

Coping Strategies of Mothers of Children with Cardiac Problems

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Abstract: **Background:** Assessment of coping strategies is important in planning of health education programs to enhance coping. **Objective:** The aim of the present work was to assess the knowledge and attitude of mothers concerning cardiac problems, to assess the coping strategies of mothers of children with cardiac problems, and to identify some predictors of the coping strategies. **Methods:** A cross sectional study of 187 mothers of children with cardiac problems who attended the cardiology school health insurance clinic of Sporting Student's Hospital in Alexandria with their children within a period of one month was conducted. Every mother was subjected to the modified Jalowiec coping scale to assess the coping strategies. Knowledge and attitude of the mothers were assessed through a pre-designed interviewing questionnaire. **Results:** The results showed marked variability in correct responses to various statements about cardiac problems. However, most of mothers showed poor knowledge (87.17%) and about half of them (46.0%) showed negative attitude. These figures were significantly higher among mothers of children with congenital heart defects (CHD) than among those whose children suffer from rheumatic heart disease (RHD). The most commonly used coping method was "Pray; trust in god" (92.5%), followed by "Accept the situation as it is" (88.0%), and "Hope that things will be better" (73.5%). More than half of the mothers (55.5%) reported that they always "Resign themselves to the situation because it is their fate" while 28.0% reported that they always "Worry." The percent mean score of use of problem-oriented coping methods was nearly equal to that for affective-oriented coping methods. Duration of illness ($p<0.01$), previous hospitalization ($p=0.01$), and attitude of mothers to illness ($p=0.05$) were all significantly associated with coping strategies. However, after adjustment for other variables, high percent mean total coping scores were more likely among mothers of children with longer disease duration and those whose mother showed negative attitude towards cardiac problems ($p<0.05$). **Conclusion:** Health education programs are needed to enhance coping strategies, knowledge, and attitude of mothers of children with cardiac problems. However, high coping strategy scores are significantly associated with the longer duration of illness and the negative attitude of mothers, possibly due to prolonged exposure to stress and the feeling that their children are different. Support group for parents is a highly recommended strategy to help a family benefit from communication with others who share common concerns, interests, and goals.

INTRODUCTION

Rheumatic and congenital heart diseases are still significant causes of morbidity and mortality in Egyptian children.¹ In Egypt, rheumatic heart disease (RHD) is a significant health problem, with an estimated prevalence rate of 5.1/1000 school children.² On the other hand, there is little information on the prevalence of congenital heart disease (CHD) in school-age children in Egypt. It is estimated

that 8 of every 1,000 babies are born with a congenital heart defect.³

With improvements in longevity and quality of life, these children and adolescents, and their families have become the focus of scientific investigation.⁴ As a result of these advances, caregivers of these children are subject to many potential stressors including the scheduling of frequent clinic visits,

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monitoring and limiting their child's activities, and administering medication. The findings of a previous study upon school children with cardiac problems in Alexandria showed non-participation in physical education lessons of 72.2% and 80% of RHD and CHD children respectively, mainly due to private doctor's certificate for non-participation and parental overprotection.⁵ Thus, they must adapt to novel responsibilities in the care of their children as well as endure continued psychological and financial stressors associated with having a child with a potentially life-threatening chronic illness.³

As the family's stress increases, the likelihood of treatment compliance for the ill child decreases. For some illnesses, psychological stress directly affects the physiological processes that regulate symptom expression. Thus, the potential for a vicious circle is created as coping with a child's illness heightens family stress, which in turn reduces treatment compliance and increases the occurrence of symptoms, which may then further heighten family stress, and so on.⁶

Parental coping is a major aspect of children coping with chronic diseases. The manner in which parents cope can affect family functioning, the child's functioning and most importantly, how successful the child's needs are being met.⁷ Coping strategies refer to the specific efforts, both behavioral and psychological, that people employ to master, tolerate, reduce, or minimize stressful events. Two general coping strategies have been distinguished: problem-solving strategies are efforts to do something active to alleviate stressful circumstances, whereas emotion-focused coping strategies involve efforts to regulate the emotional consequences of stressful or potentially stressful events.⁸

Research indicates that people use both types of strategies to combat most stressful events. The predominance of one type of strategy over another is determined, in part, by personal style (e.g., some people cope more actively than others) and also by the type of stressful event; for example, people typically employ problem-focused coping to deal with potential controllable problems such as work-

related problems and family-related problems, whereas stressors perceived as less controllable, such as certain kinds of physical health problems, prompt more emotion-focused coping.⁹

Assessment of coping strategies is important in planning of health education programs to enhance coping. Unfortunately, such work on mothers of children with cardiac problems has lagged far behind. **The aim of the present work** was: 1) to assess the knowledge and attitude of mothers concerning cardiac problems, 2) to assess the coping strategies of mothers of children with cardiac problems, and 3) to identify some predictors of the coping strategies.

