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Knowledge and Perception about Oocyte Donation in a Semirural Region of Turkey

Türkiye'de Yarı-Kırsal Alanda Yumurta Bağışı Konusundaki Bilgi ve Tutum

Bahar Uslu[1], Murat Özekinci[2], Mehmet Sakıncı[2], Selçuk Tunik[3], Güneş Özdoğan[4], Neslihan Coşkun[5], Gülistan Sanem Sarıbaş[5], Ece Ordueri[6], Mostafa Ashrafi Osalu[7], Neriman Turan[8], Yeşim Şenol[9]

[1]Department of Ob/Gyn, Yale School of Medicine, New Haven, USA
[2]Department of Ob/Gyn, Akdeniz University School of Medicine, Antalya, Turkey
[3]Department of Histology/Embryology, Dicle University School of Medicine, Diyarbakır, Turkey
[4]Department of Histology/Embryology, İstanbul University Cerrahpaşa School of Medicine, İstanbul, Turkey
[5]Department of Histology/Embryology, Gazi University School of Medicine, Ankara, Turkey
[6]Department of Histology/Embryology, Akdeniz University School of Medicine, Antalya, Turkey
[7]Department of Histology/Embryology Dokuz Eylül University School of Medicine, İzmir, Turkey
[8]Social Science Institute, Ankara University, Ankara, Turkey
[9]Department of Public Health, Akdeniz University School of Medicine, Antalya, Turkey

Abstract

Objective: To evaluate the general knowledge and perception of people living in a semi-rural area of Turkey where oocyte donation is currently illegal and to explore decision-making factors around the adoption of oocyte donation.
Methods: This is a descriptive study of 320 participants who were selected using a cluster sampling method from two districts in Antalya, a migrant city heavily populated with Turkish people from other provinces. A standardized survey was administered by post-doctoral degree researchers during face-to-face interviews to capture participants' responses.
Results: The majority of participants reported that they did not know what oocyte donation was and were not able to correctly define it. Among those who reported knowing nothing or not knowing what oocyte donation was, once informed, almost half stated that donation should be legal in the presence of medical problems. The statement "oocyte donation could be performed in the presence of medical problems" was significantly more agreeable to participants under the age of 40 years than to those over the age of 40 years, to those who were single or widowed than to those who were married, to those had moderate income levels than to those who had low income levels, and to those who were more educated than to those who were less educated.
Conclusion: In our study, support for the statement "oocyte donation should be legal in cases of medical necessity" was significantly influenced by demographic and descriptive factors such as sex, age, marital status, education, and income level among people living in a semi-rural Turkish region.
Keywords: Oocyte donation, infertility, Turkey, semi-rural region

Öz

Amaç: Çalışma yumurta bağışının henüz yasal olmadığı Türkiye'de, yarı-kırsal bir alanda, halkın yumurta bağışı konusundaki genel bilgilerini ve tutumlarını değerlendirmek, yumurta bağışının benimsenmesini etkileyen etmenleri araştırmak için yapılmıştır.
Yöntemler: Çalışma tanımlayıcı bir araştırma olup Türkiye'nin diğer illerinden çokça göç alan bir şehir olan Antalya'nın küme örnekleme yoluyla 2 farklı mahallesinden seçilen toplam 320 katılımcıyla gerçekleştirilmiştir. Standart olarak hazırlanmış anket araştırmacılar tarafından yüz yüze görüşülerek uygulanmış ve katılımcılarca cevaplandırılmıştır.
Bulgular: Katılımcılardan çoğu yumurta bağışının tam olarak ne anlama geldiğini bilmezken, yumurta bağışının ne anlama geldiğini yanlış bilen ya da hiç bilmeyen katılımcılara anlatıldıktan sonra çoğu tıbbi sorun varlığında yumurta bağışının serbest olmasını belirtmişlerdir. 'Tıbbi sorun varlığında yumurta bağışı yapılabilmelidir' ifadesine kadınlar erkeklere göre; 40 yaş altı kişiler, 40 yaş üstüne göre; bekar ve dul olanlar, evli olanlara göre; orta gelir düzeyine sahip olanlar, alt gelir düzeyine göre ve daha eğitimli grup, az eğitimli gruba göre istatiksel olarak anlamlı derecede daha fazla 'katılıyorum' yanıtı vermiştir.
Sonuç: Çalışmamızda yarı-kırsal bir alanda yumurta bağışının tıbbi gereklilik durumlarında serbest olmasını savunanların oranının cinsiyet, yaş, medeni durum, eğitim durumu ve gelir durumları gibi demografik verilerden belirgin şekilde etkilendiği görülmüştür.
Anahtar kelimeler: Yumurta bağışı, kısırlık, Türkiye, yarı-kırsal alan

INTRODUCTION

In recent years, despite the rapid development of technologies related to assisted reproductive technics, infertility continues to be an unsolved problem for some patients.

