ARAŞTIRMA MAKALESİ/RESEARCH ARTICLE

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EVALUATION OF BELIEF IN COVID-19 MYTHS AND LEVELS OF COVID-19 ANXIETY AND PERCEPTION OF HEALTH IN PREGNANCY

GEBELİKTE COVID-19 MİTLERİNE İNANMA DURUMU İLE COVID-19 ANKSİYETESİ VE SAĞLIK ALGISI DÜZEYLERİNİN DEĞERLENDİRİLMESİ

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ABSTRACT

Objective: The aim of the study was to establish pregnant women's belief in COVID-19 myths, COVID-19 anxiety and perception of health levels during the pandemic.

Method: This study was a descriptive study of 473 pregnant women. Introductory Information Form, COVID-19 Anxiety Scale, Health Perception Scale and the form of myths related to COVID-19 Pandemic were used. During data analysis, descriptive statistics, One way anova test, Independent groups t test, Mann Whitney U test, Kruskal Wallis test and Spearman correlation analyses were performed.

Results: A correlation was found between the average number of people believing in COVID-19 myths and the mean scores obtained from the COVID-19 anxiety scale (r=0.093, p=0.042) and the perception of health (r=0.115, p=0.012) scale. The difference between mean age and gestational week values and the average number of people believing in COVID-19 myths (p=0.000; p=0.004), the mean scores obtained from COVID-19 anxiety (p=0.000; p=0.006) and perception of Health (p=0.008; p=0.036) scales was significant. The mean number of people believing in myths in unplanned pregnancies (p=0.011) and the mean score from COVID-19 anxiety scale (p=0.004) were higher.

Conclusion: The level of belief in COVID-19 myths in pregnant women was found to be associated with anxiety and perception of health. Belief in myths, perception of health and anxiety levels increased with increasing gestational week and increasing gestational age. Belief in myths and anxiety levels were lower in planned pregnancies. While pregnant women's belief in myths increased their anxiety level, it also resulted in an increase in the perception of health.

Key Words: COVID-19, Misinformation, Anxiety, Perception

ÖZ

Amaç: Çalışmada, pandemi sürecinde gebelerin COVID-19 mitlerine inanma durumlarını, COVID-19 anksiyete ve sağlık algısı düzeylerini belirlemek amaçlanmıştır.

Yöntem: Çalışma tanımlayıcı tipte planlandı. 473 gebe ile tamamlandı. Tanıtıcı Bilgi Formu, COVID-19 Anksiyete Ölçeği, Sağlık Algısı Ölçeği ve COVID-19 Pandemisi ile ilgili mitler formu kullanıldı. Verilerin analizinde tanımlayıcı istatistikler, One way anova testi, Bağımsız gruplarda t testi, Mann Whitney U testi, Kruskal Wallis testi ve Spearman korelasyon analizleri yapıldı.

Bulgular: COVID-19 mitlerine inanma sayısı ortalaması ile COVID-19 anksiyete (r=0.093, p=0.042) ve Sağlık algısı (r=0.115, p=0.012) ölçekleri puan ortalamaları arasında ilişki bulundu. Yaş ve gebelik haftası ortalamaları ile COVID-19 mitlerine inanma sayısı ortalaması (p=0.000; p=0.004), COVID-19 anksiyete (p=0.000; p=0.006) ve Sağlık algısı (p=0.008; p=0.036) ölçekleri puan ortalamaları arasındaki fark anlamlı bulundu. Plansız gebeliklerde mitlere inanma sayısı ortalaması (p=0.011) ve COVID-19 anksiyete ölçeği puan ortalaması (p=0.004) daha yüksekti.

Sonuç: Gebelerde COVID-19 mitlerine inanma düzeyi, anksiyete ve sağlık algısı ile ilişkili bulunmuştur. Gebelik haftasının ilerlemesi, gebelik yaşının yükselmesiyle mitlere inanma, sağlık algısı ve anksiyete düzeyleri yükselmektedir. Planlı gebeliklerde mitlere inanma ve anksiyete düzeyleri daha düşüktür. Gebelerin mitlere inanma düzeyi bir yandan anksiyete düzeyini yükseltirken bir yandan da sağlık algısının yükselmesi ile sonuçlanmıştır.