MATERIAL AND METHODS

Study setting and sampling:

The study was conducted at the Cardiology Clinic of Sporting Student's Hospital in Alexandria which is affiliated to the Health Insurance Organization. All mothers of children with cardiac problems who attended this clinic with their children during March 2007 and accepted to participate in the study

were subjected to a cross sectional study. The total sample was 220 mothers. Those who responded were 187 mothers making a response rate of 85 %

Methods:

For the execution of the present study, the following tools were used:

1) **Modified Jalowiec coping scale (JCS)**¹⁰

was used to assess the coping strategies of the mothers. Translation into Arabic version was performed by Kanona (2002)¹¹. This scale contained 21 items. These items were scored on 3 point Likert scale to indicate extent of use; no (0), sometimes (1), and always (2). Higher scores indicate better coping. These items were divided into two groups: the first group is the affective-oriented coping strategies including 14 statements with a total score ranging from 0 to 28 points. The second group is the problem-oriented coping strategies including 7 statements with a total score ranging from 0 to 14 points. For each mother, the total score was calculated together with the affective-

oriented and problem-oriented scores.

The percent mean score (and standard deviation) was calculated.

2) **A pre-designed interviewing questionnaire** was used to collect the

following data from the mothers:

- a) Personal data: including age, sex, and birth order of the child. Socioeconomic data including mother's education, mother's work, and family size were also collected.
- b) Scholastic achievement: the results of the previous academic year for each student were recorded.
- c) Disease characteristics: including child diagnosis (congenital or rheumatic), type of cardiac lesion, age at diagnosis, duration of illness, and previous hospitalization.
- d) Mother's reaction after diagnosis: such as shock, sadness, deny, or acceptance.
- e) Knowledge statements: in the form of 6 items with multiple choice answers about mother's knowledge of the child

diagnosis, cause, prevention, treatment, and penicillin prophylaxis (frequency and duration). The total knowledge score ranged from 0 to 14 points. Those with scores 8 or more ($\geq 60\%$ of total score) were considered of fair/good knowledge. Those with score less than 8 ($< 60\%$ of total score) were considered of poor knowledge.

- f) Attitude statements: in the form of 9 items measuring mother's attitude towards their diseased child. Each item consisted of two choices; agree (0) and do not agree (1). Positive attitude scored (1) and negative attitude scored (0). The total score ranged from 0 to 9 points. Those with scores 5 or more ($\geq 60\%$ of total score) were considered having positive attitude. Those with scores less than 5 ($< 60\%$ of total score) were considered having negative attitude.

Statistical analysis:

The data were coded, entered, and analyzed using SPSS (version 10) software

program. Mean and standard deviation, Chi-squared test, ANOVA, Mann-Whitney test, and multiple regression analysis were applied. The p-value of <0.05 was considered significant.

RESULTS

Table 1 shows that the age of the children ranged from one month to 18 years with a mean age of 5.47 ± 5.21 years. The age at diagnosis ranged from birth to 15 years with a median age at diagnosis of 0.7 years. Duration of illness ranged from one month to 17 years with a mean duration of illness 2.55 ± 2.90 years. Males constituted 57.8% of the sample and 42.5% were females. Concerning mother education, 92.5% were of low and middle education and only 7.5% were of high education. Most of the mothers were not working (90.4%) and only 9.6% were working.

As regards cardiac lesions, about three quarter of the sample (75.4%) reported single lesion, which was significantly higher among the congenital cases (81.8%), compared to RF/RHD cases (51.3%). On the other hand, multiple lesions were significantly higher among RF/RHD cases (25.6%) as compared

to the congenital cases (18.2%) ($\chi^2 = 38.81$, $p < 0.00$). Previous hospitalization was reported by 42.8% of mothers.

