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## Comparative Study of the Relationship between Spiritual Well-being and Sense of Coherence in Mothers with Chronically Ill Children in Kerman, Iran, in 2016

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### Abstract

This study aimed to investigate the relationship between spiritual well-being and sense of coherence in the mothers having children with chronic diseases. To this end, a controlled cross-sectional evaluation was conducted on 300 mothers, divided into two groups of 150 cases with healthy and chronically ill children in the city of Kerman, Iran, in 2016. The data were collected using the Platosis and Alison's Spiritual Wellbeing Scale and Atonovesky's Sense of Coherence Scale. The mean ages of the mothers with healthy children and those with chronically ill children were  $36.1 \pm 4.6$  and  $37.7 \pm 6.2$  years, respectively. The linear regression analysis showed that by controlling the effect of the groups (i.e., the mother with a healthy or chronically ill child), the spiritual well-being score had a significant impact on the sense of coherence ( $P=0.001$ ). It was concluded that the promotion of spiritual well-being, especially existential well-being, could potentially develop the sense of coherence in the mothers with chronically ill children by helping them better control the diseases of their children.

**Keywords:** Children, Chronic disease, Mothers, Sense of coherence, Spiritual well-being

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## Introduction

Chronic diseases, occurring following trauma and hospital stay during the neonatal period, are the most common causes of pediatric hospitalization (1), which seriously affect the quality of life in the children and their families (2). For the chronically ill children, the parents are regarded as the primary caregivers, who face many challenges in complying with multiple complex problems and tasks induced by the child's disease (3). In many societies, the mothers often play a more active role in dealing with the children than the fathers. Accordingly, they care for their ill children (4, 5) and suffer high mental stress loads in this regard (6).

Accordingly, the mothers with ill children need to become more capable at coping with stress, better controlling their children's diseases, and providing a better life style for themselves. One of the potential ways of dealing with the stress caused by the chronic diseases is the reinforcement of the coherence sense. The sense of coherence is defined as a personal orientation towards life and capability of handling stress. This can occur through three basic concepts of comprehensibility, manageability, and meaningfulness of the events as perceived by the individuals, which have social-psychological aspects.

In 1987, Antonovsky first announced that the people's ability to deal with great life stressors is resulted from their high coherence level (7). He underscored that the sense of coherence can justify why a person can cope with high levels of stress and stay healthy (8). Many studies have investigated the sense of coherence in different age groups. Furthermore, the previous studies have shown that an enhanced sense of coherence can lead to greater career and education success, more pleasant social relationships, as well as better and more efficient stress management (9).

Berg et al. (2012) demonstrated that the overall sense of coherence score declined in the parents having children with cancer. They also indicated that this variable was significantly lower in the mothers than that in the fathers. Moreover, the mothers were reported to need more types of support during their children's illness and treatment as compared to the fathers (10). Moreover, Hardy et al. (2005) reported that the low sense of coherence in the parents of the children with mental disabilities put them at the greater risk of developing depression. Therefore, the enhancement of the psychological features in the parents of the children with disabilities is of utmost importance (11).

In addition to the sense of coherence, spiritual well-being is also known as one of the human health aspects, which provides important information about the health care needs, people's ability to cope with stress, and the interventions that are necessary to adapt and cope with the crisis caused by severe diseases, such as chronic diseases. Spiritual well-being is specified by the stability in life and peace as well as feeling of having a close and intimate relationship with God, self, society, and environment (12).

Spiritual well-being comprises of two components, namely religious and existential well-being. The religious well-being is a symbol of connection with a higher power, i.e., God. On the other hand, the existential well-being is a psychosocial element and sign of individuals' feeling of who they are, what they do and why, as well as where they belong to. The religious well-being leads us to God, whereas the existential well-being directs us beyond the self and toward others as well as the environment (13).

Some adaptive behaviors, such as belief in and adherence to God (that are the examples of spiritual well-being), have been reported as the most effective coping strategies by the mothers of the children with chronic diseases (14). Every ill individual is a unique entity whose spiritual needs are influenced by his/her culture, beliefs, and values (15). Currently, a high priority is given to educate the families to adopt caring responsibilities, which will reduce the hospitalization costs, increase the quality of life in the ill children, improve the child growth and development, as well as advance the dynamics of their families (16).

Moreover, maternal health has always been a factor affecting the child's and family's health. Therefore, the assessment of spiritual well-being and sense of coherence in the mothers can provide the medical team with useful and necessary information. As a result, the medical team can deliver the appropriate psychiatric care and effective rehabilitation, if necessary, to the mothers in such families. With this background in mind, this study was conducted to comparatively investigate the relationship between spiritual well-being and sense of coherence in the mothers with chronically ill children.

