

Evidence Based Care Journal

<http://ebcj.mums.ac.ir/>

The Psychological Impact of Covid-19 on Mothers with Premature Infants

Shahnaz Eghbali Babadi, Mahboobeh Namnabati, Seyedeh Maryam Hosseini

The online version of this article can be found at

https://ebcj.mums.ac.ir/article_19266.html

Evidence Based Care Journal 2021 11: 60 originally published
online 11 December 2021

DOI: 10.22038/EBCJ.2021.61349.2598

Online ISSN: 2008-370X

Address: Mashhad Nursing and Midwifery School, Ebn-e-Sina St.,
Mashhad, Iran

P.O.Box: 9137913199

Tel.: (098 51) 38591511-294

Fax: (098 51) 38539775

Email: EBCJ@mums.ac.ir

EVIDENCE BASED CARE



Evidence Based Care Journal

The Psychological Impact of Covid-19 on Mothers with Premature Infants

Shahnaz Eghbali Babadi¹, Mahboobeh Namnabati², Seyedeh Maryam Hosseini^{3*}

Received: 04/11/2021

Accepted: 11/12/2021

Evidence Based Care Journal, 11 (3): 60-67

Abstract

Background: The Coronavirus Disease 2019 (COVID-19) pandemic and lockdown have had a profound impact on the emotions, anxiety, and mental health of communities and premature infants as one of the most vulnerable groups in society whose health depends on the health of the mother.

Aim: This study aimed to determine the psychological impact of COVID-19 on mothers with premature infants admitted to the neonatal intensive care unit (NICU).

Method: This cross-sectional study was conducted during the COVID-19 pandemic from December 2020 to March 2021 through convenience sampling on 190 mothers whose preterm infants were admitted to the NICUs of the selected hospitals in Isfahan, Iran. Corona Disease Anxiety Scale, a Multidimensional Scale of Perceived Social Support, and Maternal-Neonatal Demographic Characteristics were used for data collection. The obtained data were analyzed using t-test, ANOVA, Pearson correlation coefficient, and multiple regression.

Results: The mean total score of COVID-19 anxiety (12.21 ± 10.31) was reported at a mild level, and perceived social support (66.55 ± 12.81) was at a high level. Based on the final results of the multiple regression model, COVID-19 anxiety, and the levels of mothers' income and education were significant predictors of perceived social support. No significant relationship was observed between COVID-19 anxiety and perceived social support.

Implications for Practice: The results showed that the levels of psychological factors and their relationship with other factors can be varied in the COVID-19 pandemic condition. Therefore, a decrease or an increase in the perceived social support did not affect the level of COVID-19 anxiety in mothers with premature infants.

Keywords: Anxiety, Coronavirus, Premature infant, Social support

-
1. MSc Student of Nursing, Neonatal Intensive Care Nursing, School of Nursing and Midwifery, Isfahan University of Medical Sciences, Isfahan, Iran
 2. PhD, Pediatric and Infant Department, Nursing and Midwifery Faculty, Isfahan University of Medical Sciences, Isfahan, Iran
 3. Instructor of Nursing, Pediatric and Infant Department, Nursing and Midwifery Faculty, Isfahan University of Medical Sciences, Isfahan, Iran

* Corresponding author, Email: hosseini_m@nm.mui.ac.ir

Introduction

The preterm birth of an infant is an unexpected event, and parents are not physically, mentally, and emotionally prepared for the birth and hospitalization of their premature baby (1). In addition to the stress, Coronavirus Disease 2019 (COVID-19) causes anxiety and fear around the world, especially in Iran (2). Patients' experiences of living with coronavirus disease are highly unique (3). The prevalence of COVID-19 can increase the level of anxiety and stress in pregnant women, leading to an increase in pregnancy poisoning and depression, nausea, vomiting during pregnancy, preterm delivery, low birth weight, and even low Apgar score (4).

Most anxiety and worry after childbirth was related to the worrying messages on social networks, fear of infection, and the infant's health after childbirth and breastfeeding (5). Mothers with premature infants need support from family, nurses, and physicians; moreover, they require communication with other mothers who can share a similar experience to overcome the problems of their infant's hospitalization (6). On the other hand, social distancing plans, some traffic restrictions, and quarantine are the main reasons for increased anxiety and worry during the COVID-19 pandemic (4). Therefore, receiving support from the community and health care providers is necessary for pregnant and postpartum mothers.

