

## Original Article

# Correlation of Perceived Nursing Support with Stress and Self-confidence Among the Mothers of Infants with Congenital Gastrointestinal Anomalies

Mahnaz Jabraeili, Mohammad Arshadi, Hossein Namdar<sup>1</sup>, Morteza Ghojzadeh<sup>2</sup>, Zeynab Jafarpour<sup>3</sup>, Fatemeh Najafi<sup>4</sup>

Department of Pediatrics, Faculty of Nursing and Midwifery, Tabriz University of Medical Sciences,

<sup>1</sup>Department of Psychiatric Nursing, Faculty of Nursing and Midwifery, Tabriz University of Medical Sciences, <sup>2</sup>Department of Physiology, Women's Reproductive Health Research Center, Faculty of Medicine, Tabriz University of Medical Sciences, <sup>3</sup>Master of Nursing, Faculty of Nursing and Midwifery, Tabriz University of Medical Sciences,

<sup>4</sup>Bachelor of Nursing, Children Hospital, Tabriz University of Medical Sciences, Tabriz, Iran

### ORCID:

Mahnaz Jabraeili: <http://orcid.org/0000-0002-4035-1433>;

Mohammad Arshadi: <http://orcid.org/0000-0002-7067-8234>;

Hossein Namdar: <http://orcid.org/0000-0002-9787-4649>;

Morteza Ghojzadeh: <http://orcid.org/0000-0002-9946-9452>;

Zeynab Jafarpour: <http://orcid.org/0000-0001-8642-3327>;

Fatemeh Najafi: <http://orcid.org/0000-0002-4902-7226>

## INTRODUCTION

The birth of an abnormal infant is considered as a crisis for the family.<sup>[1]</sup> Resultant parental stress can

### ABSTRACT

**Background:** Hospitalization of infants with congenital anomalies to undergo surgery is extremely stressful for their family members, particularly their parents. The resultant stress can negatively affect parents' self-confidence.

**Objectives:** The aim of this study was to examine the correlation of perceived nursing support with stress and self-confidence among the mothers of infants with congenital gastrointestinal anomalies. **Methods:** This correlational study was conducted in June–November 2015 on 120 mothers whose infants were hospitalized due to congenital gastrointestinal anomalies in the surgical ward of Tabriz teaching children's hospital, Tabriz, Iran. Data were collected using a demographic questionnaire, the Nurse Parent Support Tool, the Parental Stress Scale, and the Parenting Confidence Scale. Spearman's correlation analysis was used to assess the correlation of perceived nursing support with stress and self-confidence. **Results:** Mothers perceived high levels of communicational-informational nursing support and low levels of emotional nursing support. Perceived nursing support had positive correlations with stress ( $r = 0.22$ ;  $P = 0.013$ ) and self-confidence ( $r = 0.35$ ;  $P < 0.001$ ).

**Conclusion:** Although the mothers of infants with congenital gastrointestinal anomalies receive adequate communicational-informational nursing support, their perceived emotional nursing support is inadequate. Therefore, neonatal care nurses need to provide the mothers with comprehensive support and adopt strategies to alleviate their concern.

**KEYWORDS:** *Infant, Mother, Nursing support, Self-confidence, Stress*

**Address for correspondence:** Ms. Zeynab Jafarpour, Imam Reza Hospital, Tabriz University of Medical Sciences, Tabriz, Iran.  
E-mail: [zeynabjafarpour2010@gmail.com](mailto:zeynabjafarpour2010@gmail.com)

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disturb parent-infant attachment and relationship and discourage parents' participation in child care.<sup>[2,3]</sup> The level of stress is higher in families whose infants need surgery.<sup>[4]</sup> Besides, after the surgery, parents experience added stress due to different wires, tubes, drains, and equipment connected to their infants.<sup>[5]</sup>

