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Attitude of the health team to the infant home care plan during the COVID-19 pandemic: A cross-sectional study

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Abstract:

BACKGROUND: Maintaining and improving infant health and continuing care at home are very important for the health system. According to the coronavirus disease 2019 (COVID-19) pandemic and its effects on the health system capacity and medical staff's physical-mental health, this study investigated the health staff's attitude on the implementation of an infant home care plan.

MATERIALS AND METHODS: This descriptive-analytical cross-sectional study was conducted on 130 nurses, midwives, and doctors working in the newborn care department in Isfahan health-therapeutic centers, with at least 6 months of work experience. The samples were selected by random multistage method and completed the researcher-made 5-point Likert questionnaire with 25 items and two areas of education support and security safety. The total score of this questionnaire varied from 25 to 125, and obtaining a score equal to or greater than 91 meant that people had a favorable opinion about home care for babies. The reliability of the questionnaire was reported by Cronbach's α of 0.79, and content validity ratio (CVR) and content validity index (CVI) scores of 0.88–0.99 and 0.79–0.1, respectively. Data analysis was performed using the Statistical Package for the Social Sciences version 18.0 (SPSS) (Chicago, USA) and analysis of descriptive statistics, Chi-square, and Pearson correlation tests at a 0.05 significance level.

RESULTS: The mean score of medical staff's attitude was obtained at 77.59 ± 11.71 and the security-safety and education-support domains scores were 41.3 ± 6.34 and 36.29 ± 6.11 , respectively. In addition, a significant inverted relationship was observed between the mean score of medical staffs' attitude with age and the number of shifts.

CONCLUSION: According to the results, the medical staff's attitude about the infant home care program is neutral, and designing a professional educational period, considering economic preparations and responsibility assurance is essential for creating confidence and acceptance of the infant home care program by the medical staff.

Keywords:

Attitude, COVID-19, home care services, infant, patient care team

Introduction

The first wave of coronavirus disease 2019 (COVID-19) infection broke out in Iran in January 2020 and spread across the country at an expeditious speed, increasingly affecting the capacity of healthcare systems.

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Official statistics indicate 7,451,779 confirmed cases of COVID-19 infection and 142,654 cases of mortality due to the infection in Iran between January 3rd, 2020, and August 12th, 2022, according to World Health Organization.^[1] The heavy burden of healthcare, the congestion of hospitalized patients, the risk of new infection hotspots

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forming, and changes in the communication level and human contact faced the healthcare workers with a new scenario.^[2-4] Studies indicated that working over one's limits and fear of the infection could cause depression, anxiety, occupational burnout syndrome, and other mental health problems.^[5-8] Thus the world felt a need to change the healthcare model and gravitated toward home care to increase flexibility and prepare the healthcare system to face complex health issues.^[8,9]

Previous research suggests that home hospitalization is safe and has no significant difference with hospitalization at a hospital in terms of clinical effectiveness, even in the case of children.^[10-12] Moreover, home-based care can reduce the costs imposed on the healthcare system, shorten the hospitalization duration and its side effects, and prevent rehospitalization to meet physical, social, and emotional needs.^[13,14] Remote care for infants and children at home can thus be raised as an effective measure in the wake of crises.

The Iranian regulations concerning the establishment of home nursing consultation centers were passed in 2004.^[15] Home care regulations for at-risk infants were also passed in 2014, and the pilot was performed on infants discharged from the neonatal intensive care unit (NICU).^[16] The factors facilitating and inhibiting the implementation of the home care for children program, the challenges of this program during the COVID-19, and the consistency of the infant home care program with standards proposed by previous studies were investigated.^[17-21] However, the reception of this program by service providers and seekers requires their positive perspective on the program as people's viewpoints can affect how they receive home care plans and the quality of care.^[20] Many domestic and international pieces of literature have accentuated the influence of healthcare personnel's positive attitude and the pleasant experience of adult patients receiving home care services.^[21-24] The noteworthy point is that the level of infant home care acceptance by families and healthcare staff in Iran may be distinct from other countries due to cultural differences, financing norms, and parents' understanding of safety. Moreover, given that previous studies had already examined infants' parents' attitudes toward home care programs,^[25] the present study seeks to investigate the attitude of healthcare staff toward home care programs for infants during the COVID-19 pandemic to identify their concerns in implementing infant home care and the potential obstacles of the programs.

Materials and Methods

Study design and setting

The present study is a part of descriptive-analytical cross-sectional research conducted from January to June,

2021 in healthcare centers of Isfahan and received ethical ID (IR.MUI.RESEARCH.REC 1399.531) on November 08, 2020.

