http:// ijp.mums.ac.ir
Original Article (Pages: 5813-5825)

# Coping Strategies of Parents with Chronic Ill Children Hospitalized in Educational Hospitals, Ahvaz-Iran

Mahin Gheibizadeh[1], *Zeinab Gholami[2], Soodabeh Bassaknejad[3], Bahman Cheraghian[4]

[1]Assisstant Professor, Nursing Care Research in Chronic Diseases, Ahvaz Jundishapur University of Medical Sciences, Ahvaz, Iran. [2]Department of Nursing, School of Nursing and Midwifery, Ahvaz Jundishapur University of Medical Sciences, Ahvaz, Iran. [3]Associate Professor, Department of Clinical Psychology, Shahid Chamran University of Ahvaz, Ahvaz, Iran. [4]Assisstant Professor, Department of Biostatistics and Epidemiology, School of Public Health, Ahvaz Jundishapur University of Medical Sciences, Ahvaz, Iran.

***Abstract***

***Background:*** The incidence of a child chronic disease causes high levels of stress and anxiety in the parents and caregivers. This study aimed to investigate the coping strategies of parents with chronic ill children who hospitalized in educational hospitals of Ahvaz -Iran.

***Materials and Methods:*** This cross sectional study conducted in two hospitals that affiliated to Jundishapur University of Medical Sciences in 2016. The total number of respondents was 252 parents (150 mothers and 102 fathers) of 150 children with chronic disease that were selected using convenience sampling. Data collection tools were a self-administered demographic and clinical checklist and standard questionnaire Of Coping Inventory for Stressful Situation (CISS). Data analysis runs using SPSS version 22.0.

***Results:*** The results showed that the dominant strategies of parents who had a child with chronic disease were task-oriented (52.3%), and emotion-oriented (54%) strategies, respectively. The average score of problem- focused strategy in fathers was (53.67±11.1) and the average score of emotion-focused coping strategy in mothers was (53.33±10). Mothers were used emotion oriented and social diversion coping strategies significantly more than fathers. Child gender, child age, and having another ill child were significant variables in correlation with mother's distraction; however family economic state was significant variable in correlation with social diversion ($P<0.05$). In fathers task-oriented coping strategies were in correlation with child age, disease duration, numbers of hospitalizations, education, job and having another ill child. Emotion oriented coping strategies was in correlation with father's age and distraction was in in correlation with father's job ($P<0.05$).

***Conclusion:*** To provide optimal care for families with chronic ill child, assessment of psychological needs and coping strategies of parents is necessary. Moreover, families with lower economic and educational level are prior for further attention.

***Key Words:*** Child, Chronic Disease, Coping strategies, Parents.

*Please cite this article as: Gheibizadeh M, Gholami Z, Bassaknejad S, Cheraghian B. Coping Strategies of Parents with Chronic Ill Children Hospitalized in Educational Hospitals, Ahvaz. Int J Pediatr 2017; 5(10): 5813-25.DOI:**10.22038/ijp.2017.23834.2014**

***Corresponding Author:***

Zeinab Gholami, Department of Nursing, School of Nursing and Midwifery, Ahvaz Jundishapur University of Medical Sciences, 61357-15794, Ahvaz, IR Iran.

Email: z.gholami2009@gmail.com

Received date: Jun.13, 2017; Accepted date: Jun. 22, 2017

## 1- INTRODUCTION

Chronic diseases are a threat to the health and longevity of people in developed and developing countries including Iran. Although, with increasing advances in medical knowledge and use of modern methods of diagnosis and treatment of diseases that once were fatal and untreatable, these diseases are now successfully treated and the longevity of children that suffer from such diseases has increased compared to past (1, 2). However, survival and lives of these children require use of specific programs of care and treatment regimens, which in turn leads to chronic stress among such children and their families and thus can cause serious emotional and behavioral problems (3).

For designing national health policy and preventing chronic condition, understanding prevalence and dynamics of chronic disease is important (4). Statistics on the prevalence of chronic diseases in children is worrying. In the United States the rate of children's chronic health conditions increased from 12.8% in (1994) to 26.6% in (2006), particularly for asthma, obesity, and behavior and learning problems (5). In the USA, the prevalence of chronic diseases in children and adolescents under 17 years is estimated 15-18 million (4). In Iran, there is no comprehensive statistics on the prevalence of chronic diseases in children, but the prevalence of some common diseases, such as asthma (the most common chronic disease in children) has been reported to be 1.26-12.6% (6).