Infants with congenital anomalies are usually hospitalized in neonatal intensive care units (NICUs). Parents' psychological reactions to NICU hospitalization include fear, anxiety, and loss of self-confidence.<sup>[6]</sup> Parents' low self-confidence undermines their abilities to effectively cope with stressors and appropriately care for their infants.<sup>[7]</sup>

In order to reduce parents' stress and boost their self-confidence, nurses need to provide them with adequate support and training.<sup>[5]</sup> Previous studies proved the positive effects of nursing support on stress and coping with stress among the parents of preterm infants hospitalized in NICUs.<sup>[8-10]</sup> However, sometimes parents may not receive the necessary support. A study showed that parents did not receive adequate support from healthcare providers during their infants' hospitalization.<sup>[11]</sup> Other studies also reported that the weakest type of healthcare providers' support for parents was related to the self-confidence area.<sup>[12,13]</sup> Moreover, it is still unknown whether nursing support can affect stress and self-confidence among the mothers of infants who suffer from congenital anomalies.

## Objectives

The aim of this study was to examine the correlation of perceived nursing support with stress and self-confidence among the mothers of infants with congenital gastrointestinal anomalies (CGA).

## METHODS

This correlational study was conducted from June to November 2015. Study sample consisted of 120 mothers whose infants were hospitalized due to CGA in the surgical ward of Tabriz teaching children's hospital, Tabriz, Iran. Mothers were included if they had no history of antidepressant or tobacco use and their infants did not suffer from chromosomal abnormalities.

Sample size was estimated using the results of a pilot study, in which thirty mothers completed study questionnaires and then, pairwise correlations were examined between study variables. After that, with a

$$n = \frac{4(Z_{1-\alpha/2} + Z_{1-\beta})^2}{\ln \frac{1+r}{1-r} - \ln \frac{1+\rho}{1-\rho}} + 3$$

Figure 1: Sample size formula

type I error of 0.05 and a power of 0.8, sample size was calculated for each pairwise correlation coefficient. The largest sample size was related to the coefficient of the correlation between stress and perceived nursing support ( $r = 0.60$ ) and was equal to 120. Figure 1 shows the sample size estimation formula.

For data collection, each mother was interviewed in a quiet and private room two to four days after infant's surgery using the following four tools. The first tool was a demographic questionnaire with items on mother's educational status, number of children, age, and employment status, father's employment status, family income, and infant's gender, age, length of hospital stay, and type of surgery. The second tool was Miles and colleagues' Nurse Parent Support Tool (NPST). This tool measures support received from nursing staff through 21 items in the four domains of emotional support (3 items), communicational-informational support (9 items), self-esteem support (4 items), and quality care support (5 items). The items are scored using a five-point Likert scale as follows: 1: "Almost never"; 2: "Rarely"; 3: "Sometimes"; 4: "Often"; and 5: "Almost always". Therefore, the total score of the tool can range from 21 to 105.<sup>[14]</sup> The third tool was Berry and Jones' Parental Stress Scale, which measures parental stress via eighteen items. Scoring of the items is performed on a five-point Likert scale on which 1 stands for "Strongly disagree", 2 for "Disagree", 3 for "No comment", 4 for "Agree", and 5 for "Strongly agree". The total score of the scale is 18–90.<sup>[15]</sup> The fourth study tool was Karitane Parenting Confidence Scale. This scale measures mother's self-confidence in infant care via fifteen items. The items are scored on a four-point Likert scale as follows: 1: "No, hardly ever"; 2: "No, not very often"; 3: "Yes, some of the time"; 4: "Yes, most of the time". The range of the total score of this scale is 15–60.<sup>[16]</sup>

The validity and reliability of the Nurse Parent Support Tool had already been assessed and approved in earlier studies with Cronbach's alpha of 0.96.<sup>[12,13]</sup> The stress and the self-confidence measurement tools were translated in this study into Persian. The validity of the translation was assessed by an English language expert. Moreover, the content validity of the tools was assessed and approved by ten experts. The reliability of these tools was assessed through the internal consistency method which resulted in Cronbach's alpha values of 0.73 and 0.87, respectively.