Perceived social support is one of the most common indicators, referring to a person's perception of the availability of support from others (7) that is regarded as the strongest coping force for successful and easy coping with stressful conditions and facilitating problems for patients (8). With implementing the social distancing plan and significantly declining family and friendly interactions during the COVID-19 pandemic, a low level of support resources and a person's perception of social support will always be accompanied by frustration and despair. In such situations, most interactions are done through social networks. In virtual relationships, no verbal interaction, body language, and empathy are considered (9). Since few studies have been conducted on vulnerable populations (10), this study aimed to determine the psychological impact of COVID-19 on mothers with premature infants during the COVID-19 pandemic.

Methods

This descriptive cross-sectional correlational study was conducted on 190 mothers with premature infants admitted to the neonatal intensive care unit (NICU) of the selected hospitals in Isfahan, Iran. Sampling was conducted by the easy access method from December 2020 to March 2021. Based on the previously conducted studies, the researcher did sampling in the mentioned hospitals twice a week. Moreover, a telephone call was made with the ward before the presence of the participants. After reviewing the files and interviewing with mothers, hospitalized premature infants (5-7 days) were identified by the researcher, and the questionnaires were completed based on the inclusion criteria for entering the study and obtainment of the informed written consent of the infants' mothers. Inclusion criteria for mothers are defined as follows: 1) a tendency to participate in the study without the use of any antidepressants in the last three months, 2) minimum education level of elementary school, and 3) no mood disorders. Moreover, the inclusion criteria for neonates included: 1) the age of 32-37 weeks, 2) no congenital anomalies, 3) hemodynamic stability, 4) nutrition through breast or gastric tube, and 5) hospitalization of at least 5 to 7 days. On the other hand, a sudden cessation of breastfeeding, a need for resuscitation, infant death, and mothers refusing to complete all questionnaires were the exclusion criteria.

The data were collected using such questionnaires as Maternal and Neonatal Demographic Characteristics Form, Corona Disease Anxiety Scale (CDAS), and Multidimensional Scale of Perceived Social Support (MSPSS). Additionally, CDAS was developed and validated by Alipour et al. (11) to measure the anxiety caused by the outbreak of coronavirus in Iran. The reliability values of this scale for the first (psychological symptoms) and second (physical and symptoms) factors were obtained at 0.87 and 0.86, respectively; moreover, the corresponding value was estimated at 0.91 for the whole questionnaire using the Cronbach's alpha method. In a study by Eyni et al. (12), Cronbach's alpha was estimated at 0.93. Furthermore, Ezazi (2020) (13) obtained reliability of 0.87 using Cronbach's alpha method with 18 items and two components (agents). Items 1-9 and 10-18 measure the psychological and physical symptoms, respectively. The tool is scored based on a 4-point Likert scale (never=0, sometimes=1, most of the time=2, and always=3), in which the lowest and highest scores obtained by the respondents are 0 and 54, respectively. In addition, scores 0-16, 17-29, and 30-

54 indicate no/mild, moderate, and severe anxiety, respectively (11). The multidimensional scale of perceived social support developed by Zimet et al. in 1988 (14) consisted of a 12-item questionnaire with a 7-point rating scale ranging from strongly disagree to strongly agree. The range of scores is 12-84, and the higher score indicates the better-perceived support that was used in a study by Karami et al. (15) with a Cronbach's alpha value of 0.80 .

Furthermore, in a study conducted by Tabatabaiehr (16), Cronbach's alpha was calculated at 0.97, and GPOWER software was used to estimate the sample size. In this regard, the extracted data of the studies performed by Veisi (2) for coronavirus anxiety and Tabatabaiehr (16) for perceived social support were used with a required number of participants (n=190), 95% confidence level, and a test power of 80%. Considering a 10% drop, the sample size was estimated at 210 cases due to the current pandemic conditions .

