



Knowledge of health care providers about Covid-19 disease in pregnancy and lactation in Ardabil

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Abstract

Healthcare workers and healthcare providers need sufficient knowledge and awareness about disease to provide high quality health services to pregnant and breastfeeding women during the Covid 19 pandemic. This study aims to investigate the knowledge of healthcare providers about Covid-19 disease in pregnancy and lactation in Ardabil. This descriptive study was conducted in 2020-2021. The study's statistical population consisted of all healthcare workers working in health centers in Ardabil who care for pregnant and lactating mothers. The census calculated the sample size. Data were collected using a self-administered questionnaire to assess health care providers' knowledge, which was designed using a review of texts, related articles, and instructions of the Ministry of Health, and the validity and reliability of the questionnaire have been confirmed. Data were analyzed using SPSS20 by descriptive statistics, chi-square, and ANOVA statistical tests. Mean age of the participants was 35.51 ± 5.74 . In this study, most participants scored more than 33 and had a good level of knowledge about Covid 19 disease in pregnancy and lactation. The study's results showed that participants had higher knowledge about Covid 19 during pregnancy and lactation. The knowledge gained about Covid 19 during pregnancy and lactation is not absolute and may get updated with the reporting of newer studies. Healthcare providers must be trained in person and online during the Covid 19 virus epidemic to receive up-to-date information regularly from the healthcare system.

Keywords: knowledge, Covid-19, health care providers, pregnancy and lactation

1. Introduction

The coronavirus disease started in 2019 in Wuhan, China, and affected the country's large population (1, 2). This virus is a new form of the known Coronavirus, and the resulting disease was called Covid-19 (3). On January 30, 2020, the World Health Organization declared Covid-19 a public health emergency, and later on March 11, 2020, reported it as an outbreak pandemic (4, 5).

On February 20, 2020, two death cases from the disease were reported in Iran for the first time. The number of infected people raised increased in Iran (6). Early scientific reports suggested that Covid-19 may be transmitted from animal to human, but subsequent studies have shown that respiratory droplets cause direct human-to-human transmission (7, 8).

The virus can infect humans in different severities, from upper respiratory tract infections such as colds to lower respiratory tract infections such as bronchitis, pneumonia, and even acute respiratory syndrome (9). The first symptoms seen in these patients included fever, dry cough, shortness of breath, chest pain or pressure, fatigue, muscle aches, dizziness, and leukopenia. Patients with mild symptoms require supportive care and patients with more severe symptoms require oxygen therapy and hospitalization (7, 10, 11).

The covid-19 disease affects various groups, including

pregnant women (12). Due to the weakened immune system and physiological changes in the cardiovascular system during pregnancy, pregnant mothers are vulnerable to infections and viruses, and therefore the Covid epidemic can have severe consequences during pregnancy (13, 14).

Studies have shown that emerging infections significantly impact pregnancy and the fetus, for instance, maternal and embryonic complications due to the H1N1 Flue pandemic in 2009 (15, 16). Pregnant women are worried about giving birth (13), and despite programs of social distancing and fear of developing Covid-19, they tend to reduce the number of visits to health centers. Further, lack of care for pregnant women causes harmful maternal and embryonic complications (17, 18).

As Covid-19 is an emerging disease, people have limited knowledge about it, and healthcare professionals need to know about Covid-19. Healthcare providers are at the forefront of caring for pregnant women and require an understanding of the disease to improve the quality of care for pregnant mothers by providing the correct information to mothers and the proper counseling. Midwives and healthcare providers are responsible for promoting the health of mothers and infants, and their knowledge can affect the community's health (12). Misinformation directly increases the risk of disease (19).

There was an urgent need in the community to establish a plan for the deadly Covid-19 and provide community members with guidelines, especially health care providers, to control the disease, promote maternal health and reduce maternal mortality and neonatal complications. Healthcare providers have an essential and decisive role in combating this disease. Familiarity of midwives with different aspects of the disease is fundamental, and they can provide better and more efficient services to pregnant women by gaining the necessary knowledge in this field. The Covid-19 epidemic offers a unique opportunity to assess the level of knowledge of healthcare providers. Thus, the present study evaluated healthcare providers' knowledge about Covid-19 disease during pregnancy and lactation in Ardabil.

2. Materials and Methods

The present study is a descriptive study (2020) that aims at assessing the knowledge of healthcare providers who care for pregnant and lactating mothers against Covid-19. The study's statistical population includes all 180 healthcare providers of pregnant and lactating mothers working in health centers in Ardabil included in the study by the census. The list of active healthcare workers and their places of employment was received from Ardabil Health Center. Inclusion criteria were, midwifery and family health graduates with an associate's and bachelor's degree with at least six months of experience as health care providers in health centers willing to participate in the study. Exclusion criteria were the presence of health care providers on maternity and sick leave or incomplete completion of questionnaires.