## Ethical considerations

This study has the approvals of the Research Administration and the Ethics Committee of Tabriz University of Medical Sciences, Tabriz, Iran (ethical

approval code: IR. TBZMED. REC.1393.228). We informed participants about the study aim, obtained their written informed consent, and observed the principles of voluntariness and confidentiality throughout the study.

### Data analysis

Data analysis was performed via the SPSS software v. 13.0 (SPSS Inc., Chicago, IL, USA). Spearman's correlation analysis was used to assess the correlation of perceived nursing support with stress and self-confidence at a significance level of less than 0.05.

## RESULTS

The mean of infants' age was  $7.56 \pm 1.45$  days. Most of the infants were male (62.5%) and singleton (92.5%) and were hospitalized in neonatal care wards (55.8%). The remaining 44.2% of infants were hospitalized in NICUs. The most common cause of surgery was esophageal atresia (23%). The mean of mothers' age was  $28.71 \pm 5.74$ . Around 85% of them were housewives, 27.5% had secondary diploma, 70% reported their husbands as their main source of support in the family, and 84% reported nurses as their main source of support in hospitals.

Table 1 shows the mean scores of stress, self-confidence, and perceived nursing support and its domains. The highest perceived support was respectively related to the communicational-informational and the quality care domains of support, while the lowest perceived support was respectively related to the emotional and the self-esteem domains.

Perceived nursing support was positively correlated with stress ( $r = 0.22$ ;  $P = 0.013$ ) and self-confidence ( $r = 0.35$ ;  $P < 0.001$ ). In other words, stronger perceived nursing support was associated with higher levels of stress and self-confidence.

**Table 1: The mean, standard deviation, possible range, and possible mean scores of perceived nursing support and its domains, stress, and self-confidence**

Variables	Mean±SD	Possible range	Possible mean score
Perceived nursing support domains			
Emotional support	10.12±2.74	3-15	9
Communicational-informational	32.59±6.47	9-45	27
Self-esteem	14.90±2.93	4-20	12
Quality care	19.83±3.45	5-25	15
Total perceived nursing support	76.45±14.745	21-105	68
Total stress	60.84±8.336	18-90	54
Total self-confidence	47.37±7.442	15-60	38

SD: Standard deviation

## DISCUSSION

Study findings revealed that the mean score of mothers' perceived nursing support was above the possible mean score of the NPST. Moreover, the highest levels of support were respectively related to the communicational-informational and the quality care domains, while the lowest levels of support were respectively related to the emotional and the self-esteem confidence. Previous studies also reported the same findings.<sup>[12,13]</sup> Perhaps, from the nurses' perspective, the importance of support related to the communicational-informational domain was more than support related to the emotional domain.

In this study, the mean score of mothers' stress was above the possible mean score of the Parental Stress Scale. A study in Malaysia also showed that the level of stress among the mothers of abnormal infants was greater than the mothers of healthy infants.<sup>[17]</sup> These findings highlight that the mothers of abnormal infants suffer from high levels of stress and therefore, needs higher levels of support not only from their families, but also from nurses and special supportive and counseling systems.

Study findings also revealed that greater perceived nursing support was associated with greater maternal stress. The highest and the lowest levels of support in the present study were related to communicational-informational and emotional support, respectively. These findings highlight that communicational-informational support without adequate emotional support can significantly increase maternal stress. Previous studies also showed that giving information about the infants' disorder (i. e. congenital anomalies) increases the parents' anxiety and give them a sense of frustration.<sup>[18,11]</sup> Moreover, giving information to mothers who had little information about their infants' problems was found to cause them high stress.<sup>[19]</sup> Accordingly, along with communicational-informational support, the mothers of infants with congenital anomalies also need strong emotional support in order to effectively cope with their stress and problems.<sup>[20]</sup>

Another finding of this study was that the mean score of mothers' self-confidence was greater than the possible mean score of the Parenting Confidence Scale. However, a study on 83 mothers of children with behavioral problems showed that they had low self-confidence.<sup>[21]</sup> This contradiction may be due to the differences between these two studies in terms of their samples, the levels of perceived nursing support, and other factors.