Anahtar Kelimeler: COVID-19, Yanlış Bilgi, Anksiyete, Algı

INTRODUCTION

Myths are often shaped by narratives and stories that play a fundamental role in people's daily lives and shape people's beliefs. They have a cultural and potential role in human life. Factors such as beliefs, customs, traditions, rituals, and mentality in a particular region influence the spread or recognition of a myth [1].

For example, there have been times in the past when myths were spread about various contagious infections such as tuberculosis and influenza [2-4].

Today, however, there are many questions and misunderstandings about the COVID-19 pandemic, which has caused panic worldwide, and people tend to believe every little thing circulating in society without confirmation [5].

In fact, the meaning-making mechanism of humans aims to reduce anxious and depressive feelings. However, meaning-making mechanisms, such as obtaining information from different sources to make sense of the COVID-19 pandemic, can often result in a higher susceptibility to conspiracy [6,7]. "We only see what our eyes want to see" is a popular aphorism. This aphorism means that we tend to believe such things that are acceptable to our own version of rationality, regardless of the actual evidence. Similarly, myths about COVID-19 are unconfirmed claims accepted on a weaker rationale basis. They are not based on evidence or do not correspond to facts [8]. Moreover, knowledge and attitudes about infectious diseases are interrelated. A sense of panic in the community may complicate efforts to contain the spread of the disease [9,10]. Moreover, the COVID-19 pandemic has raised serious public concern, including all women involved in the childbirth process, many of whom are thought to be at higher risk of contracting infectious diseases [11]. According to the Knowledge-Attitude-Belief theory, knowledge is the basis of behavior change and belief and attitude are the driving forces of behavior change [12,13]. Therefore, it has become important to determine the relationship between the myths believed about COVID-19 and the perception of health and anxiety level in pregnant women. The information to be obtained on this subject can provide guidance for development of strategies to combat the pandemic for both expectant mothers and their unborn babies. The aim of the study was to establish pregnant women's belief in COVID-19 myths, COVID-19 anxiety and health perception levels during the pandemic.

METHOD

Type of the Study

The study was a cross-sectional and descriptive study, and it was completed between December 2020 – March 2021.

Research Population and Sampling

The calculated sampling of the study was 450 pregnant women, with a 95% confidence interval and a t value of 1.96 at α=0.05 degrees of freedom. Considering that there may be case losses, 480 pregnant women were included in the study. The study was completed with 473 pregnant women, since 7 pregnant women included in the study failed to fully fill in the data collection forms. Literate Turkish pregnant women over the age of 18, who presented to the relevant hospital for routine checks, who were not diagnosed with chronic disease, who were not diagnosed with any complications in themselves or their fetus, who reported that they did not have COVID-19 infection, who volunteered to participate in the study and fully filled in the questionnaires, were included in the study.

Data Collection Tools

"Introductory Information Form", "COVID-19 Anxiety Scale", "The Perception of Health Scale" and "The form of myths related to COVID-19 Pandemic" were used to collect study data.

Introductory Information Form: The introductory information form prepared by the researchers in line with the literature included demographic characteristics (age, education, employment status, income level, family type, etc.).

The Form of Myths Related to the COVID-19 Pandemic: In this form, a literature review was conducted and various expressions regarding the myths about the COVID-19 Pandemic were questioned [14,15]. The average number of myths believed about COVID-19 was included in the analysis.

COVID-19 Anxiety Scale: Refers to the scale developed by Lee et al. (2020), which evaluates anxiety associated with the COVID-19 pandemic [16]. Validity and reliability study of Turkish version of the scale was conducted by Evren et al. (2020). Lee et al. (2020) calculated cronbach alpha reliability coefficient of the scale as 0.92, and Evren at al. as 0.80. It is stated that it is a valid and reliable scale for Turkish society. The scale consists of five items. The respondents are questioned about the frequency of experiencing the situations in the scale items over the last two weeks. The scale is a 5-point Likert scale, with the answers "Never", "Rarely, less than one or two days", "a few days", "more than 7 days", "almost every day in the last two weeks". A minimum of 0 and a maximum of 20 points can be obtained from the scale. The higher the score obtained from the scale, the more intense the anxiety about COVID-19 is experienced [17].