The data collection tool was a researcher-made questionnaire to determine healthcare providers' knowledge about Covid-19 in pregnancy and lactation. This tool has two sections: demographic-social characteristics and measurement of healthcare providers' knowledge about Covid-19 during pregnancy and lactation. The questionnaire of demographic-social characteristics provides information about age, marital status, number of children, level of education, the field of study, service history, employment status, place of work, medical history, setting of obtaining information about Covid-19, having previous information about the coronavirus outbreak, and the second section measures the knowledge of health care providers with 50 questions about the Covid-19 virus during pregnancy and lactation.

Each question is scaled from 0 to 1, and in case of correct answers, 50 points are awarded. In terms of grading, the knowledge of health care providers was assessed at three levels: poor (0-16), moderate (17-33), and good (34-50). This questionnaire was designed by studying texts, articles, and instructions from the Ministry of Health. Face validity and content validity were used to evaluate the instrument's validity. Face validity is the most convenient way to check the validity of a tool, that is, whether the instrument's appearance correctly measures the variable under study.

In face validity, the tool's structure is examined from the point of view of the target group. In this step, to check the face validity and reliability, the questionnaire was handed out to 14 Faculty members, including midwives, reproductive health professionals, and nurses at Ardebil University of Medical sciences. In the next step, content validity was performed quantitatively using the content validity ratio (CVR) and content validity index (CVI). According to the CVR decision table, the ten experts' minimum acceptable validity value is 0/62. The resulting number for our study tool was 0/8. The content validity was confirmed. Experts were asked to rate each question on a scale of 1 to 4.

The four-item scales included "fully relevant", "relevant", "semi-relevant" and "irrelevant". CVI is obtained by dividing the total number of positive scores for each item of the questionnaire (obtained 3 and 4 scores that are; "relevant but requires precision" and "fully relevant") by the number of experts. So, 0.8 was obtained for tools, and the study's validity was confirmed. Furthermore, the internal reliability of the questionnaire was obtained using Cronbach's alpha coefficient of 0.87.

After getting approval from the ethics committee of Ardabil University of Medical Sciences (ethics code IR-ARUMS.REC.1399.549), the researchers attended the research site permitted by the permission of the health deputy and the director of Ardabil health center and distributed questionnaires among them. Participants were allowed to leave the study if they wanted to refuse. Finally, 150 questionnaires were returned to the researchers.

The present study analyzed data using SPSS 20 and descriptive statistics (frequency and percentage, mean and standard deviation), and inferential statistics. In inferential statistics, one-way ANOVA and chi-square tests were used. The ethics committee has approved the proposal of this study of Ardabil University of Medical Sciences.

3. Results

A total of 150 people participated in the study. The mean age of participants was 35.51 ± 5.74 years. 85.3% participants were married ($n=139$), 45.3% had one child, 82.7% had a bachelor's degree, 8.7% had an associate's degree, and 8.7% had a master's degree. The majority of healthcare providers included midwives (74.7%), who majored in family health studies (18%), and who studied in other fields (7.3%) (Table 1).

The majority of participants, 128 (85.3%), had no history of the disease. Most participants (84.7%) knew nothing about Coronavirus before the outbreak; 110 (73.3%) of the participants had obtained their information about Covid-19 from the Ministry of Health or medical universities. In the present study, 109 people (72.7%) scored more than 33, which means a good level, 38 people (25.3%) had a moderate level of knowledge, and 3 people (2%) had poor knowledge about Covid-19 disease in pregnancy and lactation.

Table 1. Percentage and frequency of demographic characteristics of research samples (n=150)

Variables		No.(%)	Variables	No.(%)	
Marital status	Single	26 (14.7)	Number of children	No child	40 (26.7)
	Married	139 (85.3)		1 child	68 (45.3)
				2 children	38 (25.3)
		3 children		4 (2.7)	
Field of major	Midwifery	112 (74.7)	Education level	Associate degree	13 (8.7)
	Family Health	27(18)		Bachelor degree	124(82.7)
	Others	11 (7.3)		Masters	13 (8.7)
Experience (years)	1-5	66(44)	Employment state	Official	40(26.7)
	6-10	41(27.3)		Temporary	12 (8)
	11-15	13 (8.7)		Internship	4(2.7)
	16-20	11 (7.3)		Contract	94(62.7)
	21-25	18 (12)			
	26-30	1(0.7)			
Setting	Health center	29(19.3)	Disease history	No history	128 (85.3)
	Base	121(80.7)		Respiratory	2 (1.3)
		Cardiovascular		7(4.7)	
		Gastrointestinal		1(0.7)	
		Glandular disease		8(5.3)	
		Renal disease		2(1.3)	
		Dermal disease		2(1.3)	
Data resources	Websites and statements	47(31.3)	Knowing Coronavirus before the pandemic	Yes	23(15.3)
	WHO			No	121(84.7)
	Social networks	49(32.7)			
	National Media	53(35.3)			
	Ministry of Health and University of Medical Sciences	110(73.3)			
	Colleagues	31(20.7)			
Others	8(5.3)				

In the present study, the Chi-square test showed no statistically significant relationship between the age of health care providers and the knowledge variable ($P = 0.8$) and no significant difference between the level of knowledge in married and single groups ($P = 0.13$).