Concerning the knowledge of the mothers regarding cardiac problems, most of them showed poor knowledge (87.2%), while only 12.8% reported fair/good knowledge. Poor knowledge was more significantly reported among mothers of congenital cases (91.9%), compared to 69.2% among mothers of RF/RHD cases. ($\chi^2 = 14.17$, $p < 0.001$)

As regards the attitude of the mothers towards cardiac problems, about half of the sample (46.0%) showed negative attitude, a figure which was significantly higher among mothers of congenital cases (54.7%), compared to mothers of RF/RHD cases (12.8%), the majority of mothers of RF/RHD cases (87.2%) showed positive attitude towards the disease ($\chi^2 = 21.82$, $p < 0.00$).

Concerning mother reaction after diagnosis, the most recorded reaction was acceptance (41.2%), followed by sadness (33.2%), shock (16.0%), and deny (9.6%). Shock and sadness were significantly more

common among mothers of congenital cases (16.9% and 37.2%, respectively)), compared to mothers of RF/RHD cases (12.8% and 17.95, respectively), while deny and acceptance were significantly more common among mothers of RF/RHD cases (17.9% and 51.4%, respectively), compared to mothers of congenital cases (7.4% and 38.5%, respectively)

Table 2: shows the percentage distribution of mothers of children with cardiac problems according to their use of different coping methods. The results revealed that "Pray; trust in god" coping method was always used by most of mothers of children with cardiac problems (92.5%), followed by "Accept the situation as it is" (88.0%), and "Hope that things will be better" (73.5%). More than half of the mothers (55.5%) reported that they always "Resign themselves to the situation because it is their fate" while 28.0% reported that they always "Worry".

On the other hand, the least used coping methods by the mothers were "Take drugs (hypnotics, sedatives), where only 1%

reported using this coping method, followed by "Eat; chew gum" where only 6% reported using this method, "Blame someone else for your problem", where only 8.5% reported using this method, "Let someone else solve the problem" and "Take tea, coffee, and/or cigarette" where 12.5 % reported using these coping methods

Table 3 showed significant association between percent mean score of copying skills and the duration of illness ($p < 0.01$), previous hospitalization ($p = 0.01$) and The percent mean total score was significantly higher with longer duration of illness, with history of previous hospitalization, and with negative attitude of mothers to illness. As for the affective copying skills, significant association was evident for all these variables except for mothers' attitudes ($p = 0.59$), while problem-oriented copying skills score was significantly associated only with mothers' attitudes. ($p < 0.001$). However, the table showed no significant association between the percent mean score of copying skills and any of other variables.

As regards the duration of illness, the study revealed that the percent mean affective, problem-oriented, and total scores of mothers increase with increasing duration of illness. The percent mean affective and total scores were significantly higher when the duration of illness of the children was 5-10 years (43.92 ± 10.23 and 42.30 ± 10.53 , respectively), compared to 36.27 ± 11.15 and 36.28 ± 10.59 , respectively when the duration of illness <5 years ($p < 0.05$). Percent mean problem-oriented score was higher when the duration of illness ≥ 11 years (50.00 ± 21.02) compared to 36.31 ± 15.93 when the duration of illness <5 years.

Mothers of children who reported previous hospitalization recorded higher percent mean affective, problem-oriented, and total scores (39.47 ± 10.45 , 38.48 ± 15.66 , and 39.32 ± 9.49 , respectively) compared to mothers of children who reported no previous hospitalization (35.71 ± 11.80 , 35.90 ± 16.80 , and 35.77 ± 11.37 , respectively). The difference was statistically significant concerning the affective and total scores ($p < 0.05$).

As regards the attitude of the mother towards the cardiac problems, the study revealed that the percent mean problem-oriented and total scores of mothers were significantly higher with negative attitude of the mothers (40.45 ± 17.66 and 38.69 ± 11.63 , respectively) compared to positive attitude (34.06 ± 14.57 and 36.08 ± 9.81 , respectively) ($p < 0.05$).

The present study revealed that the percent mean score of use of problem-oriented coping methods ($37.00 \pm 16.34\%$) was nearly equal to that for affective-oriented coping methods ($37.42 \pm 11.40\%$).

