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The Use of Complementary and Alternative Medicine Among Infertile Women Presenting at The Infertility Outpatient Clinic

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Abstract

Objectives: The use of Complementary and Alternative Medicine (CAM) is common among infertile women. Many studies in Türkiye and throughout the world have shown that infertile women use CAM methods at high rates to increase the chance of conception. This study aimed to determine the status and characteristics of infertile women using CAM.

Method: The study was planned as a cross-sectional study. Infertile women who presented at the Infertility Outpatient Clinic were included in the study. The women were questioned in respect of sociodemographic characteristics, medical characteristics related to infertility, CAM use status and types and frequency of CAM use.

Results: Evaluations were made of 311 infertile women, of which 65.3% (n=203) used CAM. Herbal methods were the most frequently used CAM method (26.3%), and the most used herbal product was onion water. A statistically significant relationship was found between CAM use and the duration of marriage, occupation, education level, history of IUI and IVF, belief in the benefits of CAM methods and recommendation status ($p<0.005$ for all values). A positive correlation was found between the duration of CAM use and age, duration of marriage, duration of desire to have children, duration of infertility treatment, and the number of IUI and IVF attempts. Curiosity was the most common reason for CAM usage. It was determined that 46.9% of the participants who used CAM did not use it regularly, 66.5% did not believe that it would be beneficial, and 88.6% were directed to CAM usage by family or friends.

Conclusion: The results of this study showed that infertile women used CAM at a high rate and the most commonly used method was herbal products. Infertile women should be evaluated in a multidimensional way with detailed questioning of any CAM methods used.

Keywords: Infertility, complementary and alternative medicine, woman

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İnfertilite Polikliniğine Başvuran İnfertil Kadınlar Arasında Tamamlayıcı Ve Alternatif Tıp Kullanımı

Öz

Amaç: Tamamlayıcı ve Alternatif Tıp (TAT) kullanımı infertil kadınlar arasında yaygındır. Ülkemizde ve dünyada pek çok araştırmada infertil kadınların gebe kalma şansını arttırmak için yüksek oranlarda TAT yöntemlerine başvurduğunu gösterilmiştir. Bu çalışma ile infertil kadınların TAT kullanma durumları ve özelliklerini ortaya koymayı ortaya koymayı hedefledik.

Yöntemler: Çalışma kesitsel tipte planlanmıştır. Çalışma kapsamında infertililite polikliniğine başvuran infertil kadınlar çalışmaya alınmıştır. İnfertil kadınların sosyodemografik özellikleri, infertiliteye dair tıbbi özellikleri, TAT kullanma durumu ve özellikleri anket formu ile sorgulanmıştır.

Bulgular: 311 infertil kadın çalışmaya alınmıştır. Katılımcıların 65,3%'nün (n=203) TAT uygulamalarına başvurduğu, bitkisel yöntemlerin en sık kullanılan TAT yöntemi olduğu(%26,3), en sık kullanılan bitkisel ürünün ise soğan suyu olduğu bulunmuştur. TAT başvuru durumu ile evlilik süresi, meslek, eğitim seviyesi, aşılama ve tüp bebek öyküsü, TAT yöntemlerinin faydasına dair inanç ve tavsiye durumu ile arasında istatistiki anlamlı ilişki bulunmuştur ($p<0.005$ tüm değerler için). TAT alma süresi ile yaş, evlilik süresi, çocuk sahibi olmak istediği süre, infertilite tedavi süresi, aşılama ve tüp bebek deneme sayısı arasında pozitif yönde korelasyon bulunmuştur. Merak en sık TAT başvuru nedeni olmuştur. TAT kullanan katılımcıların %46,9'nun GETAT'ı düzenli kullanmadıkları, %66,5'nin fayda vereceğine inanmadıkları, %88,6'sının ailesinin veya arkadaşının yönlendirmesi ile GETAT uygulamalarına başvurdukları tespit edilmiştir.