The mentioned international statistics are indicative of growing rate of children with chronic diseases; therefore, our country cannot be an exception. Taking care of a healthy child is associated with worries and concerns for the parents and caregivers; however, these worries and stresses considerably increase if the child suffers from chronic diseases because parents may consider themselves responsible for the child's illness and feel guilty, desperate or incapable. On the other hand, change in the responsibilities and roles of family members lead to an inevitable change in the family function and lifestyle that in turn influences the overall family dynamic and functioning (7, 8). The family system should use efficient coping strategies to maintain internal balance and the proper functioning, to adapt to new circumstances and address possible conflicts and tensions, to reorganize the roles, patterns of interaction and relationships inside and outside the family (8).

Coping refers to the conscious efforts that are used to reduce the physical, psychological, or social harm of a stressful situation and facilitate the interaction of parents with their ill child (9). The type of coping strategies used by family against stress is important thus; to avoid negative consequences for family life and family function the professionals should determine the coping skills of parents of chronic ill children at an early phase (10). The psychological pressure due to the chronic disease of a child and lack of education for the family can lead to using dysfunctional coping strategies that not only does not reduce the psychological stress and tension, but also can reduce family functioning and effectiveness of therapeutic interventions (11).

The ability to identify stressors, and coping strategies in parents of chronic ill children can help nurses and other health care professionals to provide disease-sensitive, family-focused care and improve child health outcomes and they should understand the importance of this issue for planning public policy and preventive, diagnostic and therapeutic strategies (12, 13). The results of one study showed that coping strategies applied by parents of children with autism was problem-oriented coping strategies such as diet management

and short-term care and emotion-oriented strategies such as beliefs in supernatural powers, prayer and spiritual recovery (14). Findings of another study showed that caregivers of children with Type-1 diabetes use seeking social support and problem-solving coping strategies (15). The results of one study showed that more parents used emotion-focused coping strategies (11). The result of another study showed that, internal coping strategies such as redefining stressful situations and spiritual support were highest and lowest coping strategies used by parents, respectively (16). Researches regarding factors affecting parents' coping strategies have reported different results. In this regard, while some studies found significant relationship between parents' individual characteristics (such as age, education, occupation, social and economic status) and child characteristics (type, age, gender, time elapsed since diagnosis) and parents' adaptive behaviors (17-19), some other studies have denied such relationships (20, 21).

Due to the growing rate of chronic ill children and the lack of knowledge about parents coping strategies that influence their performance, the researchers decided to conduct a study and aimed to determine the coping strategies of parents with chronic ill children and the affecting demographic factors. This information may use for planning family-centered nursing care, enhancing family function, and thus better management disease.

## 2- MATERIALS AND METHODS

### 2-1. Study design and population

This descriptive cross-sectional study has been conducted for assessing coping strategies of parents of children with chronic disease conducted from July to October 2016 on the parents of children with chronic disease that were admitted to pediatric wards of hospitals affiliated to Ahvaz Jundishapur University of Medical Sciences. The total sample size estimated by using the following formula:

$$n = \frac{[Z_{1-\frac{\alpha}{2}} \quad p(1-p)]^2}{d^2} = \frac{[(1.96) \quad (.5)(1-.5)]^2}{(.08)^2} = 150$$

Z is the statistic corresponding to level of confidence and the level of confidence usually aimed for is 95%, confidence interval (CI), P was expected prevalence and considered at maximum level (.5), and d is precision (corresponding to effect size was considered at .o8).

### 2-2. Methods

In this research convenience sampling that is a specific type of non-probability sampling method was used and all parents with chronic ill children that were admitted to pediatric wards of hospitals affiliated to Ahvaz Jundishapur University of Medical Sciences were invited to participate in this study. The researcher attended to the pediatric wards and explained the explanations about the purpose and process of study to the participants and assured them regarding confidentiality of their data. The clinical information of the children was obtained from their medical file and two questionnaires (Demographic features and CISS) were given to each participant in the study. Data collected through self-report and, if, the researcher completed them by interview.