Table 4 shows multiple regression analysis of copying skills among mothers of children with cardiac problems with some independent variables. Duration of illness, knowledge, and attitude of mothers regarding the cardiac problems were the only significant predictors of the coping skills. High percent mean total coping scores was more likely among mothers of children with longer disease duration and those whose mother showed negative attitude towards cardiac problems ($p < 0.05$). High

percent mean affective scores was significant among mothers with fair/good knowledge and negative attitude ($p < 0.05$). High percent mean problem-oriented scores was more likely among mothers with negative attitude towards cardiac problems ($p < 0.05$).

Table (1): Distribution of the studied sample by cardiac problems and some variables

Variables	Cardiac problems				Total	
	Congenital		RF/RHD		No	%
	No.	%	No.	%		
	148	74.0	39	26.0	187	100
Age (years)						
- <6	124	83.7	1	2.5	125	66.8
- 6 -	18	12.2	18	46.2	36	19.3
- 12+	6	4.1	20	51.3	26	13.9
χ^2, p	98.5, 0.00*					
Mean(SD)	5.47 (5.21)					
Sex						
- Male	87	58.8	21	53.8	108	57.8
- female	61	41.2	18	46.2	79	42.2
χ^2, p	0.31, 0.57					
Mother education						
- low	69	46.6	23	59.0	92	49.2
- middle	67	45.3	14	35.9	81	43.3
- high.	12	8.1	2	5.1	14	7.5
χ^2, p	1.94, 0.37					
Mother work						
- working	14	9.5	4	10.3	18	9.6
- not working	134	90.5	35	89.7	169	90.4
χ^2, p	0.02, 0.88					
Cardiac lesions						
- no lesion	-	-	9	23.1	9	4.8
- single lesion	121	81.8	20	51.3	141	75.4
- multiple lesions	27	18.2	10	25.6	37	19.8
χ^2, p	38.81, 0.00*					
Age at diagnosis (years)						
- < 6	140	94.6	6	15.4	146	78.1
- 6-	6	4.1	26	66.7	32	17.1
- \geq 12	2	1.3	7	17.9	9	4.8
χ^2, p	113.18, 0.00*					
Median	0.70					
Duration of illness (years)						
- < 5	132	89.2	26	66.7	158	84.5
- 5-	13	8.8	13	33.3	26	13.9
- \geq 11	3	2.0	-	-	3	1.6
χ^2, p	16.02, 0.00*					
Mean(SD)	2.55 (2.90)					
Previous hospitalization						
- yes	62	41.9	18	46.2	80	42.8
- no	86	58.1	21	53.8	107	57.2
χ^2, p	0.23, 0.63					

Table (1): Cont.

Knowledge							
- Poor.	136	91.9	27	69.2	163	87.2	
- Fair/good.	12	8.1	12	30.8	24	12.8	
χ^2, p	14.17, < 0.001*						
Attitude							
- Negative	81	54.7	5	12.8	86	46.0	
- positive	67	45.3	34	87.2	101	54.0	
χ^2, p	21.82, <0.00*						
Mother reaction							
- shock	25	16.9	5	12.8	30	16.0	
- sadness	55	37.2	7	17.9	62	33.2	
- deny	11	7.4	7	17.9	18	9.6	
- acceptance	57	38.5	20	51.4	77	41.2	
χ^2, p	8.52, 0.03*						

* Statistically significant

Table (2): Percentage distribution of mothers of children with cardiac problems according to their use of different coping methods

Coping Method	Coping Group	Response		
		Never	Sometimes	Always
		(0)	(1)	(2)
Hope that things will be better	A	1.0	25.5	73.5
Pray; trust in god	A	0.5	7.0	92.5
Accept the situation as it is	P	2.5	9.5	88.0
Worry	A	29.5	42.5	28.0
Find out more about the situation so you can handle it better	P	50.5	39.0	10.5
Get nervous	A	48.0	33.0	19.0
Drawn on past experience to help you handle the situation	P	54.0	40.0	6.0
Cry; get depressed	A	48.5	43.5	8.0
Try out different ways of solving the problem to see which works best	P	62.5	32.5	5.0
Go to sleep figuring things will look better in the morning	A	46.5	39.0	14.5
Want to be alone	A	53.0	35.5	11.5
Seek comfort or help from family or friends	P	41.5	40.5	18.0
Talk the problem over with someone who has been in the same type of situation	P	34.0	44.5	21.5
Resign yourself to the situation because it is your fate	A	11.0	33.5	55.5
Try to put the problem out of your mind	A	53.0	38.5	8.5
Blame someone else for your problems	A	91.5	7.5	1.0
Don't worry about it, everything probably works out fine	A	26.0	53.0	21.0
Eat; chew gum	A	94.0	4.5	1.5
Let someone else solves the problem	P	87.5	11.0	1.5
Take tea, coffee, and/or cigarette	A	87.5	10.0	2.5
Take drugs (hypnotics, and/or sedatives)	A	99.0	1.0	-