Sonuç: Sonuç olarak çalışmamızda infertil kadınların yüksek oranda CAM'a başvurdukları, en çok başvurulan yöntemin ise bitkisel ürünler olduğu görülmüştür. İnfertil kadınların değerlendirilmesi çok yönlü yapılmalı ve kullanılan CAM yöntemleri de sorgulanmalıdır.

Anahtar kelimeler: infertilite, tamamlayıcı ve alternatif tıp, kadın.

INTRODUCTION

Infertility is defined as no conception despite 12 months of unprotected sexual relations in women aged <35 years, or 6 months in women aged ≥35 years, or in couples with no etiology suggesting impaired reproduction in either of the spouses[1]. Reproductive rights, in the context of wanting a child, is a fundamental right protected in both international and national legal systems[2]. Although the prevalence of infertility shows variability according to different countries, the World Health Organization has reported lifetime infertility at the rate of 17.8%[3].

Infertility should be evaluated as a societal problem as the management of infertility and the effect on the individual having medical, social, economic, and legal dimensions[4,5]. Infertility can affect the mental health of patients. Stress levels are higher in infertile patients, and symptoms of anxiety and depression are seen more often in couples or individuals experiencing infertility problems[6-8]. Couples searching for a solution to be able to have a child can apply for assisted reproductive techniques (ART). Infertility treatment is very expensive, and for patients in low and middle-income countries the direct medical costs of a single cycle of in-vitro fertilization (IVF) usually exceed the average yearly income, making this a prohibitive cost for patients[9]. To increase the chance of becoming pregnant, patients may turn to complementary alternative medicine (CAM) methods, which they see as low-risk, safe, and reasonably priced, for reasons such as not having benefitted from ART, or for traditional, religious, or economic reasons[10-15].

CAM, generally not accepted as a part of medicine, is defined as a group of practices formed from various medical and healthcare systems, methods, and products. If this practice

is used with conventional medicine, it is named "complementary", and if used in place of conventional medicine, it is named "alternative"[16]. While the efficacy of CAM methods in infertile patients remains a subject on which further research is needed, the rates of use of CAM have been reported to be as high as 91%[17]. The use of CAM is extremely widespread in Türkiye, and studies conducted in Türkiye have shown rates of CAM use to vary between 23.7% and 92.9%[11,14,18-23].

Previous studies have shown that 62.1%-65% of infertile women believe they have benefitted from the use of CAM[14,18], and 45% of women who became pregnant while using traditional methods stated that they thought the pregnancy was due to the method used.21 Hope or desperation are seen as reasons for the use of CAM by infertile patients[15,24,25]. The use of CAM can help to reduce stress and anxiety 17 and can have a positive effect on quality of life[19].

This study aimed to determine the characteristics and CAM usage status of infertile women, and to investigate the relationships between sociodemographic and infertility characteristics and the use of CAM.

METHODS

Study Design

This study was planned as a cross-sectional analytical study among infertile women applying to the infertility outpatient clinic. The Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) guidelines were followed when preparing this cross-sectional study[26]. All procedures complied with the 2013 Helsinki Declaration. Approval for the study was granted by the non-interventional ethics committee (23.01.15/76) and the necessary institutional permission was obtained. The data were collected between 01.02.2015 and 30.04.2015.

Study Population and Sampling

The study included females who presented with the complaint of infertility at the Infertility Outpatient Clinic of the Obstetrics and Gynecology Department of a University Medical Faculty Hospital. The sample size to be reached was determined by taking into account the number of patients who applied to the daily outpatient clinic with the complaint of infertility. Using a sample size calculator, it was calculated to be necessary to include 231 subjects in the study to provide a 5% error rate and 95% confidence interval. A total of 331 infertile women participated in the study; however, 20 were excluded due to missing data. Consequently, the data of 311 participants were analyzed.

The study inclusion criteria were defined as age >18 years, a diagnosis of infertility, voluntary participation in the study, and no mental health disease that would prevent participation. Patients were excluded from the study if they did not have a diagnosis of infertility, were not willing to participate in the study, or had any mental health disease that would prevent participation. Due to advancements in assisted reproductive techniques, it has become possible to achieve pregnancy even in patients over the age of 49, which is traditionally considered the upper limit of reproductive age, therefore no upper age limit was set for individuals seeking assistance in this study. All the patients included in the study provided written informed consent.