The Perception of Health Scale: It was developed by Diamond et al. in 2007 and its Turkish validity-reliability study was performed by Kadıoğlu and Yıldız in 2012 [18,19]. The Cronbach Alpha coefficient was found to be 0,77. It's a 5-point Likert scale, consisting of four sub-dimensions, namely control center, certainty, self-awareness and importance of health, and 15 items. Respondents each item; Answers by choosing one of the options "I strongly disagree (1)", "I do not agree (2)", "I am undecided (3)", "I agree (4)", "I strongly agree (5)" [19]. Items 1, 5, 9, 10, 11, 14 of the scale contain positive attitudes, while items 2, 3, 4, 6, 7, 8, 12, 13 and 15 are with negative attitude. A minimum of 15 and a maximum of 75 points can be obtained from the scale [18,19].

Statistical Analysis

Statistical analyses of the study were conducted using SPSS (22.0, IBM Corp., Armonk, NY) statistical program. Descriptive statistics (mean, standard deviation, interquartile range, frequency, percentile) were used to analyze the data. Kolmogorov-Smirnov test was employed to check whether the data followed normal distribution. One way anova test, the independent groups t-test were used to compare continuous variables with a normal distribution, whereas Mann Whitney U test and Kruskal Wallis test were used to compare continuous variables that did not follow normal distribution. Spearman correlation analysis was performed. P value of <0.05 was considered significant.

Ethical Aspect of the Study

Approval was obtained from the Mehmet Akif Ersoy University Ethics Committee in order to conduct the study (no:282). Informed voluntary consent was obtained from the pregnant women participating in the study.

RESULTS

The mean age of the pregnant women was 26.59±5.56, the mean number of pregnancies was 1.73±0.79, and the mean gestational week was 33.27±8.03. Most of them (89.9%) lived in nuclear families. The rate of those who had an associate degree or a higher degree was 34.8%. 78% of the pregnant women were unemployed, 75.1% had income equal to their expenditure, and 88.6% planned their pregnancy (Table 1).

Mean number of pregnant women believing in COVID-19 myths was 3.99±2.53, calculated total mean scores from COVID-19 anxiety and the perception of health scales were 1.90±4.34 and 52.25±7.89 (Table 2).

When the mean number of people believing in COVID-19 myths and the total mean scores from the COVID-19 anxiety and the perception of health scales were compared, it was determined that the difference between them was statistically significant (p=0.000; p=0.002). In the correlation analysis, a weak positive correlation was identified between the mean number of people believing in COVID-19 myths and total mean scores from the COVID-19 anxiety (r=0.093, p=0.042) and the perception of health (r=0.115, p=0.012) scales (Table 3).

In the study, the differences between the mean values of age and gestational week and the number of respondents believing in COVID-19 myths (p =0.000; p =0.004), total mean scores from COVID-19 anxiety (p =0.000; p =0.006) and the perception of health (p =0.008; p =0.036) scales were found to be statistically significant.

Table 1. Introductory characteristics of the pregnant women (n=473)

Characteristics	Distribution range	Mean±Sd
Age	18-44	26.59±5.56
Number of pregnancies	1-4	1.73±0.79
Gestastional week	7-41	33.27±8.03

Characteristics	n	%
Family Type		
Nuclear	425	89.9
Extended	42	8.8
Broken	6	1.3
Education Level		
Primary school	163	34.5
High school	145	30.7
Associate's degree and higher	165	34.8
Employment Status		
Employee	104	22.0
Unemployed	369	78.0
Income Status		
Income less than expenditure	74	15.6
Income equal to expenditure	355	75.1
Income more than expenditure	44	9.3
Planning of pregnancy		
Planned	419	88.6
Unplanned	54	11.4