One of the reasons for infertility is the depletion of ovarian reserve due to premature ovarian failure, and some others are related to the factors associated with uterine cavity. At present, "the gamete or oocyte donation" or "the surrogate motherhood" concepts have become solutions.

Correspondence Author/ Sorumlu Yazar: Bahar Uslu **E-mail/E-posta:** bahar.uslu.md.phd@gmail.com
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This situation gives rise to debate on legal, medical and ethical, religious, and moral issues (1).

The first and more often used intervention to solve the problem is assisted reproduction technics such as oocyte transplantation. During menopause, because women are not able to produce oocytes, an oocyte needs to be taken from a woman who is young, healthy, and fertile. The procedure is completed with the transfer of the spouse's sperm to fertilize the oocyte and transfer of the embryos to the prospective mother (2).

Oocyte donation is mostly applied for the group of patients with terminated ovarian functions, i.e., menopausal or ovariectomized patients.

Other patient populations are women with genetic disease or women who have received chemotherapy or radiotherapy at a young age. In such patients, the ovaries do not respond to pharmacological treatment with follicle developer drugs. In addition, patients who have experienced recurrent miscarriages because of chromosomal abnormalities are good candidates for treatment by oocyte transplantation.

Studies in donation matter, while some groups against to oocyte transplantation some groups agree (3-5).

The world's first pregnancy with oocyte donation was reported in 1983. Since then, there have been different applications and various regulations on the issue worldwide (6). Although oocyte donation is legal in most European countries and the United States of America at present, it is still prohibited in Turkey (7).

Despite being banned in Turkey, there is huge demand for oocyte donation, and couples go abroad for this procedure. Although no national data were available in our country, in Belgium, in 1999, it was the reported that worldwide, 60% of the couples had children with oocyte donation (8).

The age of the woman to whom the oocytes will be transferred is not a limiting factor for the success rate (2). Therefore, women of all ages may have children with oocyte donation. In oocyte donation, the number of unsuccessful previous attempts does not affect the success of the next practice. In contrast, in regular IVF treatment, after three failed attempts, the success rate drops dramatically. This decline is not observed in oocyte donation (6).

In the last 10 years, the number of children born via gamete donation has rapidly increased worldwide. In experienced clinics, clinical pregnancy rate per cycle of donation has reached 70%. In all probability, oocyte donation treatments have a higher success rate than cycles where a woman's own oocytes are used (6).

Oocyte donation can be an alternative method to adoption. In oocyte donation, embryo's half pair genetic material can be obtained from the couples. In addition, the mother can ensure her environmental field to the embryo. The mother can experience pregnancy from the beginning to the end and develop familiarity with the baby during breastfeeding. These features are not experienced in the process of adoption.

Based on all this information, we aimed to investigate the general perception and attitudes of Turkish women toward oocyte donation. Revealing the current situation is important to develop laws and regulations on oocyte donation. Moreover, there are limited data on the current topic; thus, it is necessary to highlighting the patient perspective for both medical and legal practice (5, 9-15).

METHODS

Research Group

This descriptive study was conducted in the central region of Antalya City in July 2012. Antalya has a population of 2,043,432 million, according to National Statistical Department (2012) data. In total, 1,088,004 of these are located in the central region. Consent was obtained from the local ethics committee for the study. The research population consisted of individuals from both genders and over the age of 15 years. In total, 320 individuals who agreed to participate in the study were chosen using the cluster sampling method from the two districts. Our data sampling covers 0.03% of the population in the region. In total, 16 clusters were created in this study, including 20 people in each cluster. The starting point of the clusters was in the first house on the streets, determined randomly. This sampling method may be more practical and economical than simple random sampling or stratified sampling. The questionnaires were read out and the data were compiled face to face with the participants by expert university researchers. The interviewers were trained and given standard written instructions to explain oocyte donation to participants. All individuals approached agreed to participate via a participant agreement form in the study.

Questionnaire

The questionnaire form consisted of 10 structured questions to determine the characteristics of individuals participating in the study, some of their views, and their opinions and information about agreement or disagreement with oocyte donation. A yes/no questionnaire was preferred to see strong separation poles. A no idea/not sure option was not added because of explanation by post-doctoral researchers. The questionnaire was prepared, validated, interviewed, and tested by faculty of Medicine Health Care Department of Akdeniz University. Data of rejection and response rate to participation were not collected.