We also found that mothers with greater perceived nursing support had greater self-confidence in their infant care ability. An earlier study also revealed that

nurses' support for mothers during the acute phases of their children's illnesses significantly increased their self-confidence in caring for their children at home.<sup>[22]</sup> Similarly, other studies reported that nursing support increases parents' self-confidence.<sup>[23-26]</sup> The positive relationship of nursing support related to the communicational-informational and the quality care domains with self-confidence can be attributed to the probable positive effects of nursing support on mothers' competence for child care, because providing appropriate information and care increases parental self-esteem in doing parental role.

Our findings also showed that the lowest mean score of nursing support was related to emotional support. Therefore, future studies are recommended to assess nurses' attitudes towards providing emotional support to the mothers of infants with congenital gastrointestinal anomalies. Moreover, due to the limited number of eligible infants, we conducted the present study on the mothers of infants with different types of gastrointestinal anomalies. Accordingly, comparing maternal stress among the mothers of children with different anomalies can be another area for investigation. In addition, the study was conducted on a small sample of mothers; thus, replicating the study on larger samples is recommended. Furthermore, while maternal stress and self-confidence for infant care can be affected by different types of support (including family, social, medical, and peer supports), the present study only assessed the correlation of nursing support with stress and self-confidence. Therefore, future studies are recommended to assess the correlations of the other types of support with stress and self-confidence among the mothers of infants with congenital anomalies.

## CONCLUSION

This study suggests that the mothers of infants with congenital gastrointestinal anomalies do not receive comprehensive nursing support. In other words, the support they receive is mainly communicational-informational and rarely emotional. Although communicational-informational support may –to some extent–increase parental self-confidence; however, high levels of information along with lack of emotional support might amplify maternal stress. Therefore, in order to reduce maternal stress, nurses need to provide mothers with comprehensive support which includes emotional support, communicational-informational support, self-esteem support, and quality care support. Moreover, nurses can increase mothers' self-confidence through actively engaging them in the process of child care.

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## Conflicts of interest

There are no conflicts of interest.