### 2-3. Measuring tools: validity and reliability

Data collection tools were a self-administered demographic and clinical checklist and coping inventory for stressful situation questionnaire (CISS scale). The demographic and clinical checklist composed of 14-item included child's information (age and gender, type and duration of disease, times of hospitalization) and parents' information (age, educational level, employment status, economic status, number of children, family form). The second questionnaire

was the Persian version of the standard questionnaire of Coping Inventory for Stressful Situation (CISS) that used for measuring coping strategies of parents. CISS examines coping strategies in the form of three strategies of task-oriented, emotion-oriented, and avoidant strategy. Problem-focused coping refers to activities through which problems are directly confronted; Practical methods of the task-oriented strategy include using past experience, realistic, collect more information to solve the problem, consultation and attention to the positive points. Emotional-focused coping refers to efforts that reduce the degree of emotional distress induced by the stressful situation and consists of obsession, fantasy, anger, crying, feeling loneliness, depression and other conscious activities. The avoidant strategy involves avoiding the issue and problem and in some cases seeking social support or turning to social entertainment (22). The Persian version of CISS consists of 45 items classified in three categories of task-oriented (16 items), emotion-oriented (16 items) and avoidance (13 items). It is worth mentioning that avoidant style includes two subscales of distraction (8 items) and social diversion (5 items). Grading each item is based on a 5-point Likert scale (always = 5, often= 4, usually= 3, sometimes= 2, never= 1).

The higher score in each of these three subscales categories determine the dominant strategy of every individual. The lowest and highest scores in the task-oriented style were 16 and 80 respectively; the lowest and highest scores in the emotion-oriented style were 16 and 80, respectively. In the avoidance style, the lowest and highest scores in the distraction subscale were 8 and 40; the lowest and highest score in the subscale of social distraction is also 5 and 25. The dominant strategy of each parent is determined by his/her score in each of the three dimensions of coping strategies, that is, in each one who receives a higher score, he forms the dominant strategy of his coping. If the subject does not answer 5 or fewer questions, at the time of the scoring, the researcher can mark option 3(usually) for questions, but if more than 5 questions were not answered, then the questionnaire will not be scored(22,23). Ghoreyshi Rad (2010) determined the validity and the reliability of the Persian version of CISS. The internal validity of the instrument obtained at high levels (0.83) using Cronbach's alpha. Pearson's correlation coefficient obtained at 0.86 for task-oriented strategy, 0.81 for emotion-oriented, 0.79 for avoidant, 0.68 for distraction, and 0.069 for social diversion (23).

### 2.4-Ethical consideration

The Ethics Committee of Ahvaz Jundishapur University of Medical Sciences under IR.AJUMS.REC.1395.209 code of ethics approved this study. The researchers explained the purpose of the study to all participants and they assured that the information received from them would be completely confidential. In addition to verbal consent, written informed consent achieved from participants. Participation in the study was voluntary.

### 2-5. Inclusion and exclusion criteria

The inclusion criteria were having a child suffering from one of the seven selected chronic diseases (including Nephrotic syndrome, diabetes, congenital heart disease, metabolic disease, cerebral palsy, epilepsy, cystic fibrosis of the pancreas) lasted at least three months of its diagnosis, child's maximum age of 12, and being hospitalized in hospitals during sampling. The excluding criteria were incomplete responses for some respondents.

### 2-6. Data Analyses

Descriptive statistics were calculated including means and standard deviations. To examine the relations between parents coping strategies and all quantities socio demographic variables (child age, disease duration, and number of hospitalization and parent's age, number of family child) Pearson correlations were used and Independent t-test was utilized to examine two group differences.

To check the relations between parents coping strategies in categorical socio demographic (parents education, job, household economic state) and clinical (child disease) variables Kruskal –Wallis and then in significant relations Mann Whitney tests was used. All statistics were checked at statistical significant level of 0.05 applying SPSS version 22.0 software. The variables p-value of less than 0.2 in invariable analyses were entered into multivariable analysis. For multivariable data analysis multiple linear regressions was used. For categorical independent variables (socio-demographic and clinical characteristics), instead of multiple linear regression, its equation general linear regression method was used.

## 3- RESULTS

From 162 pairs of parents that their child hospitalized during the 3 month sampling in selected hospitals (which the questionnaires gave to them), the questionnaires of 12 mothers and 18 fathers excluded due to inadequate response and many white answers. In addition, 42 fathers did not complete the questionnaires at all due to unwillingness to participate, absence at hospital or discharge. The response rate was 92% and 63% for mothers and fathers, respectively. Finally, 252 (150 mothers and 102 fathers) completed questionnaires were analyzed. The average age of mothers and fathers participated in the study were 31.41±6.21 and 35.22±7.17 years, respectively. Mothers included 63.2% of parents participating in the study and 36.7% of participants were fathers. The majority of parents were under diploma (fathers 50 % and mothers 51.3%). Most mothers (95.3%) were housewives and the majority of fathers (49.3%) were workers. The majority of parents (48.7%) stated that they have an average economic status. About 76.7% of participated families in the study had more than one child and 11.3% of them had another sick child in the family. Analysis of the demographic and clinical information of participants revealed that the most ill children were boys (55.3%), aged less than 2 years (35%), had a history of over three times hospitalization (32%), diagnosed with Nephrotic syndrome (30%), and were ill for about more than two years (59.3%). The mean age of children in this study was 3.7± 4.59 years.