After obtaining the required permissions and approval of the research design, the researcher referred to Imam Hossein, Amin, Shahid Beheshti, Asgariyeh, and Zahra Marzieh hospitals in Isfahan, Iran. Sampling was performed after explaining the objectives of the study and obtaining the consent and agreement of the officials of the above hospitals. Additionally, after reviewing the files, the researcher identified 5-7-day premature infants, and providing meeting the inclusion criteria, the researcher completed the questionnaires. Demographic characteristics and other questionnaires were completed by the researcher and the mother of the hospitalized premature infant, respectively, with an assurance for mothers that their information would be kept confidential.

Finally, the data were analyzed in SPSS software (version 22) through descriptive statistics, including frequency and mean±SD. For analyzing the quantitative data, the normality of the data was initially examined using the Kolmogorov-Smirnov test. After confirming the normality, an independent parametric t-test, analysis of variance, Pearson correlation coefficient, and multiple regression were used in this study.

Results

The present study included 210 mothers with premature infants admitted to the NICU of the selected hospitals in Isfahan, Iran. It is worth mentioning that 20 patients were excluded from the study due to maternal cerebrovascular accident (n=1), neonatal metabolic syndrome (n=1), and incomplete questionnaires (n=18). Statistical analysis was conducted on 190 mothers with hospitalized premature infants. According to Table 1, the mean total score of COVID-19 anxiety is 12.21±10.31, indicating the mild level of anxiety; moreover, the mean total score of the perceived social support was obtained at 66.55±12.81, indicating a high level of social support.

The correlation coefficient between COVID-19 anxiety and perceived social support was estimated at 0.582 with a regression value of 0.040. The results showed no significant relationship between COVID-19 anxiety and perceived social support in mothers with hospitalized premature infants ($P>0.05$). The mean ages of the mothers and fathers were 30.05±5.7 (age range: 19-43 years) and 35.41±8.01 years (age range: 23-55 years), respectively. In addition, 128 (67.4%) mothers and 142 (74.7%) fathers had education levels of diploma and undergraduate, respectively (Table 2). No statistically significant relationship was observed between the parents' demographic characteristics and COVID-19 anxiety ($P<0.05$), showing a statistically significant relationship between the level of education of mothers of premature infants with perceived social support ($P<0.05$). Therefore, perceived social support in mothers with the educational level of an associate degree or more was higher than those with a diploma and undergraduate education levels. Moreover, the income level of

Table 1. Frequency distribution, mean and standard deviation of research variables in mothers with premature infants admitted to the NICU

Leveling of research variables		
Anxiety about COVID-19	Mild - N (%)	149 (78.4)
	Moderate - N (%)	35 (18.4)
	Severe- N (%)	6 (3.2)
Perceived social support	Low support- N (%)	8 (4.2)
	Mild support- N (%)	38 (20)
	High support- N (%)	144 (75.8)

families showed a statistically significant relationship with premature infants and perceived social support ($P < 0.05$). Perceived social support was higher in high- and middle-income parents than those with low-income.

The results showed no statistically significant relationship between other demographic variables and perceived social support ($P > 0.05$). Table 3 reveals that 109 (57.4%), 81 (42.6%), and 173 (91.1%) infants are male, female, and singleton, respectively (i.e., COVID-19 anxiety is lower in mothers with singleton premature infants than those with twin or more premature infants).

Based on the results of Table 4, a multiple regression model with the first-examined preconditions was used to investigate the effect of coronavirus anxiety, demographic variables of parents, and premature infants admitted to the NICU on the social support. Moreover, the significance level of the Kolmogorov-Smirnov test with the value of 1.598 ($P > 0.05$) indicates that the residuals of the model are normal, and the Durbin-Watson test with the value of 2.052 (1.5 to 2.5) also shows the independence of residuals in the model.

Furthermore, variance inflation factor (VIF) and tolerance index were used to examine the alignment between the independent variables. Since the value of VIF was less than 10, and the tolerance index was higher than 0.1, no alignment problem was observed between the independent variables. In addition, the statistical distribution diagram was utilized to investigate the homogeneity of the residual

Table 2. Demographic and contextual characteristics, as well as the average of the main variables of parents with premature infants admitted to the NICU

