



Correlation Between Perceived Stress, Sense of Entrapment, and Irrational Beliefs of Mothers Parenting Mentally-Ill Children: A Descriptive-Correlational Study

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Abstract

Objectives: Evidence shows that mothers are influenced by their children more greatly than other family members since child's needs are more often satisfied by mothers. This study explored the correlation between perceived stress, a sense of entrapment, and irrational beliefs in mothers parenting children with mental disorders.

Materials and Methods: In this descriptive-correlational study, 194 mothers who have a child with mental disorders were selected from Tehran hospitals, Iran during 2018. Data were collected with Cohen and colleagues' Perceived Stress Scale, Jones' Irrational Beliefs Scale, Gilbert & Allan's Entrapment Scale, and demographics questionnaire.

Results: The findings showed that the mean perceived stress was 29.26 ± 4.62 , the mean sense of entrapment of participating mothers was moderate (external entrapment, 11.12 ± 8.16 , and internal entrapment, 12.23 ± 10.05), and the mean irrational beliefs was above the moderate level (114.58 ± 22.5). There was a significant correlation between perceived stress and sense of entrapment ($p = 0.003$, $r = 0.214$) and between sense of entrapment and mothers' irrational beliefs ($p < 0.001$, $r = 0.573$); yet, there was no significant correlation between perceived stress and mothers' irrational beliefs ($p = 0.738$, $r = 0.025$).

Conclusions: Based on our findings, it may be concluded that given the importance of mental health of mothers parenting children with mental disorders, development of educational programs, referral to supportive foundations, and training of healthcare personnel for clarifying the situation and its present challenges are necessary for this group of mothers leading to the promotion of their health and the related factors.

Keywords: Stress, Irrational, Beliefs, Entrapment, Mothers, Mental Disorders.

Introduction

Social, economic, and cultural growth and development in any community require a healthy population both mentally and physically. Today's children in any community will make the future of that society (1). Retrospective and prospective studies have indicated that most mental disorders in adults start in childhood and adolescence (2). The birth and presence of a child with a disorder often lead to stress and challenges for the whole family (3).

Some evidence suggests that mothers are more greatly affected by a child's disability than others because the mother meets most of child's needs and care. The unusual extra load of care for such children is an important predictive factor of stress in mothers. Children with different disabilities induce various stress levels in mothers (4).

Belief refers to any conscious supposition that enables individuals to perceive events via their private, idiosyncratic methods. Humans possess specific beliefs about any phenomenon using these beliefs for familial decision-making and social affairs. Beliefs may be either rational or irrational (5). Irrational beliefs are thoughts that dominate the mentality of the individual and serve

as a determinant of the method of interpreting and understanding events and as a regulator of the quality and quantity of behaviors and emotions. Irrational beliefs are not real and do not correspond to reality (6).

Perceived entrapment occurs when the usual psychological motivation for escaping the stress is blocked due to lack of responsibility, or probably weak personal responsibility, or being saved by others (7). Researchers believe that breeding a child with specific needs (like a hyperactive/attention deficit child) creates certain conditions for the parents associated with experiencing anxiety and depression. Since they find no way to escape the trap and save them, they feel entrapped (8).

Although the importance is given in recent years to the negative effects of children's health problems on parental. Specifically, maternal performance, little fully-fledged research has been conducted on the issue under study. Considering that the family unit as a system of social interaction is dependent on roles and patterns among the family members, and given that the family members are naturally linked emotionally to each other, and also noting that mothers play a more significant role in enabling children with chronic mental deficiency or retardation,



Key Messages

- ▶ The level of irrational beliefs is high among mothers with mentally-ill children.
- ▶ There is a positive significant correlation between “mothers’ perceived stress and their feelings of entrapment” and also between “mothers’ feelings of entrapment and their irrational beliefs”.
- ▶ Mental health of mothers with mentally-ill children should be considered.

this study examined the correlation between perceived stress, irrational beliefs, and sense of entrapment in mothers parenting mentally deficient/retarded children.

Since mothers play a more significant role in empowering children with chronic mental disorders, the present researchers decided to explore the correlations between the perceived stress, sense of entrapment, and irrational beliefs of mothers parenting children with mental disorders and determine the mental condition and challenges of these mothers to make it possible to develop and design suitable programs for future promotion of their mental health and improve these programs.