The study of the relationship between education level and knowledge of health care providers showed no statistically significant difference between the three groups with associate degrees, bachelor's degrees, and master's degrees ($P = 0.97$). Moreover, there was no statistically significant difference between the field of study, the experience of healthcare providers, and their level of knowledge ($P = 0.5$, $P = 0.33$). There was no statistically significant difference between having previous knowledge about the prevalence of Coronavirus and their level of knowledge about Covid-19 disease during pregnancy and lactation ($P = 0.8$).

4. Discussion

The present study entitled "Knowledge level of health care providers about Covid-19 disease during pregnancy and lactation in Ardabil," was conducted in Iran in the middle of the Covid-19 outbreak in 2020. Covid-19 has been classified as a high-risk infection since it is newly emerged and has

spread worldwide, and people, especially pregnant and lactating mothers, are at risk.

The pandemic resulting from the Coronavirus is currently severe and contagious, affecting the world's population (20-22). Therefore, the knowledge level of healthcare providers about Covid-19 disease, who care for pregnant mothers in health centers, is essential, and it is essential to inform them of the severity of the disease to develop preventive measures to reduce and control this infection, especially in pregnant and lactating women. Health policymakers in the Ministry of Health and Medical Education can make the right plans. According to our survey, this is the first descriptive study since the outbreak of Covid-19.

According to the present study results, most healthcare providers had a good level of knowledge about Covid-19 disease during pregnancy and lactation. In the study of Taghrir et al. (2020), the level of knowledge of medical students about Covid-19 in Iran has been reported at a high level (23). In the study by Zhang et al. in Hanan, China, 89% of health workers had sufficient knowledge about Covid-19; physicians had higher knowledge scores than nurses and other health workers (24). A study by Ping et al. in China showed that most

undergraduate students had a good knowledge of Covid-19 (25), consistent with the present study results. A study by Bhagavathula et al. (2020) shows that health workers did not have sufficient knowledge about Covid 19, which is inconsistent with the results of our study (26). In the present study, only healthcare providers who cared for pregnant and lactating mothers were studied.

The present study showed that most study participants (73.3%) obtained their information through the Ministry of Health or medical universities. Accordingly, the study of Bhagavathula et al. showed that the primary source of information for the research participants was official government sites (26).

In contrast, in the Kushalkumar study in India on medical students, most students (65.17%) acquired knowledge about Covid 19 from social media (27), which was the reason for the difference in research samples; students tend to read all news and social sites. These students, the main body of the health care system in the future, should obtain valid information on some of the above websites due to the existence of unverified information and should refer to reputable scientific and official government websites.

It should be noted that healthcare providers should ensure the health of mothers by providing primary and correct care during Covid 19 disease, which is why it is necessary to increase the knowledge and awareness of healthcare providers. Studies show that infection of the pregnant mother with Covid 19 leads to pregnancy complications such as miscarriage, premature rupture, fetal growth restriction, fetal distress, and preterm delivery (28-34). Therefore, prenatal care is essential in this regard. During pregnancy, especially in the third trimester, fetal health care is provided mainly for mothers infected with Covid 19 (15, 28, 35).

The present study results can be used as a pilot study by health policymakers for educational programs to prevent Covid19 and reduce the complications of the disease in pregnant and lactating mothers. One of the limitations of this study is that this study was conducted in only one city and the generalization of the results to other healthcare providers in Iran requires further studies. The result of the study depends on the participants' honesty in answering the questions in the questionnaire.

Our healthcare providers have excellent or high levels of Covid-19-related knowledge in pregnancy and lactation. As pregnant mothers undergo changes in physiology and immune system during pregnancy and need high-quality care, healthcare providers must receive up-to-date information regularly from the healthcare system in person and online.

Conflict of interest

There is no conflict of interest in the present study

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Authors' contributions

Concept: R.K., P.A.K., Design: R.K., P.A.K., Data Collection or Processing: R.K., L.R., Analysis or Interpretation: S.D.F., L.R., Literature Search: P.A.K., L.R., Writing: R.K., S.D.F.

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