



The Relationship Between Social Support and Perceived Stress in the Mothers of Infants with Colic

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Abstract

Background: High stress levels in the parents of infants with colic have negative impacts on their quality of life. Maternal concerns with infants' needs can be reduced through social support.

Objectives: The aim of this study was to assess the relationship between social support and perceived stress in the mothers of infants with colic.

Methods: This cross-sectional study was carried out on 200 mothers of infants with colic referred to 14 healthcare centers affiliated to Iran University of Medical Sciences in year 2017. A convenience sampling method was used. Demographic data form, Cohen perceived stress and Vaux's perceived social support questionnaires were used for data collection. Descriptive and inferential statistics were used for data analysis. $P < 0.05$ was considered statistically significant.

Results: There was a statistically significant positive correlation between social support and perceived stress ($r = 0.31$, $P = 0.001$). In other words, with increase in social support, perceived stress would be increased. However, the support of the spouse in the form of childcare could reduce perceived stress in the mother ($P = 0.001$).

Conclusions: The results of this study showed that with increase in social support, perceived stress in the mothers of infants with colic also would be increased. However, spousal assistant in childcare is accompanied by a reduction in perceived stress in mothers.

Keywords: Social Support, Perceived Stress, Infantile Colic

1. Background

Infantile colic as a behavioral syndrome is characterized by a recurrent and severe crying without any cause in healthy infants during the first four months of life. It is a common cause that parents consult a physician in the first three to four months of infancy (1). This complication occurs in 10% - 30% of infants (2). Its prevalence in Iran is 20% (3). It is more common in infants from 1 day to 12 weeks and fussy infants are more likely to have colic. This complication usually occurs in the second week of infancy, and the maximum age is 6 weeks after birth (4, 5). Some researchers consider this disorder as one of the stages in child development. Some other believe that gastrointestinal causes such as fast feeding, overeating, excessive ingestion, inappropriate nutrition techniques, sensitivity to cow milk, maternal diet and cigarette smoking may cause infantile colic. Several other researchers believe that emotional stresses and inadequate or inappropriate reactions of parents regarding infant crying and different caregiv-

ing methods influence the incidence or severity of infantile colic (5-7).

Crying and screams of newborn infants can have a devastating effect on parents especially mothers who are in the recovery period after childbirth. Studies have shown that infantile colic is associated to the feelings of incompetence, helplessness, depression, anxiety and mother stress. Also, 12% - 20% of mothers suffer from stress due to infantile colic (1, 8-10). High stress levels among parents create negative changes in their quality of life (11). Therefore, families with infantile colic require attention to prevent psychosocial problems and family dysfunctions (4). Social support in the postpartum period is vital for the welfare of the mother and family (12, 13). Women need social support to accept their motherhood role, communicate with their infants, provide care for themselves and their infants and make emotional relationships with the infant (14). Research has shown that social support is a major barrier to depression and postpartum stress. However, there is little understanding of the perception of social support

in the postpartum period (15). Researchers have shown that the most effective way to manage infantile colic is to ensure parents, provide social support and reduce their stress by recommending that this problem does not have serious, long-term effects and is resolved until the age of 3 - 4 months (1, 16, 17).

2. Objectives

Considering the effect of positive social support on stress in women with colicky infants, and that they need psychological support, as well as the lack of studies in this field, this study aimed to assess the relationship between social support and perceived stress in the mothers of infants with colic.

3. Methods

3.1. Design and Participants

This was a cross-sectional study. The study's population was 200 mothers with colicky infants who referred to 14 healthcare centers affiliated to Iran University of Medical Sciences. Eligible samples were selected using the quota sampling method. Given confidence interval of 95%, power of 80%, and the Pearson correlation coefficient between social support with perceived stress of 0.2, the number of samples was determined 200 individuals.

Infantile colic was defined as crying for no apparent reason that lasts for more or equal to three hours per day and occurs on more or equal to three days per week in an otherwise healthy infant less than three months of age (18).

Inclusion criteria for the mothers included: Ability to read and write, no smoking habits, no history of mental illness, lack of drug use for mental disorders, and lack of stressful incidents in the last three months. Inclusion criteria for infants were: Full term infant; absence of known underlying diseases based on the pediatrician diagnosis, infant's age 8 weeks \pm 3 days, normal weight gain, height and normal motor and psychic development based on the infant growth chart. Sampling was carried out continuously from April to September 2017.

3.2. Measurement/Instrument

Data collection tools were the demographic questionnaire, Vaux's social support and Cohen perceived stress questionnaires. Social Support Appraisals Scale (SS-A) (19) consisted of 23 items in three domains as 'family', 'friends' and 'others' using a four-point Likert scale with strongly agree = 1, agree = 2, disagree = 3, and strongly disagree = 4. The lowest and highest scores were 23 and 92, respectively. A higher score indicating more social support. Hamzavi et al. (20) reported the alpha Chronbach's coefficients for this

questionnaire in three domains of the family, friends, others and the whole instrument as 0.76, 0.75, 0.75 and 0.82, respectively. In this study, the Cronbach's alpha coefficient was calculated with 30 mothers that had colicky infants for the domains of family, friends, others and the whole instrument. They were reported as 0.83, 0.82, 0.82 and 0.89, respectively.