Materials and Methods

Setting

In this descriptive-correlational study, the study population consisted of all mothers parenting children with mental disorders who had presented to selected psychiatric hospitals in Tehran, the capital of Iran, including Imam Hussein hospital, Mofid hospital, and Ali Asghar teaching hospital in 2018.

The inclusion criteria were: having a child with a diagnosed mental disorder, being literate, and not having any history of a mother’s hospitalization in a psychiatric ward for mental disorders. The exclusion criterion was “all deficiently completed or confounded questionnaires.”

The suitable sample volume, consisting of 194 participants, was selected with the purposive sampling method

Collecting the samples began in September 2018 and ended in March 2019. During a 6-month period, 120 questionnaires were completed in Imam Hossein (AS) teaching-treatment center, 65 questionnaires in Mofid hospital, and 35 questionnaires in Ali Asghar medical center. Out of 220 completed questionnaires, 26 were excluded from analysis due to deficient information.

Sample Size

The minimum number of required samples was calculated as 165 using the following formula:

$$n \geq \left[\frac{(z_{1-\alpha/2} + z_{1-\beta})}{0.5 \times h \left[\frac{(1+r)}{(1-r)} \right]} \right]^2 + 3$$

where: r is the correlation between perceived stress,

feeling of entrapment, and irrational beliefs. (n=Sample volume, $Z_{1-\alpha}$ = percentage of confidence, $Z_{1-\beta}$ = test power, Correlation coefficient trust limits = $\omega_2 = (\frac{1}{2} \cdot \ln(1+r)/(1-r))^2$

$$r = 0.25$$

$$\alpha = 0.05 \Rightarrow z_{1-\alpha/2} = 1.96$$

$$\beta = 0.10 \Rightarrow z_{1-\beta} = 1.28$$

Thus, the appropriate sample size, considering 10% subject attrition rate, was 194 samples.

Data Collection Tools

Data were collected with Demographics Questionnaire, Cohen and colleagues’ Perceived Stress Scale, Jones’ Irrational Beliefs Scale and Gilbert & Allan’s Entrapment Scale.

1. Demographic information: This inventory included 10 items on mother’s age, literacy level, marital status, history of affliction with mental disorders or hospitalization in the psychiatric ward, occupational status of mother and husband, age of the child with a mental disorder, and duration of child’s affliction with the disorder.

2. Cohen and colleagues’ Standard Perceived Stress Scale: This single-component checklist includes 14 items and uses a 4-point Likert scale extending from never = 0 to very much = 4 (9). The total score ranges between 0 and 56. Experts in this field confirmed the validity of this scale, and the Cronbach α reliability coefficient was estimated at 0.70 (10).

3. Jones’ Irrational Beliefs Questionnaire: This was developed by Jones in 1969 based on Alice’s theory (11). This inventory principally measures various irrational thoughts. The original version consists of 100 closed-end items entailing 10 factors, each investigating one irrational thought. These 10 categories include: the expectation of approval by others, excessive self-expectations, scolding oneself and others, reaction to distress and insolvency along with disappointment and failure, exciting irresponsibility, anxious attention, avoiding problems, dependence, insolvency against change or innovation, and perfectionism.

A shortened form of this questionnaire was developed in Iran. Researchers omitted 60 out of 100 items of the test after analyzing the testees’ responses and obtained a 4-factor structure. These categories included insolvency against change or innovation, the expectation of approval by others, avoiding problems, and exciting irresponsibility. The inventory used a 5-point Likert scale for scoring. A high score indicates high irrational beliefs, whereas a low score indicates low irrational beliefs. The construct validity of Jones’ Irrational Beliefs Questionnaire was confirmed by expert opinion. They used Cronbach α and split-half reliability coefficients to establish the reliability and internal consistency of the extracted factors. The total Cronbach α for this instrument was estimated at 0.75. It was 0.80 for insolvency against change and innovation,

0.81 for the expectation of approval by others, 0.73 for avoiding problems, and 0.75 for exciting irresponsibility. Also, the total split-half reliability coefficient was 0.76. This was 0.82, 0.84, 0.74, and 0.72, respectively, for the four factors (12).