Variables and Data Collection

A 28-item questionnaire was used as the data collection tool. Sociodemographic data of age, marital status, duration of marriage, occupation, education level, monthly income, and place of residence were recorded. When questioning the monthly income, we categorized and analyzed it as values above and below the minimum wage,

not as a number. The medical history was questioned in respect of diagnosis (primary/secondary infertility), gravida, parity, abortus, number of living children, number of years of having wanted a child, duration of receiving treatment, and the number of implantations and IVF attempts.

To evaluate the characteristics of Complementary and Alternative Medicine (CAM) use, a 12-item data collection form was designed by the researchers, incorporating insights from the existing literature[23,27,28]. Questions were asked and the responses were recorded in respect of the belief of the patient that they had benefitted from CAM, whether they would recommend it to others, and their current use status; if they had used a CAM method, the reason for doing so and when they first used it, whether they used it continuously, the mean duration of use, whether they believed they would benefit from it, whether they had benefitted, which treatment they had received, and how they knew about the treatment. When we examined the methods used, we did not assess the specific mode of application (e.g., ingestion, topical use, or vaginal administration); rather, we only inquired about whether the method was used.

Statistical Analysis

Data obtained in the study were analyzed statistically using Statistical Package for Social Sciences (SPSS) for Windows 27.0 software (SPSS Inc. Chicago, USA). Descriptive statistics were presented as mean ± standard deviation (SD), minimum and maximum values for continuous data, and as number (n) and percentage (%) for categorical data. Conformity of the data to normal distribution was assessed with the Kolmogorov-Smirnov test and skewness-kurtosis values. Statistical differences between two quantitative variables were examined with Chi-square analysis. Relationships between continuous data were examined with Spearman rho correlation analysis. Hypotheses were two-directional. A value of $p<0.05$ was accepted as the level of statistical significance.

RESULTS

Evaluation was made of a total of 311 females, with a mean age of 30.87 years, all of whom were married, 87.8% were housewives, and 31.2% had never received any formal education (Table I). The data were found to be not normally distributed. The duration of having wanted to have children was 4.71 years and receiving infertility treatment 3.28 years. There was a diagnosis of primary infertility in 60.1% of the participants, 31.8% had a history of intrauterine insemination (IUI) and 19.6% a history of in vitro fertilization (IVF). Throughout the treatment processes of the study participants, 203 (65.3%) used CAM methods, 20.6% believed that they had benefitted from CAM and 11.3% stated that they would recommend CAM to others.

Table I: Characteristics of participants: demographics, infertility history, and cam usage

		n / mean	**% / SD(min-max)**
Age (years)		30.87	6.61(18-56)
Duration of marriage(years)		6.46	5.35(1-27)
The duration of having wanted to have children (years)		4.71	3.95(1-25)
Duration of receiving infertility treatment (years)		3.28	1.54(1-6)
Education level	*No formal education*	97	31.2
	Primary school	79	25.4
	Middle school	48	15.4
	High school	46	14.8
	University	41	13.2
Occupation	*Housewife*	273	87.8
	Clerical worker	21	6.8
	Manual worker	4	1.3
	Self-employed	13	4.2
Monthly income	*Equal to or below minimum wage*	271	87.1
	Above minimum wage	40	12.9
Place of residence	*Central district*	194	62.4
	Non-central district	71	22.8
	Village	46	14.8
Diagnosis	*Primary Infertility*	187	60.1
	Secondary Infertility	124	39.9
IUI History	*Yes*	99	31.8
	No	212	68.2
IVF History	*Yes*	61	19.6
	No	250	80.4
Infertility Type	*Primary Infertility*	187	60.1
	Secondary Infertility	124	39.9
Have you ever used CAM methods?	*Yes*	203	65.3
	No	108	34.7
Do you believe you have benefitted from CAM methods?	*Yes*	64	20.6
	No	151	48.6
	Undecided	96	30.9
Would you recommend CAM methods to others?	*Yes*	35	11.3
	No	182	58.5
	Undecided	94	30.2