## Methods

This controlled cross-sectional study was conducted on the mothers with healthy and chronically ill school-age children (at primary schools) in Kerman, Iran, for four months (i.e., January 2016-May 2016). The sample size was estimated using the GPower software version 3.1. Considering a 95% confidence level, 80% statistical test power, and 15% difference between the acceptable senses of coherence in the two groups, the sample size was calculated to be 150 cases in each group (n=300). The study setting included the offices of pediatric specialists and pediatric units at the Afzalipour and Payambar Azam hospitals and schools located in districts 1 and 2 in Kerman.

The inclusion criteria for the mothers with school-age ill children were: 1) having a child with a history of chronic diseases (e.g. asthma, diabetes, cancer, thalassemia, and renal disease), 2) an elapse of at least one year from the chronic disease diagnosis by a physician, 3) willingness to participate in the study, 4) Islam religion, and 5) Farsi language. Furthermore, the inclusion criteria for the mothers of healthy children entailed: 1) having a child with no history of diseases, 2) willingness to participate in the study, 3) Islam religion, and 4) Farsi language.

On the other hand, the exclusion criteria included: 1) maternal mental illnesses (e.g., depression and schizophrenia) or chronic diseases (e.g., cardiac and renal diseases and diabetes), 2) immigrant mothers who live in Iran, and 3) divorced and widow mothers. All of these measures were self-reported by the mothers. The data collection was performed using the demographic form, Atonovesky's Sense of Coherence Scale, as well as Platosin and Alison's Spiritual Well-being Scale (SWBS).

The Sense of Coherence Scale, which was developed by Atonovesky, contains 29 items. In a study conducted by Alipour and Sharif on 400 Iranian male and female students, the validity and reliability (using the Cronbach's alpha coefficient) of this instrument were reported as 76.5 and 0.969, respectively (17). To determine the spiritual wellbeing, the Platosin and Alison's 20-item SWBS was employed. In this scale, the spiritual wellbeing is divided into the existential and religious wellbeing. In a study conducted by Rezaei (2006) in Tehran, the validity and reliability ( $\alpha=0.82$ ) of this questionnaire were acceptable (18). In another study by Baljany (2011), the reliability of the questionnaire was estimated, rendering a Cronbach's alpha coefficient of 0.88 (19).

For the purpose of sampling, first, the mothers of the healthy children were selected from the schools located in Kerman through the multistage random sampling method. The healthy and ill children were of the same school grades; therefore, the number of the students was approximately equal at each grade. Finally, the ill children were selected using the convenience sampling technique.

The children's health status was determined using their health profiles available at schools with the focus on the history of chronic diseases. The questionnaires were filled out by the mothers in the presence of the investigator. In this regard, the illiterate mothers answered the items orally, and the researcher wrote their responses down. It took about 45 min for both the questionnaires to be completed by the mothers.

In accordance with the research ethics, the study was carried out after achieving the permission of the Research Council. Furthermore, a letter of recommendation issued by the Bushehr University of Medical Sciences, Bushehr, Iran, was submitted to the hospital managers and Kerman Education Department. The participants received adequate information about the study objectives, confidentiality of their personal information, anonymity, and voluntary participation. In addition, the written informed consent was obtained from all the participants.

The Kolmogorov-Smirnov test was adopted to determine the normal distribution of the data. The data were analyzed using the descriptive statistics and analytical tests, including Chi-square test, t-test, Pearson correlation, and linear regression. In case the data were not normally distributed, the non-parametric tests (e.g., Mann-Whitney U test and Spearman's correlation coefficient) were run. The independent sample t-tests was used to compare such variables as maternal age, child age, father's income, and number of children. Furthermore, the Chi-square test was employed to compare the variables, including child's gender, maternal education, and fathers' occupation. Additionally, the Mann-Whitney U test was used to compare the child's birth order. The statistical analysis was performed using the SPSS version 18. P-value less than 0.05 was considered statistically significant.

## Results

According to the results, the mean ages of the mothers with healthy children and those with chronically ill children were  $36.1 \pm 4.6$  and  $37.7 \pm 6.2$  years, respectively. As the results indicated, there was no statistically significant difference between the two groups in terms of demographic information as gender, maternal occupation, child's birth order, and total number of the children. However, the two groups showed a significant difference regarding the maternal education level, father's occupation, father's income, child's age, and maternal age as the mothers of the healthy children were younger than those with chronically ill children ( $P=0.01$ ).

Furthermore, the age of the chronically ill children was significantly higher than that of the healthy children ( $P=0.007$ ). The independent sample t-tests indicated that the father's income level was also significantly higher in the group of the mothers with healthy children than that in the group with chronically ill children ( $P=0.03$ ). Regarding the three concepts of the sense of coherence, the mothers with healthy and those with chronically ill children had the mean comprehensibility, manageability, and meaningfulness of  $43.9 \pm 12.2$  and  $34.8 \pm 10.9$ ,  $47.8 \pm 9.2$  and  $39.3 \pm 8.9$ , as well as  $41.3 \pm 9.05$  and  $30.6 \pm 9.6$ , respectively.