Table 2. Number of respondents believing ın COVID-19 myths and total mean scores from COVID-19 anxiety and the perception of health scales (n=473)

Scales	Min	Max	Mean±Sd	IQR	Q1	Q3
Number of respondents believing in COVID-19 myths	0	12	3.99±2.53	4.00	2.00	6.00
COVID-19 anxiety scale	0	19	1.90±4.34	1.00	0.00	1.00
The perception of health scale	30	75	52.25±7.89	12.00	46.00	58.00

The pregnant women who planned pregnancy were found to have a higher total mean score from the perception of health scale. However, when compared with unplanned pregnancies, there was no statistical difference between them (p=0.076), (Table 4).

DISCUSSION

According to our findings, the difference between the mean values of age and gestational week and the mean number of respondents believing in COVID-19 myths (p =0.000; p =0.004), total mean scores from COVID-19 anxiety (p =0.000; p =0.006) and the perception of health (p =0.008; p =0.036) scales was found to be statistically significant. Belief in myths, levels of perception of health and anxiety increased with increasing age and gestational week of pregnant women. One possible explanation for increased level of anxiety with increasing gestational week may be that women do not have access to health facilities for childbirth, or that they are reluctant to go to health facilities or hospitals during the COVID-19 pandemic because they

assume such places as unsafe environments [20]. The prevalence of anxiety among pregnant women in Turkey during the COVID-19 pandemic was high (64.5%) [21]. Another study showed that fear of the unknown, disruption of routine prenatal care, and disruption of social life due to quarantine caused anxiety in pregnant women during the COVID-19 pandemic in Turkey [22]. Our results are in agreement with these studies. The use of new and diverse models of prenatal care by healthcare providers can reduce the anxiety of pregnant women in crises such as the COVID-19 pandemic [23]. Another study argued that maternal age is known to be closely associated with many obstetrical complications and that the rationale behind higher anxiety during the pandemic period in patients with higher maternal age can be explained in this way [24]. Therefore, these findings suggest that as the maternal age increases and the gestational week progresses, pregnant women are more likely to believe in myths and have a higher level of perception of health with the protection instinct for themselves and their baby, the anxiety they experience and the fear of loss.

Table 3. Comparison of the number of respondents believing in COVID-19 myths with total mean scores from COVID-19 anxiety and the perception of health scales and the association between them (n=473)

	Scales	Mean±Sd	W	p	r	p
Number of respondents believing in COVID-19 myths	**COVID-19 anxiety scale**	1.90±4.34	73.733	0.000	0.093	0.042
	The perception of health scale	52.25±7.89	28.396	0.002	0.115	0.012

W: Kruskal Wallis Test, r: Spearman's correlation test

According to our results, there was no statistical difference between the planning of pregnancy and the total mean score from the perception of health scale (p=0.076). However, belief in COVID-19 myths (p=0.011) and anxiety (p=0.04) levels of those who planned their pregnancy were lower than those who did not. Sinaci et al. (2020) reported that unplanned pregnancies showed higher anxiety scores during the pandemic, with a statistically significant association identified between whether the pregnancy was planned or unplanned and the anxiety scores [25]. Again, it has been shown in the literature that women with unplanned pregnancies experience high levels of anxiety and depression, which is similar to our findings [26,27]. Moyer et al. (2020) also stated that women were worried about getting pregnant and giving birth during the COVID-19 pandemic [28]. Previous studies in the literature reported that psychiatric problems in pregnant women are associated with health problems, negative antenatal care, and stressful life events [29]. Considering this information, it is not surprising that women who had unplanned pregnancy during the pandemic process had higher levels of anxiety and, accordingly, higher levels of belief in myths.

According to our findings, there was a weak positive correlation between the mean number of respondents believing in COVID-19 myths and total mean score from COVID-19 anxiety (r=0.093, p=0.042) scale. Recent Chinese data found that 34.13% of individuals experienced moderate to severe symptoms of stress during the COVID-19 pandemic [30]. Again, recent studies have reported that this constant and unprecedented sense of uncertainty is inevitably associated with increased levels of stress and psychological distress [31,32]. In fact, the typical stress levels associated with COVID-19 have even become amenable to the emergence of a new syndrome called "COVID stress syndrome" [33], which was found to be consistently linked to feelings of depression and anxiety [31,32].