**Table.1** represents the demographics features of participants in the study. Parents' scores of coping strategy indicate that they use a combination of task-oriented, emotion-oriented and avoidant strategies to deal with the stress of chronic illness, but in fathers task-oriented coping behavior was dominant (52.3%); however, 42% and 5.7% of fathers adopted emotion-oriented and avoidant coping strategies, respectively. While task-oriented and avoidant strategies were dominant among 45.3% and 0.7% of mothers, respectively, the dominant strategy among the majority of mothers (54%) was emotion-oriented. Higher mean scores of emotion oriented (P=0.001), and social diversion (P= 0.023), were reported by mothers in comparison of fathers. The frequency and mean scores of coping strategies of parents presented in **Table.2**. A significant Pearson correlation were found between fathers task-oriented strategy and duration of child disease (r = 0.240, P= 0.024), the history of hospitalization (r = 0.242, P = 0.023), and child's age (r = 0.232, P = 0.03). In addition, an inverse correlation found

between father's age and using emotion-oriented strategy (P= 0.016, r = - 0.26). No significant correlation were found between the fathers' score of coping strategies and other variables such as age of father, birth order of ill child, and the number of children (**Table.3**). The coping strategies of mothers showed a direct and significant correlation between distraction strategy and age (r = 0.169, P = 0.039) which means as the mother's age increases; the mother's use of this strategy will increase. However, other variables showed no significant correlation with mother's coping strategies (**Table.3**).

No significant differences were found between parents coping strategies in nuclear and extended family. Significant differences were found between child gender (P = 0.025) and mother's distraction coping and mothers of female child were used more distraction coping than mothers of male child. Significant differences were found between fathers emotion-oriented coping strategies and type of chronic child disease and mean score of seizure group was more than congenital heart disease and cerebral palsy groups (P=0.03). The results of t-test showed significant differences between parents coping strategies and having or not another ill child in the family. Significant difference in terms of mother's adoption of task-oriented (P=0.032), and father's distraction strategy (P=0.01), were found. This means that the use of task-oriented coping strategy in mothers without another ill child and distraction strategy in fathers with another ill child was more than other group (**Table.4**).

Other important factors which can influence coping with stress by parents of a chronically ill child are their education, economical states and their job. According to the results, no significant difference was found in fathers coping strategies and family economic state (P>0.05). Significant differences were found on the level of fathers' education and the use of task-oriented coping strategies (.027) and their job with task-oriented coping strategies (.036) and distraction coping strategies (.028). Significant differences were seen in level of economic state and use of mother's task-oriented (.028) and social diversion coping strategies (.001) **Table.4**.

General linear regression was implemented to examine the associations between parent's coping strategies and different social and clinical characteristics. Number of child's hospitalizations (r=.242, P= 0.023), child age (r=232, P= 0.038), Education (P= .027), Job (P= 0.036), and having another ill child (P= 0.032), was related to mean scores of fathers task oriented copings.

Other variables (economic state, Child gender , Disease), p-value of less than 0.2 in invariable analyses were entered into multivariable analysis (General linear regression) and result showed that this variables can predict 10% of changes in fathers mean scores of task oriented strategies ($R^2$=.10). In invariable analyses result showed that Fathers emotion oriented strategies was in correlation with fathers age (r=-.255, P= 0.016) and Child disease (P= 0.022), this variable and number of child's hospitalizations (P<0.2) were entered into general linear regression and result showed that this variables can predict 4.8% of changes in fathers mean scores of emotion oriented strategies ($R^2$=.048).

Result of General linear regression showed that having another ill child (P= 0.09), father job (P= .028), economic state (P= 0.058), duration of disease (r= -.2, P= 0.061) variables can predict 21.7% of changes in fathers mean scores of distraction strategies ($R^2$=.217), and in fathers Social Diversion strategies, variables such number of child's hospitalizations (r= -.164, P= 0.127), Education (P= .166) and having another ill

child (P= 0.066), can predict 15.5% of changes in fathers mean scores of distraction strategies ($R^2$=.155). Mother age (r=.118, P= .149), Education (P= .012), Job (P= 0.036), was related to mean scores of mothers task oriented strategies. General linear regression result showed that this variables can predict 11.8% of changes in mothers mean scores of task oriented strategies ($R^2$=.118). In invariable analyses result showed that mothers social diversion strategies was in correlation with economic state (P= .001), this variable and having another ill child (P< 0.2) were entered into general linear regression and result showed that this variables can predict 7.9% of changes in mothers mean scores of social diversion strategies (R2=.079). In invariable analysis child age (r=.169, P= 0.039), another ill child (P=0.001), and child gender (P= 0.025) was related to mean scores of mothers distraction strategies, these variables and other variable p-value of less than 0.2 such Duration of disease (r=.131, P= 0.111), were entered into General linear regression and result showed that this variables can predict 11.8% of changes in fathers mean scores of task oriented strategies ($R^2$=.118).