## REFERENCES

- Hockenberry MJ, Wilson D. Wong's Nursing Care of Infants and Children. Mosby: Elsevier Health Sciences; 2014.
- Kearvell H, Grant J. Getting connected: How nurses can support mother/infant attachment in the neonatal Intensive Care Unit. *Aust J Adv Nurs* 2010;27:75.
- Keim SA, Daniels JL, Dole N, Herring AH, Siega-Riz AM, Scheidt PC, *et al.* A prospective study of maternal anxiety, perceived stress, and depressive symptoms in relation to infant cognitive development. *Early Hum Dev* 2011;87:373-80.
- Warren SM, Proctor MR, Bartlett SP, Blount JP, Buchman SR, Burnett W, *et al.* Parameters of care for craniosynostosis: Craniofacial and neurologic surgery perspectives. *Plast Reconstr Surg* 2012;129:731-7.
- Gephart SM, McGrath JM. Family-centered care of the surgical neonate. *Newborn Infant Nurs Rev* 2012;12:5-7.
- Fegran L, Fagermoen MS, Helseth S. Development of parent-nurse relationships in neonatal Intensive Care Units – from closeness to detachment. *J Adv Nurs* 2008;64:363-71.
- McCurdy K, Jones ED. Supporting Families: Lessons From the Field. The University of Michigan: SAGE Publications Inc; 2000.
- Carter JD, Mulder RT, Darlow BA. Parental stress in the NICU: The influence of personality, psychological, pregnancy and family factors. *Pers Ment Health* 2007;1:40-50.
- Cheung OE. Effectiveness of a Parental Intervention Program for High Anxious Trait Children; Pokfulam, Hong Kong: The university of Hong Kong; 2014. Available from: <http://hdl.handle.net/10722/209545>. [Cited 2015 Apr 24].
- Gibson EL. Effects of energy and macronutrient intake on cognitive function through the lifespan. in proceedings of the Latvian academy of sciences. Section B. *Nat Exact Appl Sci* 2013;67:303-447.
- Miquel-Verges F, Woods SL, Aucott SW, Boss RD, Sulpar LJ, Donohue PK, *et al.* Prenatal consultation with a neonatologist for congenital anomalies: Parental perceptions. *Pediatrics* 2009;124:e573-9.
- Valizadeh L, Akbarbegloo M, Asadollahi M. Supports provided by nurses for mothers of premature newborns hospitalized in NICU. *Iran J Nurs* 2009;22:89-98.
- Valizadeh L, Akbarbegloo M, Asadollahi M. Stressors affecting mothers with hospitalized premature newborn in NICUs of three teaching hospitals in Tabriz. *Iran J Nurs* 2009;31:85-90.
- Miles MS, Carlson J, Brunssen S. The nurse parent support tool. *J Pediatr Nurs* 1999;14:44-50.
- Berry JO, Jones WH. The parental stress scale: Initial

- psychometric evidence. *J Soc Pers Relat* 1995;12:463-72.
16. Crncec R, Barnett B, Matthey S. Development of an instrument to assess perceived self-efficacy in the parents of infants. *Res Nurs Health* 2008;31:442-53.
  17. Norizan A, Shamsuddin K. Predictors of parenting stress among Malaysian mothers of children with down syndrome. *J Intellect Disabil Res* 2010;54:992-1003.
  18. Graungaard AH, Skov L. Why do we need a diagnosis? A qualitative study of parents' experiences, coping and needs, when the newborn child is severely disabled. *Child Care Health Dev* 2007;33:296-307.
  19. Lalor JG, Begley CM, Galavan E. A grounded theory study of information preference and coping styles following antenatal diagnosis of foetal abnormality. *J Adv Nurs* 2008;64:185-94.
  20. Rychick J, Donaghue D, Levy S, Fajardo C, Combs J, Zhang X, *et al.* Maternal psychological stress after prenatal diagnosis of congenital heart disease. *J Pediatr* 2013;163:302-7.
  21. Kohlhoff J, Barnett B. Parenting self-efficacy: Links with maternal depression, infant behaviour and adult attachment. *Early Hum Dev* 2013;89:249-56.
  22. Callery P, Kyle RG, Banks M, Ewing C, Kirk S. Enhancing parents' confidence to care in acute childhood illness: Triangulation of findings from a mixed methods study of community children's nursing. *J Adv Nurs* 2013;69:2538-48.
  23. Komoto K, Hirose T, Okamitsu M. Nursing intervention in infant mental health: Enhancing mother-infant interaction and self-esteem of adolescent mothers. *J Nurs Care* 2013;55:6.
  24. Kuo CP, Chuang HL, Lee SH, Liao WC, Chang LY, Lee MC, *et al.* Parenting confidence and needs for parents of newborns in Taiwan. *Iran J Pediatr* 2012;22:177-84.
  25. Fleming P, Level D, Michaels S, Ingram J, House O. Neonatal Discharge Package to Increase Parental Confidence in Caring for Their Infant; 2013. Available from: <https://www.njl-admin.nihr.ac.uk/document/download/2009148>. [Cited 2013 Feb 06].
  26. Crawford Shearer NB, Fleury JD, Belyea M. Randomized control trial of the health empowerment intervention: Feasibility and impact. *Nurs Res* 2010;59:203-11.