

# Turkish Version of the Parenting Stress Index Short Form: A Psychometric Study

## Ebeveyn Stres İndeksi Kısa Formun Türkçe Uyarlaması: Bir Psikometrik Çalışma

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**ABSTRACT Objective:** The aim of this study was to assess the psychometric details of the Turkish version of the Parenting Stress Index/Short Form (PSI/SF). **Material and Methods:** PSI/SF was administered to 90 mothers of children with congenital heart disease in the cardiology outpatient clinic. In 51 mothers the scale was re-administered 2 months later. Psychometric testing was carried out by using Cronbach's alpha, item-total correlations, test-retest reliability and validity. The concurrent validity of the instrument was established by correlating test scores with scores from 2 other well-known depression inventories (Beck and Zung Depression inventories). **Results:** Psychometric analysis showed that the Turkish version of the PSI/SF demonstrated satisfactory internal consistency (Cronbach's alpha) for Total Stress Score (0.71) and also for subscales including Parental Distress (0.81), Parent-Child Dysfunctional Interaction (0.76) and Difficult Child (0.78). Test-retest correlations ( $r=0.88$ ) indicated good stability over a mean time period of two months. The PSI/SF was in good correlation with Beck Depression ( $r=0.77$ ) and Zung Depression ( $r=0.69$ ) inventories. **Conclusion:** PSI/SF is an appropriate tool for measuring parenting stress in Turkish mothers of children with congenital heart disease and has cross-cultural validity.

**Key Words:** Parents; stress; reproducibility of results

**ÖZET Amaç:** Bu çalışmada Ebeveyn Stres İndeksi/Kısa Form (PSI/SF) Türkçe uyarlamasının psikometrik özellikleri araştırıldı. **Gereç ve Yöntemler:** PSI/SF, konjenital kalp hastalıklı çocuğu olan 90 anneye çocuk kardiyoloji polikliniğinde uygulandı. 51 anneye ölçek 2 ay sonra tekrar verildi. Psikometrik çalışma; Cronbach Alfa, madde toplam korelasyonu, test-retest geçerlilik ve güvenilirlik yöntemleri kullanılarak yapıldı. Eşzamanlı geçerlilik ise ölçek skorlarının iyi bilinen başka iki depresyon ölçeğinden elde edilen skorlarla karşılaştırılması ile belirlendi (Beck ve Zung Depresyon envanterleri). **Bulgular:** Psikometrik analiz sonuçları ile ölçeğin (PSI/SF) Türkçe uyarlamasının iç tutarlılık güvenilirliği, Ebeveyn Sıkıntısı (0.81), Ebeveyn-Çocuk Etkileşiminde Bozulma (0.76) ve Zor Çocuk (0.78) alt ölçek puanları ve Toplam Stres Puanı (0.71) açısından yeterli bulundu. Test-retest ilişkisinin ( $r=0.88$ ) 2 aylık dönemde iyi düzeyde kararlılık gösterdiği saptandı. Ayrıca, ölçeğin (PSI/SF) Beck ( $r=0.77$ ) ve Zung Depresyon ( $r=0.69$ ) envanterleri ile iyi korelasyon gösterdiği de görüldü. **Sonuç:** PSI/SF Türkçe uyarlaması, konjenital kalp hastalığı olan çocuğa sahip Türk annelerindeki ebeveyn stresini değerlendirmede uygun bir araç olup kültürlerarası geçerliliği de vardır.

**Anahtar Kelimeler:** Ebeveyn; stres; güvenilirlik, geçerlilik

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The primary function of the PSI is to assess the stress in the parent-child system. PSI was first developed by Abidin in 1983.<sup>1</sup> Revisions have been made on the scale based on the comments received from the experiences in clinical practice.<sup>2</sup> The PSI and PSI/SF are instruments

designed to measure the degree or intensity of stress in the parenting role especially in families with handicapped children.<sup>3-7</sup> PSI/SF, consisting of 36 items, is often used instead of PSI with 120 items. Studies showed that the PSI/SF was adequate to describe the primary components of the parent-child system and had good internal consistency.<sup>8,9</sup>

The level of stress responses displays interpersonal as well as intercultural variability. PSI has proved useful with Anglo-American samples in medical settings as a screening and diagnostic tool to measure the level of stress in parent-child system and in psychological researches.<sup>1,2,10</sup> It was also applied to culturally different groups.<sup>8,9</sup>