Study participants and sampling

The studied population and inclusion criteria included physicians, midwives, and nurses working in infant care units with a minimum 6-month experience working in these units. Multistage randomized sampling was performed. A list of all healthcare centers with an infant care unit was first prepared. The centers were then classified into 19 clusters based on geographical location, out of which 10 centers were randomly selected with 15–16 samples chosen from each cluster given the desired sample size. A minimum sample size of 133 was obtained using the $x = Z^2 \times S^2/d^2$ (where Z is the 95% confidence coefficient [1.96], S is an estimation of the standard deviation of the approach-to-home care score, and d is the accuracy level, which was considered 0.17 S); a sample size of 152 was thus estimated considering a 15% attrition. The exclusion criteria included nonresponse or choosing the "no opinion" option over five questions. Statistical analysis was eventually performed on 130 subjects as 22 questionnaires were excluded from the study given the exclusion criteria.

Data collection tool and technique

The data collection tool was a researcher-made questionnaire with items designed based on a literature review and the researcher's observations and experience and included the two sections of demographic information and questions measuring attitude. Demographic information included age, gender, education level, marital status, number of shifts per month, and home care experience. The second part of the questionnaire consisted of educational-supportive and safety-security components and included 25 items. The educational-supportive portion of the questionnaire assessed the healthcare staff's attitude regarding the educational needs and necessary supports for home care, whereas questions on the safety-security part examined the healthcare staff's safety concerns and measures required to establish trust in patients. Attitude measurement questions were scored on a 5-point Likert scale. As a result, the total questionnaire score would vary between 25 and 125 for each person, with scores of 25–70 indicating a negative attitude, scores of 71–90 indicating a neutral attitude, and scores of 91–125 indicating a positive attitude. To confirm form and content validity, the questionnaire was handed out to 12 experts including two faculty members of the children's nursing department at Isfahan University of Medical Sciences, three neonatal specialists, four home care providers, and three hospital intermediates, and their opinions were applied to the questionnaire. Content validity ratio (CVR) and content validity

index (CVI) scores were in a range of 0.88–0.99 and 0.79–0.1, respectively. Examining the reliability of the questionnaire also revealed a Cronbach's α of 0.79.

Ethical consideration

Data collection was carried out by individuals outside the research team who had no activity in the field of healthcare to minimize bias. Those in charge of data collection received the necessary training on samples and questionnaire completion before data collection. The interviewers, while obtaining informed consent from the participants and giving assurance that their information would remain confidential and that there was no need to write names, explained the objectives of the research and how to correctly complete the questionnaire to the participants. It must be mentioned that some questionnaires were completed online due to the COVID-19 pandemic. Data were entered into Statistical Package for the Social Sciences version 18.0 (SPSS) (Chicago, USA) and were analyzed using descriptive statistics and Chi-square and Pearson correlation tests at a 0.05 significance level.

Results

The present study sought to investigate the attitude of healthcare staff toward infant home care during the COVID-19 pandemic and was conducted on 130 healthcare workers including 81 nurses, 29 midwives, and 20 physicians with a mean age of 42.56 ± 5.93 . Table 1 includes other demographic information of the test subjects.

Results revealed a mean total attitude score of 77.59 ± 11.71 , which would be broken into a score of 41.3 ± 6.34 in safety security and 36.29 ± 6.11 in educational supportive. Collected data suggested that 10 people (7.7%) had a positive attitude, 40 respondents (30.8%) had a negative attitude, and 80 people (61.5%) were neutral. A statistically significant relationship was observed between the total attitude problem and respondents' age and number of shifts per month. Midwives had a better approach to infant home care compared with nurses ($P < 0.05$). The highest attitude score was obtained by those with 20–25 shifts per month, whereas the lowest scores were given by respondents with over 30 shifts a month. The total attitude score also declined with age [Table 2].

Discussion

The present study sought to examine the attitude of healthcare staff to infant home care in educational-supportive and safety-security dimensions. Results indicated the overall neutral attitude of healthcare workers toward infant home care programs.

Table 1: Demographic characteristics of the participants

Mid	Percentage	Frequency
Gender		
Male	13.08	17
Female	86.92	113
Education		
Associate	26.92	35
Bachelor's	50.77	66
Master	6.92	9
PhD	15.39	20
Marital status		
Single	15.38	20
Married	84.62	110
Shifts per month		
20–25	14.62	19
25–30	44.61	58
30>	40.77	53
Experience in providing home care		
Yes	94.62	123
No	5.38	7

Table 2: Comparing the mean and standard deviation of the total attitude score of the medical staff with their demographic characteristics