**Table-1:** Demographic variables' frequency distribution in the study population

| Variables | | Frequency | Percent |
|---|---|---|---|
| Child Age, year | <12 month | 20 | 13.3 |
| | 1-3 year | 55 | 36.7 |
| | 4-6 year | 34 | 22.7 |
| | 7-12 year | 41 | 27.3 |
| Child Gender | Male | 83 | 55.3 |
| | Female | 67 | 44.7 |
| Father Education | Not Educated | 12 | 11.8 |
| | Elementary | 51 | 50 |
| | High school Diploma | 25 | 24.5 |
| | Academic | 14 | 13.7 |
| Mother Education | Not Educated | 20 | 13.3 |
| | Elementary | 77 | 51.3 |
| | High school Diploma | 38 | 25.3 |
| | Academic | 15 | 10 |
| Mother's Job | Housewife | 143 | 95.3 |
| | Employee | 7 | 4.7 |
| Father's Job | Unemployed | 11 | 7.3 |
| | Worker | 74 | 49.3 |
| | Employee | 23 | 15.3 |
| | Self-Employed | 42 | 28.0 |
| Disease Duration | 3-6 month | 20 | 13.3 |
| | 6-12 month | 21 | 14.0 |
| | 1-2 year | 20 | 13.3 |
| | 2 year and more | 89 | 59.4 |
| Hospitalization | Twice | 28 | 18.7 |
| | Three times | 39 | 26.0 |
| | Four times | 19 | 12.7 |
| | Five times and more | 64 | 42.6 |
| Family Form | Nuclear | 128 | 85.3 |
| | Extended | 22 | 14.7 |
| Another Ill Child | Yes | 17 | 11.3 |
| | No | 133 | 88.7 |
| Household income (Economic state) | Low Income | 68 | 45.3 |
| | Middle Income | 73 | 48.7 |
| | High Income | 9 | 6.0 |

| | | | |
|---|---|---|---|
| Child Disease | Nephrotic Syndrome | 45 | 30.0 |
| | Metabolic Diseases | 25 | 16.7 |
| | Cerebral Palsy | 23 | 15.3 |
| | Diabetes Mellitus | 19 | 12.7 |
| | Congenital Heart Disease | 15 | 10.0 |
| | Seizure | 18 | 12.0 |
| | Pancreas Cystic Fibrosis | 5 | 3.3 |

**Table-2**: The Mean scores of the coping strategies used by the study population

| | | Mothers, (n=150) | Fathers,(n= 102) | |
|---|---|---|---|---|
| Variables | | Mean ± Standard deviation | Mean ± Standard deviation | P- value |
| Coping Strategy | Distraction | 18.27±5.26 | 16.9 ± 6.24 | 0.06 |
| | Social Diversion | 15.91±4.28 | 14.58±4.89 | 0.02 |
| | Emotion-oriented | 53.33±10.07 | 49.49±9.58 | 0.001 |
| | Task- oriented | 55.23±10.81 | 53.67±11.1 | 0.27 |

**Table-3**: Pearson correlation between demographic and clinical variables and Parents' coping strategies

| Parents' coping strategies \ Demographic variables | | Fathers, n=102 | | Mothers, n=150 | |
|---|---|---|---|---|---|
| | | r | P-value | r | P-value |
| Task –oriented | Parent's age | .096 | .373 | .118 | .149 |
| | Child's age | .232 | .030* | .027 | .742 |
| | Duration of disease | .240 | .024* | -.007 | .935 |
| | Hospitalization | .242 | .023* | -.034 | .681 |
| Emotion-oriented | Parent's age | -.255* | .016* | -.064 | .434 |
| | Child's age | -.098 | .365 | -.104 | .203 |
| | Duration of disease | .365 | .384 | -.095 | .247 |
| | Hospitalization | .169 | .116 | .026 | .750 |
| Social Diversion | Parent's age | -.002 | .983 | .085 | .299 |
| | Child's age | -.026 | .811 | .042 | .610 |
| | Duration of disease | -.128 | .235 | .054 | .512 |
| | Hospitalization | -.164 | .127 | -.025 | .762 |
| Distraction | Parent's age | -.049 | .653 | .023 | .783 |
| | Child's age | -.103 | .341 | .169 | .039* |
| | Duration of disease | -.200 | .061 | .131 | .111 |
| | Hospitalization | -.087 | .420 | .081 | .324 |

*P-value <0.05.