CAM: Complementary and Alternative Medicine, IUI: Intrauterine insemination, IVF: In Vitro Fertilization

When the study participants first realized that they were having problems with getting pregnant, 258 (83.0%) consulted to a gynecologist, 42 (13.5%) searched for religious support (visiting clerics, hodja, tombs, making an amulet, reciting special prayers), 8 (2.6%) used herbal mixtures, 2 (0.6%) underwent lead pouring and ear cutting, and 1 had acupuncture (0.3%).

In the comparisons of the study participant characteristics and views to CAM with the CAM usage status there was a statistically significant relationship between CAM usage status and duration of marriage ($p<0.001$), occupation status ($p=0.013$), education level ($p<0.001$), IUI ($p=0.008$) and IVF history ($p=0.031$) (Table II). The rate of using CAM was determined to increase with a longer duration of marriage, being a housewife, a lower education level, and a need for intervention because of infertility (IUI, IVF). In the comparison of the CAM usage status and the views to CAM, there was found to be a statistically significant relationship between the belief in the benefit of CAM, and whether they would recommend CAM and CAM usage. It was observed that 84.4% (n=54) of the participants who believed that they had benefited from CAM and 85.7% (n=30) of those

who had recommended CAM had a history of CAM usage. It was determined that of those, with a history of CAM usage, who stated that they did not benefit from CAM (58.9%) or were undecided about the benefit (62.5%); did not recommend CAM methods (n=58.8%) or were undecided about the recommendation (70.2%) at higher rates than those who had not used CAM methods.

Table II: Comparisons of the study participant characteristics and views to CAM with the CAM usage status

		CAM usage				
		Yes		**No**		
		n	**%**	**n**	**%**	**p***
Age (years)	*18-29*	87	65.4	46	34.6	0.918
	30-34	58	66.7	29	33.3	
	≥35	58	63.7	33	36.3	
Duration of marriage (years)	*1-5*	100	56.5	77	43.5	**<0.001**
	6-10	59	77.6	17	22.4	
	≥11	44	75.9	14	24.1	
Occupation	*Housewife*	185	67.8	88	32.2	**0.013**
	Not a housewife	18	47.4	20	52.6	
Monthly income	*≤ minimum wage*	181	66.8	90	33.2	0.144
	≥ minimum wage	22	55.0	18	45.0	
Education level	*Below high school*	161	71.9	63	28.1	**<0.001**
	High school or higher	42	48.3	45	51.7	
Place of residence	*Central district*	129	66.5	65	33.5	0.560
	Not a central district	74	63.2	43	36.8	
Diagnosis	*Primary Infertility*	121	64.7	66	35.3	0.796
	Secondary Infertility	82	66.1	42	33.9	
IUI history	*No*	128	60.4	84	39.6	**0.008**
	Yes	75	75.8	24	24.2	
IVF history	*No*	156	62.4	94	37.6	**0.031**
	Yes	47	77.0	14	23.0	
Do you believe you have benefitted from CAM methods?	*Yes*	54	84.4	10	15.6	**<0.001**
	No	89	58.9	62	41.1	
	Undecided	60	62.5	36	37.5	
Would you recommend CAM treatment to others?	*Yes*	30	85.7	5	14.3	**0.004**
	No	107	58.8	75	41.2	
	Undecided	66	70.2	28	29.8	
Total		203	65.3	108	34.7	

**Chi-square test*

IUI: Intrauterine Insemination, IVF: In Vitro Fertilization

All participants were questioned about the CAM methods they used, and it was observed that the use of herbal products was the most used method at the rate of 26.3% (n=82) followed by religious methods (prayer, amulet, shrine, tombs, hodja) at 16.3% (n=51) and woman healer 5.7% (n=18). The least used method was pouring lead 0.3% (n=1), milk 0.9% (n=3), and was followed by cutting ear 1.9% (n=6). The most used herbal product was onion juice (n=44), followed by Haitian seed (n=8), parsley juice (n=6), lion's claw (n=8), yarrow (n=4), carob extract (n=2), and raisins (n=1).