Variable	COVID-19 anxiety			Perceived social support	
	Number (%)	Mean±SD	Test's results	Mean±SD	Test's results
Mother's complication to COVID-19	Yes	29(15.3)	12.93±11.59	68.79±9.36	t=1.020*
	No	161(84.7)	12.08±10.10		
Mother's education level	Undergraduate	52(27.4)	12.76±9.67	67.88±12.06	F=0.298** P=0.009
	Diploma	76(40)	12.63±10.52	62.88±15.34	
	Associate degree	18(9.5)	11.72±10.48	68.61±7.82	
	BC and higher	44(23.2)	11.02±8.85	70.50±8.44	
Father's education level	Undergraduate	70(36.8)	13.84±11.68	64.72±15.08	F=2.334** P=0.075
	Diploma	72(37.9)	12.80±10.76	66.50±11.71	
	Associate degree	14(7.4)	9.35±4.25	69.07±10.46	
	BC and higher	34(17.9)	8.76±6.75	69.41±10.41	
Mother's job	Housewife	176(92.6)	12.26±10.22	66.13±12.96	t=1.636*
	Employee	14(7.4)	11.57±9.80	71.92±9.64	P=0.104
Father's job	Employee	40(21.1)	11.90±10.10	70.12±8.82	F=0.367** P=0.693
	Worker	48(25.3)	11.27±10.88	67.41±12.51	
	Self-employed	102(53.7)	12.77±10.18	64.75±13.99	
Mode of delivery	Caesarean section	151(79.5)	12.31±10.91	66.62±12.93	t=0.136*
	NVD	39(20.5)	11.79±7.64	66.30±12.53	P=0.779
Income level	Income=expense	113(59.5)	12.89±11.39	64.72±15.10	F=0.622** P=0.538
	Income>expense	8(4.2)	11.75±8.24	68.56±10.59	
	Income<expense	69(36.3)	11.14±8.54	62.62±11.64	
Maternal age (yr)		190(100)	30.05±5.75	30.05±5.75	r=0.098*** P=0.179
Paternal age (yr)		190(100)	35.41±8.01	35.41±8.01	r=-0.022*** P=0.761

*Independent parametric t-test, **Analysis of variance, ***Pearson correlation coefficient

Table 3. Demographic and contextual characteristics, as well as the average of the main variables of premature infants admitted to the NICU

Variable		COVID-19 Anxiety			Perceived social support	
		Number (%)	Mean±SD	Test's results	Mean±SD	Test's results
Gender	Female	81(42.6)	11.39±10.03	t=-0.939	67.66±12.87	t=1.028
	Male	109(57.4)	12.81±10.52	P=0.349	65.73±12.77	P=0.305
Rank of infant in the family	First	76(40)	12.15±10.33	F=0.194 P=0.824	68.40±10.96	F=2.710 P=0.069
	Second	77(40.5)	12.66±11.13		66.68±11.86	
	Third or more	37(19.5)	11.37±8.54		62.48±17.05	
Multiple pregnancy	Singleton	173(91.1)	11.66±9.44	F=3.316 P=0.038	66.73±12.76	F=0.446 P=0.641
	Twin	14(7.4)	16.57±14.04		63.71±14.78	
	Triplet or more	3(1.6)	23.33±27.46		69.66±3.21	

Table 4. Final regression model of the effect of coronavirus anxiety and demographic variables of parents and premature infants admitted to the NICU on social support

Variable	β coefficient		Standard Error	T-test	Significance level	Confidence Interval 95%	
	Non-Standard	Standard				Low limit	High limit
Constant coefficient	77.725	-	4.105	16.177	<0.001	68.246	87.204
Mothers' education level	5.974	0.219	1.906	3.134	0.002	2.214	9.734
Income status	-4.465	-0.168	1.846	-2.418	0.017	-8.108	-0.823
Infertility	10.414	0.220	3.419	3.046	0.003	3.669	17.160
Maternal age	-0.410	-0.184	0.160	-2.566	0.011	-0.725	-0.095
Summary of the 4 th model	P<0.001, F=6.342		R-square=0.121		adjusted- R-square=0.102		

variances. After drawing the above diagram, no trend was observed in the resulting diagram (i.e., the residual variance homogeneity of the model). Therefore, all the conditions of the regression model were established with multiple regression tests.

Independent variables (demographic variables and coronavirus anxiety) were included in four models. The mothers' education level was included in the first model with an explanation in 3% of the changes for perceived social support of mothers. The variables of income status, infertility, and maternal age were included in models 2-4, respectively, and finally explained 11% of the changes in the perceived social support of mothers.