**Table-4**: The relationship between Parents' coping strategies and socio-demographic variables

| Parents' coping strategies | Variables | Fathers, n=102 | Mothers, n=150 |
|---|---|---|---|
| | | P-value | P-value |
| Task-oriented | Education | .027* | .012* |
| | Economic state | .179 | .036* |
| | Job | .036* | .31 |
| | Another ill child | .032* | .277 |
| | Child sex | .144 | .64 |
| | Disease | .164 | .97 |
| | Family form | .88 | .46 |
| Emotion -oriented | education | .222 | .283 |
| | Economic state | .535 | .737 |
| | Job | .317 | .80 |
| | Another ill child | .277 | .461 |
| | Child sex | .764 | .67 |
| | Disease | .022* | .35 |
| | Family form | .38 | .44 |
| Social diversion | education | .166 | .808 |
| | Economic state | .408 | .001* |
| | Job | .276 | .47 |
| | Another ill child | .066 | .112 |
| | Child sex | .42 | .76 |
| | Disease | .72 | .41 |
| | Family form | .23 | .39 |
| Distraction | education | .41 | .628 |
| | Economic state | .058 | .381 |
| | Job | .028* | .71 |
| | Another ill child | .09 | .001* |
| | Child sex | .84 | .025* |
| | Disease | .59 | .39 |
| | Family form | .32 | .54 |

*P<0.05.

**Table-5**: Socio-demographic and clinical determinants affecting Parents' coping strategies (General linear regression)

| Coping strategies | Variables | df | F | $R^2$ |
|---|---|---|---|---|
| Father emotion oriented | Father age | 31 | 1.164 | .048 |
| | Child disease | | | |
| | Hospitalization | | | |
| Father task oriented | Hospitalization | 20 | 1.561 | .10 |
| | Child age | | | |
| | Education | | | |
| | Economic state | | | |
| | Job | | | |
| | Another ill child | | | |
| Father distraction | Another ill child | 9 | 4.108 | .217 |
| | Father job | | | |
| | Economic state | | | |
| | Disease duration | | | |
| Father social diversion | Another ill child | 6 | 4.077 | .155 |
| | Education | | | |
| | Hospitalization | | | |

| | | | | |
|---|---|---|---|---|
| Mother task oriented | Economic state | 8 | 3.489 | .118 |
| | Education level | | | |
| | Job | | | |
| | Mother age | | | |
| Mother social diversion | Economic state | 2 | 7.405 | .079 |
| | Another ill child | | | |
| Mother distraction | Another ill child | 20 | 1.997 | .118 |
| | Child gender | | | |
| | Child's age | | | |
| | Duration of disease | | | |

Note: Only the variables p-value of less than 0.2 in invariable analyses were entered into multivariable analysis (General linear regression).

## 4- DISCUSSION

Results of this study showed that parents apply a combination of problem-focused, emotion-oriented, and avoidant strategies. However, the dominant strategy was different among parents, and mothers usually use emotion-oriented strategy while fathers adopted problem-focused strategy. Although result of some prior studies found no difference in the kind of coping strategy between two genders, suggesting that other demographic and cultural factors are more effective and most parents use emotion-oriented coping strategies (11, 17, 24-28). several studies have found that women tend to use emotion-oriented and avoidance coping strategies more than men (22, 29), whereas men use more problem-focused coping strategies; and this is why more women are prone to anxiety and depression disorders and this would correspond; these results are consistent with the present study (30).