4. Gilbert and Allan's Entrapment Scale: This inventory was developed by Gilbert and Allan (13). It is centered on entrapment and is subdivided into external and internal entrapment subscales. External entrapment pertains to the perception of things in the outside world that cause escape motivation. Internal entrapment deals with escape motivation initiated by internal feelings and thoughts. This 16-item scale wants participants to show on a 5-point scale the degree to which the items demonstrate their thoughts and feelings. The response options are 0 = 'never like me', 1 = 'a little bit like me', 2 = 'moderately like me', 3 = 'quite a bit like me', and 4 = 'highly like me'. A higher score suggests greater entrapment of the person. The total score ranges between 0 and 64. Gilbert and Allan used two groups of university students and depressed patients and found good validity of the tool.

The internal consistency coefficient and split-half reliability coefficient were calculated to assess the reliability of Gilbert and Allan's scale. Cronbach α coefficient was 0.87 for the external entrapment subscale, 0.88 for the internal entrapment subscale, and 0.92 for the whole entrapment scale. The split-half reliability coefficient was 0.88 for the whole entrapment scale (14).

To establish the content validity of the questionnaires, they were first approved by the thesis supervisor and advisor and then given to 10 nursing experts that explored them for relatedness, clarity, simplicity, and necessity. Moreover, to establish the face validity of the questionnaires, they were examined for appearance and suitability by 10 experts and 10 mothers parenting mentally deficient children. Some corrections were made based on their opinions. No specific corrections were required Regarding content validity as they were standard scales according to experts' opinions. Besides, the mothers and experts expressed no disagreement on the suitability of the appearance of questionnaires regarding the goals of the study. To establish the reliability of the questionnaires with the test-retest method, 18 mothers that were not included in the main sample were selected with a convenient sampling method to complete the questionnaires. After 14 days, the questionnaires were completed by them again. They culled data were analyzed by SPSS version 22. The intra-class correlation coefficient was estimated to be 0.317 for the Perceived Stress Scale with confidence intervals of 0.460 and 0.154 and 0.899 for the Irrational Beliefs Scale with confidence intervals of 0.921 and 0.875. Also, it was 0.942 on the Sense of Entrapment Scale with confidence intervals of 0.929 and 0.954.

Data Analysis

The data were analyzed using SPSS 22. Descriptive

statistics (measures of central tendency and deviation) and analytic statistics were used to analyze the data. Pearson's correlation coefficient was applied to investigate correlations between mothers' perceived stress, sense of entrapment, and irrational beliefs. Moreover, the "multiple linear regression model" was used to estimate the correlations among the variables.

Results

A total of 194 mothers parenting children with mental disorders that qualified as participants were investigated in this study. The mean age of mothers was 38.69 ± 5.94 years with an age range of 23-55 years, whereas the mean age of children was 10.41 ± 3.69 year with an age range of 2-19 years. Also, the mean \pm SD of the time that elapsed since diagnosis of the disorder was 3.83 ± 2.97 years with a 2-15 years. The frequency distribution of variables of education level, occupational status, marital status, history of maternal mental disorder, and fathers' education level and occupational status are displayed in Table 1. Also, the frequency distribution of children's mental disorders is presented in Table 2.

According to Table 2, the most common mental disorder reported in this study was Attention deficit hyperactivity disorder with a frequency of 84 patients, followed by learning disorders and autism, respectively. The frequency distribution of study variables is given in Table 3.

According to Table 3, the average perceived stress of mothers was 29.26 with a standard deviation of 4.62, which is, according to the questionnaire scores, in the range of moderate stress (36-36). The average score of irrational beliefs is 114.58 with a standard deviation of

Table 1. Characteristics of Parents of Children With Mental Disorders

Variable	No. (%)
Mother's education level	
Sub-diploma	42 (22.11%)
High school diploma	82 (43.16%)
Academic degree	66 (34.74%)
Mother's occupation	
Housekeeper	144 (75%)
Employed	48 (25%)
Mother's marital status	
Widowed	8 (4.23%)
Divorced	16 (8.47%)
Married	165 (87.3%)
History of mental disorder	
No	185(95.85%)
Yes	8 (4.15%)
Father's education level	
Sub-diploma	56 (29.79%)
High school diploma	68 (36.17%)
Academic degree	64 (34.04%)
Father's occupational status	
Unemployed	16 (8.6%)
Free job	115 (61.83%)
Governmental employment	55 (29.57%)

