78	32.37±5.86	0.98
Level of education	11(18.33)	14 (23.33)	0.61
High school			
Self-employed	12(20)	17(28.33)	0.37
Number of children	12(20)	14(23.33)	0.95
Two children			
Hospitalization experience in the PICU	17(45.94)	14(37.83)	0.08
negative			
	47.33±20.23	31.83±24.72	0.05
Child's age (months)			
gender	14(23.33)	18(30)	
girl			
birth order	16(26.67)	12(20)	0.74
the first child			
History of Hospitalization in PICU	23(38.33)	21(35)	0.55
negative			

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Table 2: Comparison of scores of fathers' stress in two stages of before and after participation in the intervention group and before and after the interval time in the control group

Group	Stress score	p
intervention		
before	102.27±23.04	<0.001
after	92.27±16.10	
control		
before	87.80±19.17	0.10
after	89.70±16.24	

Table 3: Comparison of mean use of coping strategies by fathers in two stages of before and after participation in the intervention group and before and after the interval time in the control group

Coping strategy	group	stage	mean	p
Confrontative	intervention	before after	1.37±0.55 1.33±0.40	0.55
	control	before after	1.37±0.55 1.33±0.40	0.94
Planful problem solving	intervention	before after	0.40±0.36 0.92±0.41	<0.001
	control	before after	0.68±0.46 1.06±0.38	<0.001
positive reappraisal	intervention	before after	1.19±0.52 1.70±0.66	<0.001
	control	before after	0.97±0.48 1.50±0.49	<0.001
accepting responsibility	intervention	before after	1.18±0.70 1.37±0.70	0.01
	control	1.05±0.50 1.02±0.53	0.53	
individual control	intervention	before after	0.66±0.41 1.14±0.31	<0.001
	control	before after	1.08±0.43 1.25±0.38	0.003
escape - avoidance	intervention	before after	1.26±0.26 1.34±0.24	0.06
	control	before after	1.17±0.28 1.39±0.37	<0.001
seeking social support	intervention	before after	1±0.62 1.48±0.72	<0.001
	control	before after	0.58±0.47 0.87±0.59	<0.001
distancing	intervention	before after	0.54±0.39 0.90±0.42	<0.001
	control	before after	0.78±0.40 0.96±0.41	0.003