The mothers' education level with a standard beta coefficient (0.219) had the highest regression effect on their perceived social support. This shows the level of perceived social support that was higher as 0.219 units in mothers with education level of bachelor's degree or higher, compared to those with a diploma or undergraduate degree. The results also showed that after the mothers' education level, income status, infertility, and maternal age with standard beta coefficients of -0.168, 0.202, and -0.184, respectively, had the highest regression effect on the perceived social support of mothers. This reveals that by increasing one unit of standard deviation in maternal age, a decrease of 0.410 units is in the perceived social support of mothers. Perceived social support in mothers with middle and low income was 0.168 units less than those with high income. In addition, the level of perceived social support in infertile mothers was 0.220 units higher than fertile mothers.

Discussion

This study aimed to determine the psychological impact of the COVID-19 on mothers with premature infants during the COVID-19 pandemic. Based on the results, the mean score of COVID-19 anxiety in mothers with hospitalized premature infants was at a low level, and the mean score of perceived social support was high. No significant relationship was found between COVID-19 anxiety and perceived social support in mothers with hospitalized premature infants ($P>0.05$). In this regard, Karimi et al. (2020) (17) reported a significant inverse relationship between COVID-19 anxiety and social support in pregnant women. Moreover, the mean score of social support in pregnant mothers was moderate, and the mean score of COVID-19 anxiety was at a severe level. These results were not consistent with

the findings of the present study due to the different study populations and less information about COVID-19 in their study. On the other hand, vaccination began in some parts of Iran during this study; therefore, the fear and anxiety of COVID-19 have diminished over time, which can be regarded as a justification for these differences.

The results of a study by Behmard et al. (18) showed a weak significant relationship between perceived social support and COVID-19 anxiety in pregnant women. The level of COVID-19 anxiety and social support was moderate, which was not consistent with the results of the present study due to the influence of cultural factors affecting social support over time from the COVID-19 pandemic and different research communities. In another study conducted on the citizens of Tehran, Iran, the level of anxiety was mild, and the direct path of perceived social support to COVID-19 anxiety was not significant; however, the indirect path of perceived social support to COVID-19 anxiety was significant through the mediation of metacognition and meta-emotion (9), and their results were consistent with those of the current study in terms of low levels of COVID-19 anxiety without any significant direct relationship between perceived social support and COVID-19 anxiety. Although limited interventional and combined studies have been conducted on vulnerable groups during the COVID-19 pandemic, more studies are needed in the present study. Several studies have been conducted on different groups with different results for the individual evaluation of the COVID-19 anxiety. Some studies on pregnant women have reported high levels of COVID-19 anxiety (17, 19, 20). In a survey on Chinese people, the symptoms of COVID-19 anxiety were moderate to severe (21) that was not consistent with the findings of the current study as the pandemic started one year ago and coping skills of individuals, such as observing social distancing and health protocols, leading to better immunity increased. Moreover, in the present study, the sampling was conducted in the centers which were not COVID-19 hospitalization centers. On the other hand, none of the mentioned studies were performed on mothers with premature infants, and some of them did not use similar tools.

The perceived social support was evaluated in various studies, and the mean total score of social support (92.02 ± 21.49) was at a moderate level (15), while social support in the present study was at a high level since the mothers with premature infants whose infants had been discharged were referred to medical centers as the outpatients for eye examinations. Therefore, the difference in receiving social support can be justified by focusing on infants, not being hospitalized, with any preterm delivery after discharge. In the studies by Hassanpour et al. on infertile women (22) and Hulya Erbaba (23) on mothers with premature infants admitted to the ICU, social support was reported at a moderate level, which was not consistent with the results of the present study. This difference can be due to different tools, the statistical communities, and cultural styles affecting the issue that raises the need for extensive studies in different communities, minorities, and cultures.

Mothers with premature infants expect to receive social support from relatives and health care providers to overcome the negative emotions caused by the NICU experience (24). The role of nurses as an important source of social support is assessed and evaluated in various studies. Mehdizadeh (25) stated that mothers with premature infants admitted to the ICU expect more nursing support than what they had received. In a study by Almasi (26), a positive and significant relationship was found between nurse support and the total score of needs of hospitalized children. However, the support score in the field of obtaining information was high, and more support from nurses was needed in the field of emotional support. Asghari (27) introduces telenursing as a way to reduce the stress of mothers with premature infants. Therefore, considering the situation of mothers with premature infants as a vulnerable group and their psychological issues, creating and strengthening social networks are suggested for them, especially during the COVID-19 pandemic. Prospective studies should be conducted to examine the consequences of the recent pandemic on mothers and infants in future studies.