Perceived Stress Scale (PSS-10) (21) measured general perceived stress over the past month. Responses on the five-point Likert scale were never = 0, almost never = 1, sometimes = 2, fairly often = 3, and very often = 4. The lowest score was zero and the highest score was 40 with a higher score representing more perceived stress. Andreou et al. (22) calculated the Cronbach's alpha coefficient for this questionnaire 0.82. In this study, the Cronbach's alpha coefficient for this instrument was calculated with 30 mothers with colicky infants that was reported as 0.73.

3.3. Ethical Considerations

This study was approved by the Ethics Committee affiliated to Iran University of Medical Sciences (Code: IR.IUMS.REC 1395.9311373022). The purpose and method of the study, and confidentiality of collected data were explained to the women. Those who willingly agreed to take part in this study were requested to sign the written informed consent form.

3.4. Data Analysis

Data was analyzed using descriptive and inferential statistics via the SPSS software version 21. The independent *t* test, one-way analysis of variance, Kruskal Wallis test and Pearson correlation coefficient were used to report findings. $P < 0.05$ was considered statistically significant.

4. Results

The age range of the mothers was 19 - 43 years with a mean and standard deviation of 31.26 ± 4.86 . The majority of the mothers had academic education level (56%). More information on the demographic characteristics of the subjects is presented in Table 1. A statistically significant relationship was found between lactation training and social support. In the mothers with lactation training, the mean of social support was higher ($P = 0.04$).

The range of total social support score was 48 - 92 with a mean and standard deviation of 73.9 ± 8.5 . Comparison of the means of domains of social support questionnaire after calculating of 100 points, showed that the mean of social support in the family (81.77) was higher than that in domains of friends (78.88) and others (79.34). One-way ANOVA showed a statistically significant correlation between spousal assistance for child care and social support

($P = 0.001$). According to Tukey's test, the mean scores of social support in the mothers who always received spouse's assistance in childcare compared with those who sometimes ($P = 0.005$) and rarely ($P = 0.013$) received spousal assistance for childcare had statistically significant differences (Table 2).

The range score of perceived stress in the mothers with colicky infants was 7 - 37 with a mean and standard deviation of 22.18 ± 6.14 . According to Kruskal Wallis test, the mean score of perceived stress in terms of the spouse's assistance in childcare in the mothers with colicky infants was statistically significant. Since the Levin test showed dif-

Table 1. Demographic Characteristics of Mothers with Colic Infants (N = 200)

Characteristics	No. (%)
Age	
≤ 25	17 (8.5)
26 - 30	79 (39.5)
31 - 35	63 (31.5)
≥ 36	41 (20.5)
Education level	
Elementary-guidance	27 (13.5)
Diploma-high school	61 (30.5)
Academic	112 (56)
Occupation	
Housewife	139 (69.5)
Employee	61 (30.5)
Economic status	
Inappropriate	10 (5)
Relatively appropriate	133 (66.5)
Appropriate	57 (28.5)
Infant's gender	
Female	97 (48.5)
Male	103 (51.5)
Lactating training	
Yes	169 (84.5)
No	31 (15.5)

Table 2. Comparing the Mean Score of Social Support Based on the Spousal Assistance for Infant Care

Spousal Assistance	N	Mean ± SD	P Value
Always	60	76.51 ± 8.35	0.001
Often	81	74.33 ± 7.83	
Sometimes	40	70.95 ± 9.31	
Rarely	19	70 ± 4.7	

Table 3. Comparing the Mean Score of Perceived Stress Based on the Spousal Assistance for Infant Care

Spousal Assistance	N	Mean ± SD	Mean Rank	P Value
Always	60	20.28 ± 7.89	81.48	0.001
Often	81	21.55 ± 4.77	93.17	
Sometimes	40	23.27 ± 4.07	115.05	
Rarely	19	28.52 ± 4.06	161.18	

Table 4. The Relationship Between Perceived Stress and Social Support Dimensions

Variable	Social Support	Pearson Correlation Coefficient	P Value
Perceived stress	Family	0.3	0.001
	Friends	0.28	0.001
	Others	0.24	0.001
	Total	0.31	0.001

ferences in variance ($P = 0.001$), the data conversion was initially used to homogenize the unequal variance, but the variances were not homogeneous. Therefore, the Kruskal-Wallis test was used.

The mean score of perceived stress in the mothers who always received spouse's assistance in childcare compared with those who sometimes ($P = 0.004$) and rarely ($P = 0.001$) received it showed statistically significant differences. Also, the mean score of perceived stress in those who most often mentioned the spouse's assistance for childcare compared with those who sometimes ($P = 0.05$) and rarely ($P = 0.001$) received help by the spouse had a statistically significant difference (Table 3).

A statistically significant positive correlation was found between the total score of social support and perceived stress ($P = 0.001$, $r = 0.31$) indicating that as social support increased, perceived stress also increased (Table 4).