A= affective oriented

P= problem oriented

Table (3): Distribution of mothers of children with cardiac problems according to the percent mean coping scores and some variables

Variable	Percent mean(SD) coping score		
	Affective-oriented	Problem-oriented	Total
Age (years)			
- <6	36.59(11.21)	35.99(16.09)	36.39(10.46)
- 6-	38.43(13.21)	36.56(15.39)	37.81(12.18)
- 12+	39.39(9.36)	41.51(18.18)	40.10(9.52)
<i>p</i> - value	0.38	0.23	0.21
Sex			
- male	37.14(11.92)	36.64(16.99)	36.97(11.72)
- female.	37.81(10.70)	37.47(15.50)	37.70(9.29)
<i>p</i> - value	0.69	0.54	0.53
Birth order			
- first.	37.16(10.11)	36.37(16.37)	36.90(10.19)
- second.	37.09(11.79)	35.71(15.66)	36.63(10.50)
- third or more.	38.04 (12.04)	39.06 (17.14)	38.38 (11.51)
<i>p</i> - value	0.87	0.44	0.59
Mother education			
- low	37.92(11.88)	35.43(16.66)	37.09(10.90)
- middle	36.18(9.75)	38.43(15.27)	36.93(9.95)
- high (university or more)	41.32(16.01)	39.79(19.95)	40.81(13.94)
<i>p</i> - value	0.24	0.37	0.44
Mother work			
- working	35.90(12.90)	42.48(14.57)	38.09(11.16)
- not working	37.58(11.25)	36.42(16.44)	37.20(10.72)
<i>p</i> - value	0.56	0.10	0.76
Family size			
- ≤ 3	36.01(10.00)	37.73(16.93)	36.50(10.54)
- 4-	37.73(11.96)	37.06(16.48)	37.51(11.18)
- ≥ 6	37.74(10.86)	36.29(15.64)	37.25(9.54)
<i>p</i> - value	0.72	0.95	0.89
Diagnosis			
- Congenital	37.57 (11.80)	36.53(16.40)	37.22(11.10)
- rheumatic	38.73(9.28)	37.17 (15.30)	38.21(9.04)
<i>p</i> - value	0.31	0.86	0.31
Age at diagnosis (years)			
- < 6	37.35(11.63)	36.56(16.27)	37.09(10.76)
- 6-	37.25(11.27)	36.67(16.50)	37.06(10.71)
- ≥ 12	38.96(8.95)	44.15(16.54)	40.69(10.88)
<i>p</i> - value	0.90	0.33	0.56
Duration of illness(years)			
- < 5	36.27(11.15)	36.31(15.93)	36.28(10.59)
- 5-	43.92(10.23)	39.04(17.66)	42.30(10.53)
- ≥ 11	36.60(16.33)	50.00(21.02)	41.07(9.19)
<i>p</i> - value	<0.001*	0.19	0.01*

Table (3): Cont.