Table 2. Frequency Distribution of Children’s Mental Disorders in Mothers Parenting Children with Mental Disorders in Selected Hospitals of Tehran in 2018

Disorder	No. (%)
Autism	18 (9.52)
Eating disorders	4 (2.12)
Mental disability	4 (2.12)
Attention deficit hyperactivity disorder	84 (44.44)
Learning disorder	34 (17.99)
Other disorders	45 (23.81)

22.5, which, according to the scores of the questionnaire, is in the range above the average (mean score=100). Besides, the rate of mothers’ feeling of entrapment with a mean score of 23.35 and SD of 17.39 is at the moderate level (mean external entrapment of 11.12 with standard deviation of 8.16, and mean internal entrapment of 12.23 with standard deviation of 10.05).

Table 4 presents the correlation coefficients among scores of stress, irrational beliefs, and sense of entrapment and also P-values. According this table, there was a correlation between perceived stress and irrational beliefs that was not significant ($P=0.738$, $r=0.025$), so there was no linear correlation between these scores. However, a statistically significant correlation was found between perceived stress and a sense of entrapment ($P=0.003$, $r=0.214$). Consequently, it may be asserted that there is a direct association between these two scores. Moreover, a significant correlation was observed between irrational beliefs and a sense of entrapment ($P<0.001$, $r=0.573$);

thus, it may be postulated that there is a direct and strong correlation between these two scores, is the strongest correlation among these three variables.

Discussion

This study investigated the correlations between perceived stress, irrational beliefs, and a sense of entrapment in mothers parenting children with mental disorders in selected hospitals in Tehran, the capital of Iran, in 2018. The results indicated that the rate of mothers’ perceived stress and sense of entrapment was moderate. In contrast, the mean irrational beliefs of mothers were above the moderate level. Consistent with our findings, studies reported that most mothers experienced moderate stress, while least of them experienced mild stress (15,16). Nevertheless, contrary to our findings, a study reported perceived stress at a low level in employed women as money-makers of the household in Sanandaj (17). Consistent with the present study, some previous studies on irrational beliefs, reported a rate of irrational beliefs higher than the average (18,19). Nonetheless, unlike our study, a study reported irrational beliefs of mothers parenting children with mental disorders significantly lower than the rate obtained in this study (20). Regarding the rate of sense of entrapment, consistent with the present study, a study reported the rate of sense of entrapment at the average level (14). Overall, our findings are consistent with the results of previous studies (15,16,18,20). Of course, the findings of some previous studies are not consistent with our results (17,21). The disparities may be attributed to differences in the study units, different instruments used,

Table 3. Frequency Distribution of Scores of Perceived Stress, Irrational Beliefs, and Sense of Entrapment in Mothers Parenting Children with Mental Disorders in Selected Hospitals of Tehran in 2018

	Number of Observations	Mean (SD)	Maximum	Minimum
Score of stress	189	29.26 (4.62)	44	19
Score of irrational beliefs	190	114.58 (22.5)	167	53
Distress and insolvency	191	42.57 (10.42)	65	17
Expectation of approval	190	31.04 (5.99)	50	17
Avoiding problems	190	13.04 (3.89)	25	5
Irresponsibility	187	28.28 (6.82)	48	10
Score of entrapment	190	23.35 (17.39)	64	0
External entrapment	190	11.12 (8.16)	28	0
Internal entrapment	190	12.23 (10.05)	36	0

Table 4. Correlation Coefficients and the Corresponding P Values Using Pearson’s Correlation Coefficients among Perceived Stress, Irrational Beliefs, and Sense of Entrapment in Mothers Parenting Children with Mental Disorders

	Stress	Irrational Beliefs	Sense of Entrapment
Perceived stress	1	-	-
Irrational beliefs	0.025	1	-
P value	0.738	-	-
Sense of entrapment	0.214	0.573	1
P value	0.003	< 0.001	-

differences in the research environment, and cultural differences in various regions. Living in a stressful and tense environment requires many coping skills. A lack of these skills threatens an individual's health (22).