The aim of this study was to assess the psychometric properties of the Turkish version of the PSI/SF in parents of children with a prior diagnosis of heart disease.<sup>11,12</sup>

## MATERIAL AND METHODS

The parents of 110 children with congenital heart disease in Pediatric Cardiology Outpatient Clinic of Mersin University were enrolled in the study. Congenital heart diseases were diagnosed by a pediatric cardiologist (OH), and patients with uncorrectable congenital heart problems and/or undergoing palliative surgical treatment were defined as having complex heart disease. Parents of children with other congenital, genetic or mental problems and parents who had literacy problems were excluded from the study. Turkish-speaking parents living in Turkey were enrolled in the study. Informed consent was obtained from parents. PSI/SF<sup>2</sup>, Beck and Zung depression inventories were administered to the parents during the first visit.<sup>13-15</sup> After 2 months, the PSI/SF was re-administered to 51 parents since 39 parents experiencing acute medical problems and undergoing surgery during these 2 months were excluded. Parents, who were not re-administered the PSI/SF, were not included in test-retest correlation analysis. The parents' educational level and family income were also asked and analyzed. Family's economic status was determined according to the monthly income.

Parents' monthly income was classified as low, middle and high ( $\leq 500$  YTL, 501-1000 YTL and  $>1000$  YTL, respectively).

The American version of the PSI/SF was translated to Turkish by a bilingual researcher and then was checked by another bilingual person and by a native English speaker.<sup>2</sup>

Excluding the defensive respond (DR) subscale, the PSI/SF comprises three subscales: Parental Distress (PD), Parent-Child Dysfunctional Interaction (P-CDI) and Difficult Child (DC) scores. The total stress score is equal to the sum of the three subscale scores. Each subscale has 12 items.

## Statistical analysis

Data were processed and analyzed using the statistical package SPSS-11.5 for Windows and the statistical significance was accepted at  $p$  values of  $\leq 0.05$ .

Cronbach's  $\alpha$  coefficient was used for the internal consistency of each subscale (PD, P-CDI, DC) and total stress score. Spearman Correlation analysis was used to analyze item-total and item-subtotal correlations. Intra-class correlation (ICC) was calculated to establish test-retest reliability. Reliability of  $\geq 0.70$  was acceptable.<sup>9</sup> Pearson correlation analysis was used to assess correlations between the subscale scores and total stress score. The validity of each item within each subscale was assessed using item analysis. The structure and predictive validity of the total stress score was evaluated using Pearson correlation analysis. Pearson correlation analysis was also used to assess the correlations between the ages (children and mothers) and subscale scores. T-test and one-way analysis of variance were also used.

## RESULTS

The response rate was 81.8% (90/110). Of 90 children, 56 (62.2%) were males and 34 (37.8%) were females. The mean age was  $4.7 \pm 3.7$  years (range= 6 months-14 years). Fifty-one mothers completed the re-test after 2 months. The mean age of the mothers was  $31 \pm 6.5$  years. Cardiac diagnoses of the patients were presented in Table 1.

**TABLE 1:** Diagnoses of the patients with congenital heart disease.

Diagnoses of the patients	N (%)
Ventricular septal defect	43 (47.8%)
Atrial septal defect	11 (12.2%)
Pulmonary stenosis	8 (8.9%)
Corrected tetralogy of Fallot	5 (5.6%)
Complex congenital heart disease	5 (5.6%)
Ventricular septal defect and pulmonary stenosis	4 (4.4%)
Atrial septal defect and pulmonary stenosis	3 (3.3%)
Coarctation of aorta	3 (3.3%)
Aortic stenosis	3 (3.3%)
Corrected transposition of the great arteries	2 (2.2%)
Tetralogy of Fallot	2 (2.2%)
Ventricular septal defect and atrial septal defect	1 (1.1%)
Total	90 (100%)

There was no significant difference between the subscale scores (DC, PD, P-CDI) and total stress scores of PSI/SF, Beck depression and Zung depression scores with regard to the child's gender ( $p= 0.714, 0.636, 0.887, 0.300, 0.223$  and  $0.376$ , respectively). Only the median score of DC was higher in mothers of girls ( $p= 0.022$ ). There was no significant difference between three subscale scores and total score with regard to the age of the child and the mother ( $p > 0.05$ ). The P-CDI, total stress score, Beck and Zung depression scores were higher in mothers with lower educational status (primary school) than those with higher educational status (university) ( $p= 0.0001, 0.003, 0.037$