Variable	SD	Mean	χ^2	P
Gender				
Male	10.18	75.82	819	0.328
Female	11.94	77.85		
Education				
Associate	14.44	73.68	4.33	0.228
Bachelor's	11.13	78.62		
Master	5.29	83.66		
Ph.D	8.77	78.31		
Marital status				
Single	6.40	80.9	980	0.438
Married	12.36	76.99		
Shifts per month				
20–25	6.98	83.14	7.991	0.046
25–30	12.06	78.51		
30>	12.24	74.86		
Position				
Nurse	13.02	76.17	7.86	0.047
Midwife	8.08	83.42		
Physician	9.17	78.05		
Experience in providing home care				
Yes	11.84	77.24	0.282	0.127
No	7.18	83.71		
	Correlation	Significance		
Age	–0.177	0.044		

Pearson's correlation, Standard deviation, Chi-square

Moreover, the safety-security score was slightly higher than the educational-supportive score.

Achieving positive home care results entails the recognition and accomplishment of all aspects of care by the caregiver. Home care must facilitate the

participation of family members in care, empowerment, and establishment of comfort through professional skills and interpersonal communication. Therefore, the person providing home care must have mastered skills such as teamwork, effective communication, creativity, and innovation besides adequate knowledge and skill. Another noteworthy point is that the person delivering home care has their specific beliefs, values, culture, and traditions, which may consciously or unconsciously affect their behavior, manners, and decisions. Hence, achieving ideal home care results requires professional and trained forces. This requires a vision of economic advantages alongside expenses invested in training expert forces. On the other hand, at-home caretakers must be assured that they will be supported by their respective organizations in case of complications.^[26-28] In Iran, home care is delivered for adults and simple infant care such as phototherapy has only become conventional to be performed at home over the past decade. The COVID-19 pandemic led to a significant surge in home care service demand due to the community's fear of infection at healthcare centers and their congestion.

Although the advantages of home care including timely and comprehensive services for patients, disease management, reduced medical costs, and increased family participation are evident,^[29,30] developing home care in the community is faced with challenges such as the lack of effective infrastructure and standards, inefficient occupational interactions, improper sociocultural context, and professional issues such as caretakers' inadequacy,^[31-33] which are true to the Iranian community as well.^[34] The neutral approach of the healthcare workers regarding infant home care is thus understandable. Healthcare workers seek to ensure adequate support, training, and personal and occupational safety when it comes to home care.

Still, one must not overlook the influence of the environment and environmental factors resulting from the spread of the coronavirus. The sampling in the present study was performed over the third and fourth peaks of coronavirus, so the sociopsychological atmosphere resulting from the pandemic and the restrictive measures taken to control it may have left unconscious impacts on the healthcare worker's opinions regarding infant home care.

Medical staff are the first line in fighting COVID-19 and have thus been prone to the largest adverse impacts due to this crisis. A study on the psychological impacts of COVID-19 on medical workers indicated a threefold increase in psychological disorders including depression, insomnia, and anxiety during the crisis.^[35] Another notable point is nurses' statements regarding

their social and family problems and hatred for their job after the COVID-19 outbreak,^[36] which has been reported to be due to inadequate training, lack of trust in protective measures, increased working hours, and losing control.^[35-37] A review of the literature suggested that most studies indicated a need for proper and adequate training and receiving mental health services and psychological support was necessary for medical workers to feel safe and do their jobs properly.^[36,38]

Another finding of the present study was the significant relationship observed between the total attitude score of the healthcare workers and their age, number of shifts per month, and position. Total attitude problems declined with age and working hours, tending to negative figures. Statistical analysis revealed that the inverse relationship between total score and age was more significant in the educational-supportive aspect, whereas a significant relationship was found between total score and both educational-supportive and safety-security aspects. This inverse relationship might be due to individuals' concerns. Moreover, midwives got overall higher scores compared with physicians and nurses, which may be due to their more extensive contact with pregnant women. It would be logical to assume that people with a more positive approach to home care are more likely to use it under complex situations, so midwives could be recruited in infant home care programs at their early stages.

Limitation and recommendation

One of the present study's limitations was that it was performed over the third and fourth peaks of the COVID-19 in Iran when the healthcare system in the country needed critical measures due to the pandemic, which may have affected the results. Moreover, the study suffers limitations in terms of data availability on infant home care, which challenged comparison and discussion. Future research is recommended to be performed on a larger sample focused on nurses and midwives and compare the results between these two groups.

Conclusion

Success in infant home care programs requires professional training of staff and special incentives to establish ease of mind and ensure economic and responsibility security in caretakers. Hence, measures such as providing the proper sociocultural grounds in Iranian communities, providing necessary infrastructure such as insurance, offering comprehensive and clear home care guidelines, encouraging teamwork, and holding training workshops to enhance effective interaction between families and healthcare workers could improve the attitude to home care services.

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Conflicts of interest

There are no conflicts of interest.

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