Families with mentally deficient/retarded child or with mental disorders are different from normal families as they are involved in discriminative conditions like breeding such children and educational, economic, and emotional problems. These problems press on parents, especially mothers leading to the emergence of other numerous complications pertaining to other areas of life and thus, affecting their adaptation and compatibility. Hence, addressing the mental conditions and familial communication in the families of such children in research projects would result in significant consequences in relation to the child, parents, and the community in general (15). Principally, any behavior is based on the attitude and feedback created in the individual toward other persons and phenomena. Indeed, an individual's type of attitudes, beliefs, and approach toward other phenomena and the surrounding environment results from the individual's recognition and feeling of that phenomenon. Parents and mothers of children with mental disorders achieve some beliefs and awareness as they pass through different stages of life. Investigation of these beliefs and attitudes enables experts and specialists to understand parents' problems, and get help from them in their consultation and treatment (23). Our findings suggest that having children with mental disorders exposes mothers to unique long-term challenges, negative psychological consequences such as high levels of irrational beliefs and moderate levels of perceived stress, and a sense of entrapment. Based on results, a significant positive correlation was found between "mothers' perceived stress" and "sense of entrapment" and between "sense of entrapment" and "irrational beliefs"; yet, no significant correlation was observed between perceived stress and irrational beliefs. In other words, the greater the perceived stress is, the greater the sense of entrapment will be and vice versa. Additionally, a greater sense of entrapment is associated with greater irrational beliefs, though high perceived stress is not necessarily associated with greater irrational beliefs. Consistent with the present study, other researchers found a significant positive correlation between stress, entrapment/failure, and depression in their study (24).

Furthermore, a meta-analysis of results demonstrated significant correlations among sense of entrapment/failure, depression, anxiety disorders, PTSD, and suicide. On this basis, the results of this study indicate that physicians, clinicians, and researchers ought to gain a greater awareness of failure and a sense of entrapment (7). Contrary to the present study, a study explored stress in teachers and found that irrational beliefs are the strongest predictor of teachers' stress (25). The disparity may be attributed to differences in the study units, the instruments used, the research setting, and socio-cultural differences.

Practical Implications

The findings of this study can serve as a useful source of information for healthcare authorities and mental health program developers. Due attention ought to be paid to the significant prevalence of mental disorders. It is recommended that some measures like forming social support groups for mothers with mentally deficient children, holding educational classes suitable to their needs, and providing psychological interventions be taken to reduce mothers' stressors, irrational beliefs, and sense of entrapment to increase their coping skills.

Limitations of the Study

One limitation was the great number of items in the questionnaires that sometimes led to fatigue in the participants when they completed them. It is recommended that future studies consider this issue. Also, this study explored only the mothers. Future studies ought to focus also on both mothers and fathers.

Conclusions

Based on findings, mothers parenting children with mental disorders are at a high level of irrational beliefs and a moderate level of perceived stress, and a sense of entrapment. There was a significant positive correlation between perceived stress and sense of entrapment and between a sense of entrapment and mothers' irrational beliefs. Besides, our findings suggested that due attention ought to be paid to the importance of mothers' mental health in parenting such children and determining the mental health of this group of mothers. Also, suitable educational programs should be developed to meet their needs. They should be referred to supportive organizations, and students and personnel should be trained to clarify and improve the present challenges and conditions for this group of mothers. This can lead to the promotion of the mental health and the related factors.

Authors' Contribution

RM provided the basic idea of the study, collected data from patients, analyzed data, and wrote the manuscript. Monitoring the work process and revising "introduction, materials and methods, discussion, and conclusion" were done by TJ and JM. All authors approved the final manuscript and take responsibility for the integrity of the data.

Conflict of Interests

The authors declare no conflict of interests.

Ethical Issues

The research proposal was approved by Deputy-in-Research at the School of Nursing and Midwifery in Shahid Beheshti University of Medical Sciences, Tehran, Iran (Ethics Code: IR.SBMU.PHARMACY.REC.1397.057). The researcher obtained the required permission for doing the study from university authorities and personally presented it to pediatric psychiatry wards and clinics in the selected hospitals. The goals and procedures of the study were explained to the mothers parenting children with psychiatric problems. Informed written consent was obtained from each mother.

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