**TABLE 2:** The parental educational status and the subscale and total scores of PSI/SF.

	Mother (mean $\pm$ SD)	p	Father (mean $\pm$ SD)	p
<b>PD</b>				
Primary school	35.0 $\pm$ 7.8		35.3 $\pm$ 7.6	
Secondary school	37.8 $\pm$ 9.9		36.6 $\pm$ 10.1	
High school	33.6 $\pm$ 9.9	0.134	32.8 $\pm$ 9.8	0.399
University	28.8 $\pm$ 7.5		31.9 $\pm$ 8.4	
Total	34.3 $\pm$ 8.7		34.3 $\pm$ 8.7	
<b>P-CDI</b>				
Primary school	30.4 $\pm$ 7.6	0.001*	29.5 $\pm$ 7.9	0.045**
Secondary school	29.4 $\pm$ 5.2	0.017 †	28.5 $\pm$ 5.9	0.017 ‡
High school	23.5 $\pm$ 5.0	0.0001**	25.2 $\pm$ 7.2	
University	20.0 $\pm$ 5.8		23.5 $\pm$ 7.0	
Total	27.5 $\pm$ 7.6		27.5 $\pm$ 7.6	
<b>DC</b>				
Primary school	33.6 $\pm$ 6.7		34.5 $\pm$ 7.2	
Secondary school	38.4 $\pm$ 8.4	0.023 †	33.0 $\pm$ 7.6	
High school	30.3 $\pm$ 7.2	0.008 ‡	31.1 $\pm$ 8.1	0.119
University	27.6 $\pm$ 7.9		29.4 $\pm$ 6.3	
Total	32.7 $\pm$ 7.5		32.7 $\pm$ 7.5	
<b>Total Stress</b>				
Primary school	99.0 $\pm$ 17.6	0.048*	99.4 $\pm$ 17.2	
Secondary school	105.7 $\pm$ 12.8	0.003**	98.1 $\pm$ 20.4	0.041**
High school	87.5 $\pm$ 18.5	0.044 †	89.1 $\pm$ 18.8	
University	76.3 $\pm$ 15.5	0.003 ‡	84.7 $\pm$ 18.8	
Total	94.5 $\pm$ 18.9		94.5 $\pm$ 18.9	
<b>Beck Depression</b>				
Primary school	18.7 $\pm$ 7.8	0.037**	20.1 $\pm$ 7.4	0.037**
Secondary school	24.3 $\pm$ 13.6	0.004 ‡	16.1 $\pm$ 8.9	
High school	15.8 $\pm$ 8.3		18.2 $\pm$ 12.2	
University	10.0 $\pm$ 9.1		12.1 $\pm$ 7.4	
Total	17.6 $\pm$ 9.3		17.6 $\pm$ 9.3	
<b>Zung Depression</b>				
Primary school	43.5 $\pm$ 6.6	0.014**	44.6 $\pm$ 6.4	0.006**
Secondary school	47.4 $\pm$ 5.5	0.004 ‡	41.6 $\pm$ 7.6	
High school	41.9 $\pm$ 7.8		43.4 $\pm$ 8.9	
University	35.3 $\pm$ 10.3		37 $\pm$ 7.7	
Total	42.7 $\pm$ 7.7		42.7 $\pm$ 7.7	

PD: Parental distress, P-CDI: Parent-child dysfunctional interaction, DC: Difficult child.

\* Significant p value for primary school vs. high school,

\*\* Primary school vs. university,

† Secondary school vs. high school,

‡ Secondary school vs. university.

and 0.014, respectively) (Table 2). The P-CDI, total stress, Beck and Zung depression scores were higher in fathers with lower educational status (primary school) than those with higher educational status (university) ( $p= 0.045, 0.041, 0.037$  and  $0.006$ , respectively) (Table 2). All scores (PD, P-CDI, DC, total stress, Beck depression and Zung depression scores) were higher in low-income mothers ( $p= 0.029, 0.016, 0.050, 0.006, 0.005$  and  $0.034$ , respectively) (Table 3).

### PSYCHOMETRIC CHARACTERISTICS OF PSI/SF

#### Reliability

##### Internal consistency

The psychometric parameters of the PSI/SF (item-subscale and item-total correlations, Cronbach  $\alpha$  coefficient) were presented in Table 4. The  $\alpha$  coefficient was satisfactory for the PD, P-CDI, DC and total stress. Furthermore, PD, P-CDI and DC subscales had good internal consistency with a coefficient of 0.71 ( $p= 0.0001$ ).