The participants were questioned in respect of when they had most recently used CAM, and if they were using CAM, for how long. It was seen that the most recent use was most often within one year, and 32.5% stated that they had used CAM for one year (Table III).

A statistically significant positive correlation was determined between the duration of using CAM and age (r=0.304, p<0.001, low), duration of marriage (r=0.504, p<0.001, moderate), duration of having wanted a child (r=0.539, p<0.001, moderate), duration of infertility treatment (r=0.461, p<0.001, moderate), number of IUI (r=0.353, p<0.001, low), and number of IVF attempts (r=0.356, p<0.001, low).

Table III: The most recent use of CAM and duration of using CAM of the study participants

Most recent use of CAM			Duration of using CAM		
	n	**%**		**n**	**%**
1 week ago	12	5.9	**1 month**	10	4.9
1 month ago	19	9.4	**3 months**	18	8.9
3 months ago	33	16,3	**6 months**	24	11.8
6 months ago	25	12.3	**1 year**	66	32.5
1 year ago	62	30.5	**2 years**	33	16.3
2 years ago	27	13.3	**3 years**	24	11.8
≥3 years	25	12.3	**5 years**	23	11.3
			10 years	4	2.0
			≥11 years	1	0.5

Some participants used more than one method, so the question about the methods used to overcome infertility allowed more than one answer and the frequency of these methods is given in Table IV. The reasons for using CAM were stated to most often be curiosity (50.2%), followed by the impact of traditions (42.9%), desperation or hope (35.5%) and personal belief (31.5%).

Table IV: Reasons for using CAM *

	n	%
Curiosity	102	50.2
Impact of traditions	87	42.9
Desperation or hope	72	35.5
Personal belief	64	31.5
To benefit from complementary and alternative treatment	7	3.4
No results from medical treatment	6	3.0
Difficulty in accessing healthcare services	2	1.0
Economic constraints	1	0.5
Distrust of doctors	0	0

** more than one option marked*

Of the participants who stated that they used CAM, only 12.3% stated that they used CAM regularly, 33.5% believed that they benefitted from CAM. When asked who directed them towards CAM, the majority (57.1%) indicated that it was their family (Table V).

Table V: The characteristics of use and referral to CAM

		n	%
Continuous use of CAM	*Yes*	25	12.3
	No	95	46.8
	Irregular	83	40.9
Do you believe you have benefitted from CAM?	*Yes*	68	33.5
	No	135	66.5
Was CAM beneficial?	*Yes*	10	4.9
	No	128	63.1
	Partially	60	29.6
	I don't know	5	2.5
How did you know about CAM?	*My own decision*	18	8.9
	Suggested by my family	116	57.1
	Suggested by friends	64	31.5
	Suggested by healthcare personnel	4	2.0
	From information in the media	1	0.5

DISCUSSION

This study, evaluating the characteristics and status of CAM use of infertile women, demonstrated that 65.3% of the participants had used CAM. Significantly higher rates of CAM use were seen in those who had been married for longer than 5 years, who were housewives, had an education level below high school, or had a history of IUI and IVF. Herbal products were determined to be the CAM method most selected.

Infertile women who have not benefitted from modern medicine in respect of conceiving a child may resort to CAM methods for reasons such as desperation, hope, and traditions[15,25,28,29]. A study in Sudan found that the main factors driving self-management among infertile women were the high cost of modern treatments and the lack of success with modern medicine[13]. Another study in Lebanon determined the reasons directing patients to CAM to be "belief in its advantages" (56.3%), "trying CAM because of a suggestion" (51.7%), "dissatisfaction with conventional medicine" (9.2%) and feeling that they "had no other alternative"[28]. Previous studies in Türkiye of infertile women showed the reasons for CAM use as "hope" in 66.9%[27], " an increased possibility of having a child" in 47%, "failure of previous treatment" in 20%, and wishing to try a "natural means of treatment" in 33%[29]. In the current study, the most common reasons for CAM use were determined to be curiosity, and followed by the effect of traditions, desperation, or hope, respectively, which were also reported in previous studies with high rates.