Previous hospitalization			
- yes	39.74(10.45)	38.48(15.66)	39.32(9.49)
- no	35.71(11.80)	35.90(16.80)	35.77(11.37)
<i>p</i> - value	0.01*	0.21	0.01*
Scholastic achievement			
- weak/fair	42.20(10.45)	42.85(19.94)	42.42(8.63)
- good/VG	38.24(11.93)	38.13(16.04)	38.21(11.48)
<i>p</i> - value	0.12	0.55	0.17
Knowledge			
- Poor.	37.62(11.18)	36.46(15.94)	37.23(10.52)
- Fair/good.	39.14(12.30)	38.10(17.71)	38.79(11.93)
<i>p</i> - value	0.57	0.67	0.51
Attitude			
- Negative	37.81(11.98)	40.45(17.66)	38.69(11.63)
- positive	37.10(10.92)	34.06(14.57)	36.08(9.81)
<i>p</i> - value	0.59	<0.001*	< 0.05

* Statistically significant

Percent mean (SD) affective coping score = 37.42(11.40)

Percent mean (SD) problem-oriented coping score = 37.00(16.34)

Percent mean (SD) total coping score = 37.28(10.73)

Table (4): Multiple regression analysis of copying skills among mothers of children with cardiac problems with some independent variables

Variables	Copy strategies (score %)		
	affective	problem	total
	β (SE)	β (SE)	β (SE)
Age at diagnosis	0.13(0.32)	-0.16(0.46)	0.03(.31)
Previous hospitalization (yes=1)	2.54(1.68)	-0.05(2.41)	1.68(1.60)
Duration of illness	0.59(0.31)	0.76(0.45)	0.65(0.30) [*]
Diagnosis (Rheumatic=1)	-0.26(3.21)	5.66(4.62)	1.71(3.06)
Knowledge (score)	0.09(0.04) [*]	-0.11(0.06)	0.03(0.04)
Attitude (score)	-1.03(0.50) [*]	-2.32(0.72) [*]	-1.46(0.47) [*]

* Statistically significant

β ... coefficient of determination

SE ... Standard error.

DISCUSSION

The presence of a chronic illness in a child commits the family to long-term difficulties and problems comprising a variety of different stressors. Effective coping alleviates the problem and reduces emotional distress. If coping is ineffective, distress remains unchanged or becomes aggravated.¹² How parents cognitively appraise concerns related to the care of their child will determine their coping strategies.¹³

The aim of the present work was to assess coping strategies of mothers of children with cardiac problems which are important for planning intervention programs to enhance their coping. In consistent with the study done by Yousef *et al.*, (2004)¹⁴ on the mothers of mentally handicapped children, the present study revealed that "Pray; trust in god" coping method was always used by most of mothers of children with cardiac problems, followed by "Accept the situation as it is". These two coping methods are adopted by mothers in an attempt to maintain some control over the situation that facilitate effective adaptation and

diminish a feeling of helplessness and hopelessness.¹⁵ It is well known that people in our community always pray and trust god when they face their problems to help them overcome the stress evoked by that problem. Also, religion gives them strength that helps them accept the situation. The third adopted coping method was "Hope that things will be better". Hopeful perspective is of importance for adaptation because it allows a person to become aware of alternative options for coping with stress.¹⁰ More than half of the mothers reported that they always "Resign themselves to the situation because it is their fate". This is because most people in our community believe that everything they face is their fate. However, about a quarter of the sample reported that they always "Worry."

Meanwhile, the least used coping methods by the mothers were "Take drugs (hypnotics, or sedatives), followed by "Eat; chew gum", "Blame someone else for your problem", "Let someone else solves the problem" and "Take tea, coffee, and/or cigarette". Taking drugs, chew gum, and take

tea and coffee, and cigarette are not coping methods commonly used by females in our culture to help them face their problems, especially females of low socioeconomic class that constitute the study sample. Also, females belonging to this stratum depend usually upon themselves in solving their problems and never blame someone else.

Most people use multiple coping behaviors in any given stressful situation. The choice of behaviors is directed by the changing environment and the altering situation.¹⁶ The present study revealed that the percent mean score of use of problem-oriented coping method ($37.00 \pm 16.34\%$) was nearly equal to that for affective-oriented coping method ($37.42 \pm 11.40\%$). Many studies indicated the need for balance between problem-oriented and affective-oriented coping methods.^{10,17} Others consider problem solving a pre requisite for accommodation and successful dealing with the problems.^{15,18}