The limitations of the present study included limited access to the study's population due to the problems and limitations related to traffic, quarantine, and the lack of continuous presence of mothers in the hospital due to the independent policies of each hospital for completing the questionnaire before inappropriate conditions. Due to the importance of maternal health and the future of infants in the country, more research should be conducted on psychological issues and consequences related to vulnerable groups in society, especially mothers and infants during pandemics.

Implications for Practice

A mild level of COVID-19 anxiety and a high level of perceived social support in mothers with

hospitalized premature infants were shown in the current study. Although social support was not significantly associated with COVID-19 anxiety, different aspects of social support were considered due to the vulnerability of the study's population and the effective role of social support from family and health care providers in maternal and infant care.

Acknowledgments

The authors express their gratitude to the Research Department of Isfahan University of Medical Sciences Isfahan, Iran for facilitating this study with their financial and scientific support. The authors would also like to thank the officials of the selected hospitals in Isfahan and the mothers of hospitalized infants who provided the opportunity to perform the present study. This study was extracted from an MSc thesis in neonatal intensive care (399575), which was conducted with the ethics code of IR.MUI.RESEARCH.REC.1399.510.

Conflicts of Interest

The authors declare that there is no conflict of interest regarding the publication of this manuscript.

References

1. Hollywood M, Hollywood E. The lived experiences of fathers of a premature baby on a neonatal intensive care unit. *J Neonatal Nurs*. 2011;17(1):32–40.
2. Veisi S, Imani S, Behrouz B, Imani S. The evaluation of the psychometric properties of fear of disease coronaviruses scale (Covid- 2019). *J New Adv Behav Sci*. 2020;5(42):1–10.
3. Khoshnood Z, Mehdipour-Rabori R, Nazari Robati F, Helal Birjandi M, Bagherian S. Patients' Experiences of Living with Coronavirus Disease 2019: A Qualitative Study. *Evid Based Care*. 2021;11(1):44–50.
4. Fakari FR, Simbar M. Coronavirus Pandemic and Worries during Pregnancy; a Letter to Editor. *Arch Acad Emerg Med*. 2020;8(1):1-2.
5. Nanjundaswamy MH, Shiva L, Desai G, Ganjekar S, Kishore T, Ram U, et al. COVID-19-related anxiety and concerns expressed by pregnant and postpartum women—a survey among obstetricians. *Arch Womens Ment Health*. 2020;23(6):787–90.
6. Kohan M, Borhani F, Abbaszadeh A, Sultan Ahmadi J, Khajehpoor M. Experience of Mothers with Premature Infants in Neonatal. *J Qual Res Heal Sci*. 2012;1(1):41–51.
7. Atadokht A, Jokar-Kamalabadi N, Hosseini-Kiasari T, Bashar- Pour S. The Role of Perceived Social Support in Predicting Psychological Disorders in People with Physical Disability and Its Comparison with Normal Subjects. *Arch Rehabil*. 2014;15(3):26–35.
8. Elsenbruch S, Benson S, Rütcke M, Rose M, Dudenhausen J, Pincus-Knackstedt MK, et al. Social support during pregnancy: Effects on maternal depressive symptoms, smoking and pregnancy outcome. *Hum Reprod*. 2007;22(3):869–77.
9. Saqzezi A, Yazdani Esfidvajani H, Gol Mohamadian M. The mediating role of positive metacognition and meta-emotion in the relationship between perceived social support with Corona anxiety. *Q Couns Cult Psychother*. 2020;11(43):33–62.
10. Juan J, Gil MM, Rong Z, Zhang Y, Yang H, Poon LC, et al. Effect of coronavirus disease 2019 (COVID-19) on maternal, perinatal and neonatal outcome: systematic review. *Ultrasound Obs Gynecol*. 2020;56:15–27.
11. Alipour A, Ghadami A, Alipour Z, Abdollahzadeh H. Preliminary Validation of the Corona Disease Anxiety Scale (CDAS) in the Iranian Sample. *Q J Heal Psychol*. 2020;8(4):163–75.
12. Eyni S, Ebadi M, Hashemi Z. Research paper corona anxiety in nurses: The predictive role of perceived social support and sense of coherence. *Iran J Psychiatry Clin Psychol*. 2020;26(3):320–31.
13. Ezazi Bojnourdi E, Ghadampour S, Moradi Shakib A, Ghazbanzadeh R. Predicting Corona Anxiety based on Cognitive Emotion Regulation Strategies, Health Hardiness and Death Anxiety in Diabetic Patients. *Iran J Psychiatr Nurs*. 2020;8(2):34–44.
14. Zimet GD, Dahlem NW, Zimet SG, Farley GK. The Multidimensional Scale of Perceived Social Support. *J Pers Assess*. 1988;52(1):30–41.
15. Karami J, Moradi A, Hatamian P. The Effect of Resilience, Self-Efficacy, and Social Support on Job Satisfaction Among the Employed, Middle-Aged and Elderly. *Iran J Ageing*. 2017;12(3):300–11.
16. Tabatabaeichehr M, Mortazavi H, Sharifiyan E, Mehraban Z. Comparative Study of Received