The current study participants were asked what they did when they first noticed that they could not become pregnant, and while 83.0% of the infertile women stated that they consulted a doctor, 17% used CAM methods first. A study in Izmir reported that 62.2% of infertile women presented at a hospital first when they noticed

that they could not become pregnant[14]. CAM-medicine collaborations have been recognized as beneficial for infertile patients[24]. CAM use is widespread and the rates of use can be seen to have spread on a broad scale. The rates of use of CAM by infertile women have been reported to be 41% in Lebanon[28], 63.5% in South Korea[12], 65.0% in Sudan[13], and 80.4% in the USA[30]. In the current study, the rate of CAM use was determined to be 65.3% among infertile women. However, studies conducted in different provinces of Türkiye have shown the rate of use of CAM by infertile women to vary in the range of 23.7% to 92.9%[11,14,18-23,27]. This broad range of CAM usage rates can be attributed to differences in the definition of CAM and the scope of the studies[17]. In our study, it was observed that a significant proportion of infertile women first consulted a doctor, but some of them tried CAM methods first. Studies conducted in Türkiye and different countries show that the rates of CAM utilization vary over a wide range, and these differences may be explained by how CAM is defined and the variability in the scope of the studies.

Of the CAM methods used by the current study participants, herbal products and religious methods (prayer, talismans, visiting tombs, religious cleric) were the most frequently used, and of the herbal products, onion water was most often used. It can be seen in the literature that herbal products are frequently used as a CAM method. The rate of use of herbal products as a CAM method by infertile women has been reported in the wide range of 18.5%-84.9% in literature[11,12,14,18,22,30]. The herbal products used by infertile women include onion water, lion's claw (uncaria), yarrow, nettles, nigella, honey, figs, and carob molasses, and it has been shown that the most commonly used herbal product in Türkiye is onion water, consistent with the current study findings[18,21].

Religious methods are channels through which a cure is often sought[20,22,28]. In the current study, religious methods (prayer, amulet, visiting shrines, tombs, hodja) were the second most frequent CAM method (16.3%) used by the infertile women. Although proportionally the second most common method, the use of religious methods can be seen at higher levels in literature[11,19,20,22,28]. In a previous study of infertile women in Türkiye, it was reported that almost all the women included in the research used prayer[22] and in another study these rates were 74.7%, which were quite high compared with our study[11]. In a study conducted in Mersin, located in the Mediterranean region in Türkiye, it was reported that 13.1% of infertile women consulted a Hodja (Islamic cleric) and 55.6% visited holy tombs as a CAM method[22]. Another study conducted among infertile women in Mersin found that the leading self-management practice was praying and followed by visiting a holy tomb, and consulting a hodja[20]. It has been reported that in Istanbul 25.1% of infertile women used prayer/worship[19], in Van 46.3% visited a hodja[23], and in Lebanon, spiritual healing/prayer was used at the rate of 56.5%[28]. The most widely used self-management strategy in Sudan was reported to be reading the Qur'an and Sunna treatment provided by a Shaikh at the rate of 45.3%[13]. In a study conducted while CAM practices such as acupuncture, yoga, psychotherapy, and hypnosis may be used by infertile women, it was seen that only acupuncture was used by one woman in the current study[12,17,25,30]. These rates can be high in all societies, especially since self-directed methods such as prayer or visiting a religious site do not impose a financial burden on women.