##### Item-total correlation

Correlations between each item, subscale scores and total stress score were presented in Table 4. Most items had acceptable item total correlation (except item #2). The correlations between each subscale score and total stress score were 0.81 ( $p= 0.0001$ ) for PD, 0.82 ( $p= 0.0001$ ) for P-CDI, 0.77 ( $p= 0.0001$ ) for DC, and 0.75 ( $p= 0.0001$ ) for DR.

##### Test-retest reliability

The test-retest reliability was 0.89 ( $p= 0.0001$ ) for DR, 0.89 ( $p= 0.0001$ ) for PD, 0.95 ( $p= 0.0001$ ) for P-CDI, 0.94 ( $p= 0.0001$ ) for DC, and 0.88 ( $p= 0.0001$ ) for the total stress.

#### Validity

The degree of relationship between the total stress score and the measurements mentioned above were 0.77 for Beck depression and 0.69 for Zung depression ( $p= 0.0001$  per coefficient).

## DISCUSSION

Studies showed that the PSI/SF was adequate to describe the primary components of the parent-child system with a good internal consistency.<sup>2,9,16</sup> Our results showed that it had good internal consistency and validity in Turkish mothers.

In general, parenting stress studies have been carried out on mothers as they spent more time looking after children than fathers.<sup>4,8</sup> Furthermore, mothers often feel more responsible for their child's illness and report more difficulty in adjusting to child's illness than do fathers.<sup>17</sup> However, it is not clear whether fathers experience less stress in parenting children.<sup>18</sup> Overall, PSI/SF targets both mothers and fathers of children with disabilities. We administered the PSI/SF only to mothers, as they were primary caregivers. This may be one of the limitations of our study.

PSI is a reliable and valid instrument for measuring experienced parental stress in mothers of young children.<sup>19</sup> We could not show any significant relationship between the children's age and the scores of the total stress and subscales; however there were only ten children under the age of one.

Reitman et al reported that PD subscale was most highly associated with low income level and therefore PSI/SF could be used especially in mothers with low economic status.<sup>20</sup> They also emphasized that P-CDI and DC subscales were related to

**TABLE 3:** The subscale scores, total stress score, Beck depression and Zung depression scores and the economic status of the family.

Economic status	PD	P-CDI	DC	Total Stress	Beck Depression	Zung Depression
Low (n= 29)	37.2 $\pm$ 9.4	30.3 $\pm$ 7.4	34.8 $\pm$ 6.6	102 $\pm$ 18	21.6 $\pm$ 10.1	45.2 $\pm$ 7.0
Moderate (n= 59)	32.6 $\pm$ 7.6	26.2 $\pm$ 7.5	31.8 $\pm$ 7.8	90 $\pm$ 18	15.7 $\pm$ 8.2	41.4 $\pm$ 7.7
High (n= 2)	44.5 $\pm$ 14.8	27.0 $\pm$ 4.2	26.5 $\pm$ 2.1	98 $\pm$ 17	18.0 $\pm$ 14.1	44.0 $\pm$ 14
Total	34.3 $\pm$ 8.7	27.5 $\pm$ 7.6	32.7 $\pm$ 7.5	94 $\pm$ 18	17.6 $\pm$ 9.3	42.7 $\pm$ 7.7
p	0.029	0.016	0.050	0.006	0.005	0.034

PD: Parental distress, P-CDI: Parent-child dysfunctional interaction, DC: Difficult child.