Although two ways of problem-focused and emotion-oriented coping strategy both help the process of helping individual to adapt with stressful situations (31), but problem-focused strategies increase self-efficacy and sense of control over the situation and eventually enable people to manage stress. Emotion-oriented coping strategies in the short term reduce the anxiety and stress caused by changes in the lives of families, but in the long run it exacerbate stress and damages the family's health (32). In a study no association between gender of ill child, duration of illness and number of siblings, age and gender of parents was found, but parents with higher education level were used better strategies to cope with their child disease (16). However, our results showed that with increasing age, fathers use less emotion-oriented strategy; and increase in duration of illness and number of hospitalizations is correlated with increased use of task-oriented strategy. This findings are consistent with the results of prior studies indicating that for a while after being informed of their child's illness, parents adopt emotion-oriented coping strategies and then turn to problem-focused strategies; so that the combination of these two strategies are employed (25, 26). With increasing age of the ill child, mothers tend to use distraction strategy and fathers use problem-focused strategy more often. Some experts believe the age of the patient and family developmental stage is effective on the family (parents) adaptation strategy (8), which corresponded with the present results. Mothers of children with high school diploma were reported more using of task-oriented strategy than elementary, apprenticeship. However, with increasing years of education after high school, there was no change in the type of adaptation strategy of mothers. However, since the number of highly educated mothers in this

study was very low, probably no significant change was observable. A study showed that caregivers of children with cancer, who were better educated, used more problem-focused strategies (27). Results of other studies also indicate a positive correlation between level of education and coping strategies of parents (17-21, 32, 33). Mothers participating in the study were mostly housewives, and had basic practical school diploma and under diploma; therefore there was no link between the mother's occupation and their coping strategies. Most fathers participated in the study were workers and even some unemployed; their families had also low or average income; but there was no significant relationship between economic status and fathers coping strategy. The results showed that in order to deal with stress in their children, unemployed fathers had used the distraction strategy more and task-oriented strategy less often than other occupational groups. On the other hand, mothers in families with better economic situation ranked higher in average scores of problem-focused and social diversion coping strategies. The results of some studies have confirmed the relationship between coping strategies and the economic situation (19, 20).

However in this survey most of families were nuclear, the type of coping strategies in two groups of parents with extended and nuclear family was not different. Those parents who had another ill child beside the hospitalized one, experienced double stress and showed different coping strategies compared to other parents. Therefore, in the former group mothers used problem-focused strategy, while fathers used distraction strategy more often. Since disease duration, prognosis and state can influence parental stress and coping (16) and this study was included long-termdisease that has similarities in state and progress, so significant differences were seen only among father emotion-oriented coping strategies (16). Generally, it can be concluded that demographic variable can affect the type of parents coping strategies along with clinical variables.

## 5- CONCLUSION

The findings of this study revealed that parents use a combination of problem-focused, emotion-oriented, and avoidant coping strategies to cope with chronic illness of their children. Due to the impact of parental coping strategies in managing the overall function of the family and child's illness, it is necessary for nurses and all care team members to pay special attention to the psychological and emotional situation of families and to detect maladaptive coping strategies. Moreover, families with lower economic and educational level are prior for further attention of health and function and well-being.

## 6- CONFLICT OF INTEREST: None.

## 7- ACKNOWLEDGMENTS

This article is part of the MSc thesis of the corresponding author, which was financially supported by the Nursing Care Research in Chronic Diseases - Ahvaz Jundishapur University of Medical Sciences (Grant No:NCRCCD-9508).The authors hereby express their appreciation to the sponsor of the project as well as all parents who participated in the project.

## 8- REFERENCES

1. Halfon N, Newacheck PW. Evolving notions of childhood chronic illness. JAMA 2010; 303:665-666.

2. Mokkink LB, van derLee JH, Grootenhuis MA, Offringa M, Heymans HSA. Defining chronic diseases and health conditions in childhood (ages 0-18 years of age): National consensus in the Neatherlands. Eur J Ped 2008; 167:1441–1447.

3. Compas BE, Jaser SS, DunnMJ, RodriguezEM. Coping with chronic illness in childhood and adolescence. Annu Rev Clin Psychol 2012; 8: 455–80.

4. Van Cleave J, Gortmaker SL, Perrin JM. Dynamics of obesity and chronic health conditions among children and youth. JAMA2010; 303:623–630.

5. Theofanidis D. Chronic illness in childhood: Psychosocial adaption and nursing support for the child and family. Int J Nurs Res Rev. 2007; 1(2):1–9.

6. Hassanzadeh J, Mohammadbeigi A, Mousavizadeh A, Akbari M. Asthma prevalence in Iranian guidance school children, a descriptive meta-analysis. J Res in Med Sci. 2012;17(3):293-297.

7. Panganiban-Corales A, Medina JRM. Family resources study: part1: family resources, family function and caregiver strain in childhood cancer. Asia Pac Fam Med 2011; 10(14): 1-11.

8. Lawrence E . The Impact of Chronic Illness on the family. 2012. Available at: http://www.igliving.com/magazine/articles/IGL/2012/June-July/Wawatch.htm. Accessed September 11, 2015.