5. Discussion

The purpose of this study was to determine the relationship between social support and perceived stress in the mothers of infants with colic. With increase of social support, perceived stress in mothers is increased. Studies have shown that social support in the postpartum period is vital to increase the welfare of the mother and family, and enables the mother to deal effectively with stressful conditions (12, 13, 23, 24). Also, it reduces concerns about the needs of mothers in postpartum (25). However, the present study showed that with increase in social support, perceived stress was increased ($r = 0.31$, $P = 0.001$).

Keefe et al. (8) stated that mothers with colicky infants were looking for sources to solve their infant's problem, but did not receive appropriate support. Sometimes parental support for these women is a barrier to lactation. Qualitative studies showed that white mothers received less assistance than their family members in direct care for themselves and their child and already coordinated with a nurse or other caregivers. Such a decision was due to disagreements with their mothers and other relatives for childcare. Latin mothers, English-speaking and white mothers were criticized for their skills. Some women felt that provision of help to care for the child and home affairs had a negative impact on their competence and ability (15). Many mothers with different ethnic and racial groups reported a fear of being judged and criticized by the family and friends for caring for their children and house affairs (12, 15). Perhaps the criticism and judgment of supporters of the mothers with colicky infants also increased their perceived stress.

Since in the social support scale, social support by families, friends and others are emphasized and there is no clear indication for spousal assistance, researchers have a question entitled "How much the spouse cares for the infant?" in the demographic questionnaire. The results of the study showed that with increased social support of the mothers, the perceived stress also increased, but the spousal assistance reduced it. It has been shown that after childbirth, mothers need to receive support from their husband more, because of changing their role in taking care of the child rather than the family and friends. A reason may be a qualitative difference in the type of support (26). Studies have shown that social support is an important source for women's mental health during pregnancy and postpartum. There is a need to a study to investigate the sources of social support with greater impacts on depression, anxiety and postpartum stress (27-29). Husband's support for a woman is considered the primary source of support (30, 31). Also, the main issue in social support is to recognize the needs and expectations of the mother and provide support based on needs without asking for support. Homework, child care, and the need to sleep after childbirth are women's challenges that should be removed through support. Social support seems to be useful when it is available (15). In the present study, maternal stress has increased because support may not have been based on the needs and expectations of the mothers. However, the husband being aware of the woman's needs and expectations would have provided appropriate support. On the other hand, as the infant's cry usually occurs at a particular time during the day, especially in the afternoons, evenings and nights (32), when the spouse is beside the mother, his role becomes more eminent in meeting the needs of the woman. In this study, mothers who always had

access to their spouse's help had less perceived stress. Negron et al. (15) studied a group of women who only sometimes received help from their partners. They were very pleased to pass on their specific needs to partners. Women mentioned the spouse as a major source of support after childbirth (25, 33). In another study, some African American mothers said that they used their spouse to cope with unwanted family members' help, because they did not prefer to receive help from their relatives (34). Researchers believe that a new mother needs the partner's support for newborn care rather for the parent's sake (26). On the other hand, the effects of social protection may differ according to the family structure, because there is a difference between social networks in traditional and non-traditional families (35), which were not studied in the present study.

Another reason for a significant and positive relationship between social support and perceived stress could be the nature of colic that was stressful for parents. Studies have shown that infantile colic can be highly stressful for parents (4, 9, 36, 37). In a study on 1678 mothers with colic and non-colic infants, the results showed that infantile colic had a tremendous effect on the family, leading to a "parental colic" (9).

Other reasons could be that mothers who were under stress and pressure during pregnancy (7, 38), mostly had colicky infants. Therefore, they had higher stress than other mothers before the study. Ricci found that healthcare professionals were valuable resources for education and emotional support at this critical time, which could increase the confidence of parents and their sense of accomplishment in parenting skills (39).

In this study, a survey of social support in mothers with colicky infants needed to have a tool in which the role of the healthcare provider and the father is more concrete, since they are more familiar with the needs of colicky mothers. Also, in this study those mothers who received breastfeeding education had a higher social support than the mothers who did not receive it. However, there is little understanding of social support, which may require more qualitative studies in the future.

5.1. Limitation

Variables such as the type of mother's nutrition and the individual characteristics of the mother were effective on the result of the study, which was outside the control of the researchers.

5.2. Conclusions

The results of this study showed that with increase in social support, perceived stress in the mothers of infants with colic also increased. However, spousal assistant in childcare is accompanied by a reduction in perceived

stress in mothers, so mothers are in need of the spouses' help instead of and more than others' help.

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Footnotes

Authors' Contribution: Acquisition of data: Bahare Fakhri; analysis and interpretation of data: Bahare Fakhri, Seyedeh Batool Hasanpoor-Azghady and Leila Amiri Farahani; drafting of the manuscript: Bahare Fakhri, Seyedeh Batool Hasanpoor-Azghady and Leila Amiri Farahani; critical revision of the manuscript for important intellectual content: Seyedeh Batool Hasanpoor-Azghady and Leila Amiri Farahani; statistical analysis: Hamid Haghani and Seyedeh Batool Hasanpoor-Azghady; study supervision: Seyedeh Batool Hasanpoor-Azghady.

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