**TABLE 4:** Item analysis of the Parenting Stress Index Short Form (PSI/SF).

Items	Mean ± SD	ISC	ITC
<b>Parental distress (PD)</b>			
<i>Cronbach α coefficient= 0.81 (p= 0.0001)</i>			
1. I often have the feeling that I cannot handle things very well.	2.78 ± 1.2	0.421	0.392
2. I find myself giving up more of my life to meet my children's needs.*	4.08 ± 1.2	0.231	0.096
3. I feel trapped by my responsibilities as a parent.	2.85 ± 1.3	0.582	0.443
4. Since having this child, I have been unable to do new and different things.	2.78 ± 1.3	0.592	0.412
5. Since having a child, I feel that I am almost never able to do things that I like to do.	2.67 ± 1.3	0.586	0.506
6. I am unhappy with the last purchase of clothing I made for myself.	2.30 ± 1.1	0.448	0.436
7. There are quite a few things that bother me about my life.	3.30 ± 1.2	0.465	0.493
8. My child has caused more problems than I expected in my relationship.*	2.44 ± 1.4	0.643	0.523
9. I feel alone and without friends.	2.63 ± 1.4	0.691	0.611
10. When I go to a party, I usually expect not to enjoy myself.	2.74 ± 1.3	0.628	0.504
11. I am not as interested in people as I used to be.	2.93 ± 1.2	0.496	0.336
12. I don't enjoy things as I used to.	2.80 ± 1.4	0.703	0.575
<b>Parent-Child Dysfunctional interaction (P-CDI)</b>			
<i>Cronbach α coefficient= 0.76 (p= 0.0001)</i>			
13. My child rarely does things for me that make me feel good.	3.06 ± 1.3	0.324	0.327
14. Sometimes I feel my child does not like me and does not want to be close to me.	2.27 ± 1.4	0.530	0.400
15. My child smiles at me much less than I expected.	2.06 ± 1.1	0.719	0.503
16. I get the feeling that my efforts are not appreciated very much.*	2.70 ± 1.2	0.531	0.461
17. When playing, my child does not often giggle or laugh.	2.09 ± 1.2	0.779	0.658
18. My child does not seem to learn as quickly as most children.	2.17 ± 1.3	0.592	0.457
19. My child does not seem to smile as much as most children.	2.19 ± 1.3	0.642	0.549
20. My child is not able to do as much as I expected.	1.98 ± 0.9	0.592	0.402
21. It takes a long time and it is very hard for my child to get used to new things.	2.24 ± 1.1	0.601	0.468
22. I feel that I am not very good at being a parent.	2.02 ± 1.1	0.258	0.313
23. I expected to have closer and warmer feelings for my child than I do.*	2.38 ± 1.3	0.485	0.361
24. Sometimes my child does things that bother me just to be mean.	2.33 ± 1.1	0.296	0.295
<b>Difficult Child (DC)</b>			
<i>Cronbach α coefficient= 0.78 (p= 0.0001)</i>			
25. My child seems to cry or fuss more often than most children.	2.61 ± 1.2	0.627	0.374
26. My child generally wakes up in a bad mood.	2.14 ± 1.1	0.471	0.601
27. I feel that my child is very moody and easily upset.	2.94 ± 1.2	0.485	0.457
28. My child does a few things that bother me a great deal.	2.75 ± 1.2	0.564	0.427
29. My child reacts strongly when something happens that my child does not like.	3.29 ± 1.2	0.617	0.435
30. My child gets upset easily over the smallest thing.	3.27 ± 1.1	0.546	0.449
31. My child's sleeping or eating schedule was much harder to establish than I expected.	3.14 ± 1.4	0.496	0.356
32. I found that getting my child to do something is much harder.*	2.63 ± 1.2	0.429	0.186
33. Count the number of things that your child does that bother you.*	1.82 ± 0.9	0.411	0.244
34. There are some things my child does that really bother me a lot.	2.98 ± 1.2	0.728	0.535
35. My child turned out to be more of a problem than I had expected.	2.43 ± 1.2	0.338	0.397
36. My child makes more demands on me than most children.	2.63 ± 1.2	0.607	0.319

ISC= Item-subtotal correlation, ITC = Item-total correlation \*Simplified items of PSI/SF.

low educational status. Our results were consistent.

PSI and PSI/SF have been used in culturally different groups. Solis et al evaluated the psychometric properties of the Spanish version of the PSI,

Tam et al reported the validation results of the PSI as applied to a sample of Chinese mothers and Yeh et al conducted another psychometric study with the Chinese version of the PSI.<sup>4,8,9</sup> Our results supported the cross-cultural utility of the PSI.

Some studies suggested that parenting stress was associated with parental depression and anxiety.<sup>21,22</sup> Kwok et al reported that parents with more parenting stress had poorer mental health than those with less parenting stress.<sup>23</sup> Lobo et al showed that mothers of children with congenital heart disease were less apt to smile, make eye contact, touch, hum, or sing during the feeding.<sup>24</sup> A parenting stress total raw score of  $\geq 90^{\text{th}}$  percentile strongly indicates significant stress in the parent-child relationship and a professional counselling is often necessary.<sup>2</sup> Hung et al reported that most parents of children with chronic disease should be referred for more professional counselling in stress management.<sup>7</sup> Lack of understanding of this stress

has hindered healthcare professionals from providing the best possible services to parents.<sup>9</sup>

## LIMITATIONS

Although the findings indicated good psychometric properties of the PSI/SF, several limitations should be noted. First, the number of subjects was relatively small. Second, the study involved only mothers. Future researches are required to assess parenting stress in Turkish fathers.