An individual's perception of the event is a critical factor in determining whether the event will be stressful or not. Parents who defined

having a child with a disability in a positive way had more successful adaptations and family strengths.¹⁵ The present work revealed that about half of the mothers showed negative attitude towards the cardiac problems, a figure which was significantly higher among mothers of congenital cases. Parents of children with CHD have identified psychological stress as their most significant problem¹⁹. Diagnostic procedures, medical and surgical interventions, perception of the child as "different," social problems, sports restrictions, uncertainty, and disease prognosis have also been identified as sources of stress²⁰⁻²². Among parents of adolescents and young adults, a 1997 study reported that issues related to the perception of their offspring as different persisted. Additional concerns were related to decisions about disclosure of the diagnosis and transitioning offspring to self-management of the chronic illness.⁴

The present study revealed that the % mean problem-oriented and total coping scores of mothers were significantly higher

with negative attitude of the mothers. After adjusting for other variables, attitude of the mother was a significant predictor of coping including affective-, problem-oriented, and total scores. Negative attitude increases the psychological distress of the mother due to overprotection and more effort in caring for her child together with the sense of guilt and family problems that might occur. Therefore, she tries to increase her coping strategies to overcome this stress and solve the problem.

Despite recent advances in medical and surgical management of pediatric cardiac patients, the findings of the present study showed that mothers have important knowledge gaps, which were more significantly reported among mothers of congenital cases. Given the important role of parents in imparting knowledge of chronic illness to their child, the disappointing findings from previous studies reflect inadequacies of parental knowledge.^{23,24} After adjusting for other variables, high percent mean affective scores was significant among mothers with fair/good knowledge. The more information

parents have, the less frightening the present and future will seem. Knowledge is empowering. It can help feel more in control of, and less a hostage to, the condition you must face. Information will also help the mother guide her child through the potentially complicated medical care system.²³

Several researchers have hypothesized that parents are apt to follow similar patterns or predictable stages that most parents go through. Some examples of these stages include initial shock, denial, emotional disorganization, and reaching a final stage of adjustment or acceptance.^{22,25} In the present study, the most recorded reaction was acceptance, followed by sadness, shock, and deny. Shock and sadness were significantly more common among mothers of congenital cases, while deny and acceptance were significantly more common among mothers of RF/RHD cases.

As regards the duration of illness, the present study revealed that the percent mean affective-, problem-oriented, and total scores of mothers increase with increasing duration of

illness. After adjusting for other variables, duration of illness was a significant predictor of total coping strategies. The longer the duration of illness, the more will be the accommodation and experience in dealing with the problem. Most children with CHD are diagnosed in the perinatal period or in early infancy and thus; families must concurrently deal with the stress of a normative transition (new family member) and the stress of the diagnosis of a chronic illness. Caregiving demands are very high, especially in the early stages of illness²². Caregiving issues identified in the literature include difficulties with nutrition and feedings and intensive medication regimens²¹. However, mothers of children with CHD - in the present study - were not significantly different from those of children with RF/RHD in terms of coping strategy inspite of the significantly longer duration of the former group.

Mothers of children who reported previous hospitalization in the present study, recorded higher percent mean affective-, problem-oriented, and total coping strategy scores in the bivariate analysis. Hospitalized patients

are the severe cases that may need surgery and more care from the mother. This may increase the stress and coping strategies of the mother. Despite the difficulties including hospitalization, however, many families adapt successfully²². After adjusting for all other variables in the present study, previous hospitalization was not a significant predictor of coping strategies.

CONCLUSION:

1. Mothers of children with cardiac problem have important knowledge gaps and show negative attitude towards their diseased children. Poor knowledge of and negative attitudes towards cardiac problems were significantly more prevalent among mothers of children with CHD than among those of children with RHD.
2. Coping strategies of mothers of children with cardiac problem are inadequate. However, high coping strategy scores are significantly associated with the longer duration of illness and the negative attitude of mothers, possibly

due to prolonged exposure to stress and anxiety, and the feeling that their children are different. The type of cardiac defect is not a significant predictor of coping skills.

RECOMMENDATIONS:

In order to cope, families may benefit from communication with others who share common concerns, interests, and goals. Some factors that impact a family's ability to cope are: ability to understand/comprehend medical concepts, what the child's physical condition is and parent' perception that they "did something wrong" and caused the heart defect.

Support group for parents is a highly recommended strategy to help a family cope in different ways; provide emotional support for short-term and long-term coping, decrease feelings of isolation for those whose family and friends are at a loss on how to provide support, reduce anxiety and stress of family members, gather and share information about the same or similar defect, and focus on positive aspects of the situation.

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