Table 4. Some characteristics of pregnant women and comparison of the number of respondents believing in COVID-19 myths with total mean scores from the COVID-19 Anxiety and the Perception of Health Scales (n=473)

Characteristics		n	Distribution range	Mean±Sd	Test	p
Number of respondents believing in COVID-19 myths	Age	473	0-12	3.99±2.53	W=64.618	**0.000**
	Gestational week	473	0-12	3.99±2.53	W=52.186	**0.004**
	Planning of pregnancy					
	Planned	419	0-12	3.85±2.40	Z=-2.554	**0.011**
	Unplanned	54	0-12	5.07±3.20		
COVID-19 anxiety scale	Age	473	0-19	1.90±4.34	W=52.898	**0.000**
	Gestational week	473	0-19	1.90±4.34	W=50.196	**0.006**
	Planning of pregnancy					
	Planned	419	0-19	1.60±3.84	Z=-2.052	**0.040**
	Unplanned	54	0-19	4.19±6.75		
The perception of health scale	Age	473	30-75	52.25±7.89	F=1.671	**0.008**
	Gestational week	473	30-75	52.25±7.89	F=1.471	**0.036**
	Planning of pregnancy					
	Planned	419	30-75	52.48±7.97	t=1.776	0.076
	Unplanned	54	40-71	50.46±7.03		

People may experience the need to cognitively project their feelings of personal threat and stress to a social outgroup or force in order to reduce their feelings of stress and regain a sense of control [34]. This is where the function of making sense of narratives and conspiracy theories comes into play. Conspiracy beliefs are an "attribute of the mind" that helps shape certainty and control in times of uncertainty and stress [35]. However, it has also been reported that information seeking may backfire and even increase stress levels when people encounter stressful and false information [33]. As the saying goes - Half knowledge is always dangerous. Myths, on the other hand, are much more dangerous and may cause more harm to society than the virus itself [5]. Therefore, in our study, it is an interesting finding that there is a positive relationship between the belief in myths and the level of anxiety in pregnant women.

According to our findings, there was a weak positive correlation between the mean number of respondents believing in COVID-19 myths and total mean score from the perception of health (r=0.115, p=0.012) scale. Health information is disseminated through both traditional and new platforms, including television, newspaper, internet, social media and short video platforms. One study identified that the number of channels used to obtain information was positively related to the perception of health [36]. People may be influenced by the traditional thinking that they prefer to believe what they have rather than believing in what they don't have, which may increase their chances of being mistaken by rumors and taking action [36]. It has been reported in the literature that in such situations, with the feeling of uncertainty and the rapid spread of the disease, the epidemic may inevitably generate an automatic and subconscious fear of infection [37,38]. Individuals experience psychological problems such as anxiety due to the perceived risk to their health, and this leads them to take preventive measures for their health [11]. Therefore, this suggests that an individual's level of perception of health may increase with increasing level of belief in myths.

Limitations

The findings of the study are limited to the pregnant women presenting to the respective hospital and thus cannot be generalized to all pregnant women. Unfortunately, in our literature review, we could not find a scale for COVID-19 myths for our country. For this reason, we could not use a valid and reliable scale for the subject in our study. For this reason, it is recommended to develop a scale for COVID-19 myths.

CONCLUSION

The level of belief in COVID-19 myths in pregnant women was found to be associated with anxiety and perception of health. Again, belief in myths, levels of perception of health and anxiety increased with increasing gestational age and gestational week. Belief in myths and anxiety levels were lower in planned pregnancies. While pregnant women's belief in myths increased their anxiety level, it also resulted in an increase in the perception of health. In this sense, the results of our study are important in terms of contributing to the literature with limited findings. This study raised a topic that is guiding for future researchers and that requires further research on the relationship between pandemic myths and the levels of perception of health and anxiety.

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