The results of the t-test revealed a significance difference between the two groups in terms of the three aspects of the sense of coherence. Therefore, the mothers with healthy children were observed to achieve higher scores in all the three aspects, compared to the group with chronically ill children ( $P=0.001$ ). According to the results of the independent sample t-test, a significant difference was observed between the two groups in terms of the existential spirituality ( $P=0.001$ ), religious spirituality ( $P=0.001$ ), and total score of spiritual wellbeing ( $P=0.001$ ). Accordingly, all the scores of the mothers with healthy children were higher than those of the other group in this regard (Table 1).

The multivariate general linear model (GLM) analysis was used to compare the scores of spiritual well-being and sense of coherence between the two groups. The impact of the spiritual well-being (i.e., independent variable) was considered on the sense of coherence (i.e., dependent variable) by controlling the effect of the group variable (the mothers with a healthy or chronically ill child). Finally, the spiritual well-being ( $P=0.001$ ) by controlling the effect of the group ( $P=0.001$ ) had independently a significant impact on the sense of coherence. Similarly, the group variable meaningfully affected the sense of coherence.

Since the variables of maternal education, father's occupation, father's income, maternal age, and child's age were significantly different between the two groups, the multivariate GLM analysis was re-used to compare the correlation between the scores of spiritual well-being and sense of coherence by controlling the effect of these variables, so as to assess the interference between these nominal variables and ultimately, to determine the degree of accuracy of the model in predicting the sense of coherence.

The results showed that by controlling the impact of these variables, the sense of coherence score was still significantly influenced by the scores of spiritual well-being ( $P=0.001$ ) and the group (i.e., the mother with a healthy or chronically ill child) ( $P=0.03$ ), but not by other variables. In general, the developed model was capable of predicting 49% of the changes in the sense of coherence score (adjusted  $R^2=0.49$ ) (Table 2).

**Table 1. Comparison of the mean overall spiritual well-being, existential well-being, and religious well-being scores with the sense of coherence score among the mothers of healthy and chronically ill children**

Variables	Groups		Z or T	P-value	
	Healthy Mean $\pm$ SD	Ill Mean $\pm$ SD			
Spiritual well-being	Existential dimension	$48.5 \pm 7.3$	$38.8 \pm 9.6$	9.7	0.001
	Religious dimension	$54.9 \pm 4.9$	$49.7 \pm 7.2$	7.3	0.001
	Total	$103.4 \pm 11.04$	$88.5 \pm 15.5$	*-8.4	0.001
Sense of coherence		$133.2 \pm 25.8$	$104.8 \pm 26.5$	9.3	0.001

**Table 2. Prediction of the sense of coherence score based on the spiritual well-being score and its dimensions separated in the two groups of mothers with healthy and chronically ill children**

Variables*	Healthy					Ill					
	Beta	P-value	B	95% CI	Adjusted R <sup>2</sup>	Beta	P-value	B	95% CI	Adjusted R <sup>2</sup>	
Model 1	Spiritual well-being score	0.6	0.001	1.4	1.1-09.70	0.35	0.5	0.001	0.9	0.1-76.21	0.33
Model 2	Existential well-being score	0.5	0.001	1.8	0.26-2.3	0.36	0.6	0.001	1.7	1.27-2.25	0.38
	Religious well-being score	0.1	0.01	0.6	-0.15-1.54		-0.03	0.7	-0.09	-0.74-0.55	

### Implications for Practice

As the findings of this study indicated, the spiritual well-being score in general, and the existential well-being aspect in particular, had a significant effect on the prediction of the sense of coherence score in the mothers of the both groups. The existential well-being aspect is a psychosocial element and sign of the individuals' feeling of who they are, what they do and why, and where they belong to. Regarding this, an enhanced sense of coherence can help the mothers to better manage and realize the conditions.

Therefore, it seems that paying more attention to the mothers' perceptions about the disease status of their children and help- and support-seeking practices towards improving the conditions of their children and the overall family status could greatly contribute to the enhancement of sense of coherence in the mothers of children with chronic diseases. Therefore, it is recommended to address the spiritual dimension of the mothers during the treatment process of such children.

One of the limitations of the present study was the inhomogeneity of the subjects in the groups of healthy and ill children and the scatteredness of the chronically ill subjects, which prevented us from performing random sampling. Moreover, the psychological conditions of the mothers with chronically ill children selected from the specialists' offices and hospitals due to the disease recurrence was different from those with healthy children selected from school. This could affect the results of the study, and consequently limit the generalization of the findings to larger populations.

Regarding the cross-sectional nature of this study, the researchers had no control over the events in the ill children's lives. Therefore, further studies are suggested to be conducted longitudinally. In addition, it is recommended to further investigate the effect of such interventions as spiritual rehabilitation on the sense of coherence in the mothers with ill children.

### Conflicts of Interest

The authors declare no conflicts of interest.

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