9. Gellman MD, Turner JR. Encyclopedia of behavioral medicine. New York: Springer; 2013.

10. Prihadi EJ, Dings F, Van Heugten CM. Coping styles of parents of children and adolescents with acquired brain injury in the chronic phase. J Rehabil Med 2015; 47: 210–15.

11. Khatamsaz Z, Maarefvand M. Coping strategies of the parents of the children with cancer. Soc Work Magazine 2014; 3(3): 3-9.

12. Senger BA, Ward LD, Barbosa-Leiker C, Bindler RC, Brenda A. Stress and coping of parents caring for a child with mitochondrial disease. Appl Nurs Res. 2016;29:195-201.

13. Santos MA, Pereira-Martins ML. Coping strategies adopted by parents of children with intellectual disabilities. Cien Saude Colet. 2016;21(10):3233-3244. doi: 10.1590/1413-812320152110.14462016.

14. Gona JK, Newton CR, Rimba KK, Mapenzi R, Kihara M, Vijver FV, et al. Challenges and coping strategies of parents of children with autism on the Kenyan coast. Rural Remote Health. 2016;16(2):3517.

15.Grover S, Bhadada S, Kate N, Sarkar S, Bhansali A, Avasthi A, et al. Coping and caregiving experience of parents of children and adolescents with type-1 diabetes: An exploratory study. Perspect Clin Res. 2016; 7(1):32-39.

16. Sikorová L, Polochová M. Coping strategies of family with a chronically ill child. kontakt 2014; 16(1):e31-e38.

17. Garro A. Coping patterns in mothers/caregivers of children with chronic feeding problems. J Pediatr Health Care 2004; 18(3):138-44.

18. Austin JK, MacLeod J, Dunn DW, Shen J, Perkins SM. Measuring stigma in children with epilepsy and their parents: instrument development and testing. Epilepsy Behav 2004;5(4):472-82.

19. Eapen V, Revesz T. Psychosocial correlates of paediatric cancer in the United Arab Emirates.Support Care Cancer 2003;11(3):185-9.

20. Han HR. Korean mothers' psychosocial adjustment to their children's cancer. J Adv Nurs 2003;44(5):499-506.

21. Helseth S. Having a parent with cancer: Coping and quality of life of children during serious illness in the family. Cancer Nurs 2003; 26 (5): 355-362.

22. Endler NS, Parker JD. Multidimensional assessment of coping: A critical evaluation. J Pers Soc Psychol, 1990; 58(5):844-54.

23. Ghoreyshi Rad F. Validation of Endler and Parker coping scale of stressful situations. J Behav Sci. 2010; 4(1):1-7.

24. Hamilton S, Fagot BI. Chronic stress and coping styles: a comparison of male and female undergraduates. J Pers Soc Psychol 1988;55(5):819-23.

25. Hamama-Raz Y, Rot I, Buchbinder E. The coping experience of parents of a child with retinoblastomamalignant eye cancer. J Psychosoc Oncol 2012; 30(1): 21-40.

26. Gage-Bouchard EA, Devine KA, Heckler CE. The relationship between socio-demographic characteristics,family environment, and caregiver coping in families of children with cancer. J Clin Psychol Med Sett 2013; 20: 478-87.

27. LaMontagne LL, Wells N, Hepworth JT, Johnson BD, Manes R. Parent coping and child distress behaviors during invasive procedures for childhood cancer. J Pediatr Oncol Nurs 1999;16:3-12.

28. Ghaderi S, Alaei Karahroudi F, Yousefi-chaijan P, Nasiri Oskooi N. Effect of fathers' participation in the care of hospitalized child in pediatric intensive care unit on fathers' stress and coping strategies. AMUJ 2013; 16(79): 61- 69.

29. Matud PM. Gender differences in stress and coping styles. Personality and Individual Differences 2004; 37(7):1401–15.

30. Mezulis AH, Abramson LY, Hyde JS. Domain specificity of gender differences in rumination. J Cogn Psychother 2002;16:421–34.

31. Lau R, Morse CA. Stress experiences of parents with premature infants in a special care nursery. Stress and Health 2003;19(2):69-78.

32. Friedman MM, Bowden VR, Jones EG. Family Nursing: Research, theory, and Practice. 5th ed, New Jersey: Prentice Hall; 2006.

33. Nikfarid L, Eezadi H , Shakoori M.Coping Behaviors of Mothers of Chronically Ill Children. Iran J Nurs 2012; 74(24):53-62. [In Persian].

34. Patistea E. Description and adequacy of parental coping behaviours in childhood leukaemia. Int J Nurs Stud. 2005, 42(3):283-96.