- Social Support and Perceived Social Support from the Viewpoint of the Elderly People. *J North Khorasan Med Sci.* 2019;11(2):99–106.
17. Karimi L, Makvandi S, Mahdavian M, Khalili R. Relationship between Social Support and Anxiety caused by COVID-19 in Pregnant Women. *Iran J Obstet Gynecol Infertil.* 2020;23(10):9–17.
 18. Behmarad V, Bahri N, Mohammadzadeh F, Noghabi AD, Bahri N. Relationships between anxiety induced by COVID-19 and perceived social support among Iranian pregnant women. *J Psychosom Obstet Gynecol.* 2021;1–8.
 19. Abedzadeh-Kalahroudi M, Karimian Z, Nasiri S, Khorshidi Fard M. Evaluation of anxiety and perceived stress of pregnant women towards Covid-19 disease and its related factors in Kashan in 2020. *Iran J Obstet Gynecol Infertil.* 2021;24(5):8–18.
 20. Moyer CA, Compton SD, Kaselitz E, Muzik M. Pregnancy-related anxiety during COVID-19: a nationwide survey of 2740 pregnant women. *Arch Womens Ment Health.* 2020;23(6):757–65.
 21. Wang C, Pan R, Wan X, Tan Y, Xu L, Ho CS, et al. Immediate Psychological Responses and Associated Factors during the Initial Stage of the 2019 Coronavirus Disease (COVID-19) Epidemic among the General Population in China. *Int J Environ Res Public Health.* 2020;17(5):1–25.
 22. Hasanpour Dehkordi A, Ganji F, Kaveh Baghbahadorani F, Omid M. Assessment of Perceived Social Support and its Related Factors in Infertile Women Referring to Shahrekord Infertility Clinic. *J Clin Nurs Midwifery.* 2020;9(2):666–77.
 23. Erbaba H, Pinar G. Association of perceived social support and maternal adaptation with postpartum depression in mothers of infants hospitalized in neonatal intensive care units. *J Neonatal Nurs.* 2021;27(4):251–6.
 24. Ionio C, Colombo C, Brazzoduro V, Mascheroni E, Confalonieri E, Castoldi F, et al. Mothers and fathers in nicu: The impact of preterm birth on parental distress. *Eur J Psychol.* 2016;12(4):604–21.
 25. Mehdizadeh S, Abbasi S, Payami Bousari M. Nursing support and premature s infants in neonatal intensive care units: the views of mothers. *Payesh J.* 2017;16(2):231–8.
 26. Almasi S, Cheraghi F, Roshanaei G, Khalili A, Dehghani M. Relation of Nursing Support From Parents With Meeting the Needs of Mothers of Children Hospitalized in Besat Hospital, Hamadan. *Avicenna J Nurs Midwifery Care.* 2018;26(5):323–32.
 27. Asghari E, Shirinabadi Farahani A, Nourian M, Bonakchi H, Gholami S. The Effects of Telenursing on Stress in Mothers with Premature Infants. *Evid Based Care.* 2021;10(4):7–16.