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## REFERENCES

1. Abidin RR. Parenting stress and the utilization of pediatric services. *Child Health Care* 1983;11:70-3.
2. Abidin RR. Parenting Stress Index: Professional Manual. 3rd ed. Odessa, Fla: Psychological Assessment Resources Inc; 1995.
3. Kazak AE. Families with disabled children: stress and social networks in three samples. *J Abnorm Child Psychol* 1987;15:137-46.
4. Tam KK, Chan YC, Wong CKM. Validation of the Parenting Stress Index among Chinese mothers in Hong Kong. *J Community Psychol* 1994;22:211-23.
5. Pedersen SD, Parsons HG, Dewey D. Stress levels experienced by the parents of enterally fed children. *Child Care Health Dev* 2004;30:507-13.
6. Ong LC, Afifah I, Sofiah A, Lye MS. Parenting stress among mothers of Malaysian children with cerebral palsy: predictors of child- and parent-related stress. *Ann Trop Paediatr* 1998;18:301-7.
7. Hung JW, Wu YH, Yeh CH. Comparing stress levels of parents of children with cancer and parents of children with physical disabilities. *Psychooncology* 2004;13:898-903.
8. Solis ML, Abidin RR. The Spanish version parenting stress index: a psychometric study. *J Clin Child Psychol* 1991;20:372-78.
9. Yeh CH, Chen ML, Li W, Chuang HL. The Chinese version of the Parenting Stress Index: a psychometric study. *Acta Paediatr* 2001;90:1470-7.
10. Goldberg S, Morris P, Simmons RJ, Fowler RS, Levison H. Chronic illness in infancy and parenting stress: a comparison of three groups of parents. *J Pediatr Psychol* 1990;15:347-58.
11. Menahem S. Counselling strategies for parents of infants with congenital heart disease. *Cardiol Young* 1998;8:400-7.
12. Uzark K, Jones K. Parenting stress and children with heart disease. *J Pediatr Health Care* 2003;17:163-8.
13. Beck AT, Ward Ch, Mendelson M, Mock J, Erbaugh J. An inventory for measuring depression. *Arch Gen Psychiatry* 1961;4:561-71.
14. Hisli N. Beck depresyon envanterinin geçerliliği üzerine bir çalışma. *Psikoloji Dergisi* 1988;22:118-26.
15. Zung WWK, Durham NC. A self-rating depression scale. *Arch Gen Psychiatry*. 1965; 12:63-70.
16. Haskett ME, Ahern LS, Ward CS, Allaire JC. Factor structure and validity of the parenting stress index-short form. *Clin Child Adolesc Psychol* 2006;35:302-12.
17. Kupst MJ, Schulman JL. Long-term coping with pediatric leukemia: a six-year follow-up study. *J Pediatr Psychol* 1988;13: 7-22.
18. Esdaile SA, Greenwood KM. A comparison of mothers' and fathers' experience of parenting stress and attributions for parent child interaction outcomes. *Occup Ther Int*. 2003;10:115-26.
19. Ostberg M, Hagekull B, Wettergren S. A measure of parental stress in mothers with small children: dimensionality, stability and validity. *Scand J Psychol* 1997;38:199-208.
20. Reitman D, Currier RO, Stickle TR. A critical evaluation of the Parenting Stress Index-Short Form (PSI-SF) in a head start population. *J Clin Child Adolesc Psychol* 2002;31:384-92.
21. Gelfand DM, Teti DM, Fox CER. Sources of parenting stress for depressed and nondepressed mothers of infants. *J Clin Child Psychol* 1992;21:262-272.
22. Miller AC, Gordon RM, Daniele RJ, Diller L. Stress, appraisal, and coping in mothers of disabled and nondisabled children. *J Pediatr Psychol* 1992;17:587-605.
23. Kwok S, Wong D. Mental health of parents with young children in Hong Kong: the roles of parenting stress and parenting self-efficacy. *Child and Family Social Work* 2000;5:57-65.
24. Lobo ML. P Parent-infant interaction during feeding when the infant has congenital heart disease. *J Pediatr Nurs* 1992;7:97-105.