The current study results showed that as the duration of marriage increased, there was seen to be a statistically significant increase in CAM use in those with a history of IUI and IVF. In addition, a positive correlation was determined between the number of IUI and IVF procedures

and the duration of marriage, and the duration of wanting to have a child. Previous studies in Türkiye have reported that the duration of infertility and the duration of infertility treatments in infertile women using CAM methods are longer than those of women not using these methods[21], and that there is a statistically significant correlation between the duration of infertility treatment and CAM usage status[14]. In one study, being married for longer than 7 years was associated with a higher likelihood of CAM use[28], while another showed that a longer duration of marriage significantly increased the rate of using traditional practices[27].

It has been shown in the literature that the duration of infertility is longer and the number of treatment attempts is greater in women using CAM20, that infertile women undergoing IUI or IVF procedures were more likely to be CAM users[28], and that those with a history of unsuccessful ART treatment had a greater tendency to use CAM methods[27,29]. In contrast, a study in South Korea showed that the rates of CAM use decreased as the duration of infertility treatment increased[12]. In studies of infertile women conducted in both Türkiye and South Korea, no significant correlation has been found between the status of receiving infertility treatment with IVF and CAM use[12,18].

The current study results showed that as the education level of the infertile women decreased, so there was a statistically significant increase in the rates of CAM use, but no relationship was determined between CAM use and place of residence, type of infertility, and monthly income. In a previous study conducted in the south of Türkiye, the education level of infertile women using CAM methods was seen to be statistically significantly lower and the rates of CAM use were greater in those living in villages, but no correlation was found with employment status or family income level[18]. In studies conducted in both Türkiye and South Korea[12,20] no correlation has been found between education level, employment status, and income level. There are also studies in the literature, similar to the current study, showing no relationship between CAM use and the type of infertility[12,18,21,27].

In the current study, 57.1% of the infertile women stated that they were directed to CAM methods by family, and 31.5% by friends, whereas recommendations from healthcare personnel were stated by 2%. Studies conducted in different regions of Türkiye have reported that infertile women using CAM stated the main source of information to be family and friends at the rate of 71.2%[14]; friends at 44.3% and relatives at 45.0%[18]. In other studies, in Türkiye examining how infertile women were referred to CAM, one study reported that 35.2% of infertile women using CAM were referred through media channels and 7% by healthcare personnel[21], while another study showed suggestions from family and friends at 53.1%[11]. These findings show that the biggest factor in the orientation of infertile women in Türkiye towards complementary and alternative medicine methods is family and close environment, and the guidance of health professionals is very limited.

In the current study, 20.6% of all the infertile women stated that they have benefitted from CAM methods. Of the women using CAM methods, 33.5% believed they had benefitted from CAM methods and only 4.9% stated that the CAM method used had not provided any benefit. Since this inquiry aims to assess the patients' belief in the potential benefits of CAM methods, its response may not have a concrete or tangible equivalent. In studies conducted in Türkiye 62.1% of infertile women have stated that they believed in the advantages and effectiveness of the methods[14] and 66.4% believed in CAM[18]. In another study that evaluated the attitudes of infertile women,

70.8% of the women thought that CAM methods were not effective, 16.7% stated that they would recommend CAM methods to others, and 29.2% thought that CAM methods were effective[11]. CAM methods were recommended to other women by 51.7% of infertile women in a study in Lebanon[28]. In the current study, it was seen that more of the CAM users recommended CAM to others or believed that it was beneficial. These results show that the beliefs and perceptions of infertile women towards complementary and alternative medicine methods may vary according to regional and cultural differences. Especially women who use CAM methods tend to find these methods more useful and recommend them to others.

One of the most important limitations of this study is that it was a single-center study, considering that the frequency of use of CAM methods varies widely by region. In addition, especially in the questioning regarding the use of herbal products, the method of use (such as eating, boiling and drinking water, topical application or intravaginal application) was not detailed, only the use status was questioned. In addition, the fact that the participants' answers to the questions were based on retrospective recall makes recall bias an important limitation.

CONCLUSION

In conclusion, in this study, it was found that infertile women used CAM methods at a high rate and herbal products were the leading method in terms of prevalence of use. Considering the high prevalence of CAM methods and their potential effects on treatment outcomes, infertile women must be evaluated multidimensionally, including detailed questioning about CAM methods.

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