Written informed consent was obtained from patients who participated in this study. Ethics committee approval was received for this study from the local ethics committee of Akdeniz University.

Statistical Analysis

Data were evaluated using Statistical Package for the Social Sciences (SPSS; IBM, Los Angeles, USA) 11.0 statistical program. X^2 test and backward stepwise logistic regression analysis were used to assess factors affecting the adoption having children with oocyte donation in the presence of a medical problem. $\alpha \leq 00.5$ was considered statistically significant.

In age grouping, a group of individuals under the age of 40 years and another group of individuals aged 41 years and above were created. During X^2 analysis, for the marital status "single and divorced," "widowed and separate lives" options were combined in a single group. In the income group, "middle and upper" levels of incomes were combined as well. This grouping was done on the basis of personal perceptions. For education level analysis, "illiterate and primary school" options were combined. For the other questions, "I don't know and

Table 1. General characteristics of the participant

	n	%
Area		
1. Safak	80	25.0
2. Santral	240	75.0
Gender		
Female	148	46.3
Male	172	53.8
Marital status		
Married	224	70.0
Single/widow	96	30.1
Income level		
Low	63	19.7
Medium	238	74.4
High	19	5.9
Educational level		
Illiterate	16	5.0
Primary school	105	32.8
Secondary school	52	16.3
High school	59	27.8
University	58	18.1

undecided" options were analyzed and merged with "no" responses. For the choice "in the presence of medical problems, having children with oocyte donation may be possible," logistic regression analysis was used to identify factors that affected the answers. Age, gender, marital status, income level, education level, and infertility problem considered in the model as categorical variables.

RESULTS

Socio-Demographic Information

Of all the participants involved in the study; 46.3% were women and 53.8% were men. The mean age of women was 37.6±13.4 years and that of men was 37.2±13.3 years. In total, 70% of respondents were married, 74.4% were middle-income, and 32.8% had primary school or lower education levels. General characteristics of the participants are presented in Table 1.

Knowledge of, and Attitudes to, Oocyte Donation

The level of knowledge regarding oocyte donation, in condition of their neighborhoods having a child with oocyte donation, and answers to questions related to the infertility problem are presented in Table 2. In total, 66% described the problem of infertility by themselves.

Table 2. Participants' knowledge about oocyte donation/presence of friends or relatives who had oocyte donation/presence of infertility in their cycle or themselves

	Yes		No	
	n	%	n	%
Having knowledge about oocyte donation	106	33.1	214	66.9
Presence of friends or relatives who had oocyte donation	5	1.6	315	98.4
Presence of infertility in their circle or themselves	21	6.6	299	93.4

Table 3. Comparison of the attitudes regarding oocyte donation

	Agree		Disagree	
	n	%	n	%
I would share the information with friends and family if my child is born as a result of oocyte donation	169	52.8	151	47.2
Adoption is better than oocyte donation	136	42.5	184	57.5
Infertility is only women's problem	29	9.1	291	90.9
Only the physician or spouse should be informed about oocyte donation	169	52.8	151	47.2
Children should never be informed that they were born via oocyte donation	172	53.8	148	46.3
Oocyte donation should be performed only when there is a medical reason	139	43.4	181	56.6

The distribution of participants' attitudes about oocyte donation is presented in Table 3.

While 52.8% of respondents chose "no friends and family told" in response to having children through oocyte donation, 42.5% of participants responded "adoption is better than having kids with oocyte donation." Having children with oocyte donation only in case of a medical condition was chosen by 43.4% of responders. Except for "only oocyte donation can be acceptable if there is any medical condition," all the other answers given to questions about knowledge and attitudes did not show any significant relationship by gender. The relationship of the groups agreeing and not agreeing to having children with oocyte donation in the presence of medical conditions with the independent variables is summarized in Table 4.

A high agreement rate to the phrase "oocyte donation should be performed if there is a medical condition" was observed. The factors associated with the approval rate are shown in Table 4. Female gender, younger age (under 40 years), marital status (single), middle-higher

Table 4. Comparison of the approval for oocyte donation in the presence of medical conditions on the basis of demographic characteristics

	Agree		Disagree			
	n	%	n	%	p	Odds rate (95% confidence interval)
Gender						
Female	74	50.0	74	50.0	0.028	1.757 (1.069–2.886)
Male	65	37.8	107	62.2		
Age						
Under 40 years	111	52.6	100	47.4		
41 years and over	28	25.7	81	74.3	<0.0001	1.060 (1.036–1.086)
Marital status						
Married	79	35.3	145	64.7		
Single/widow	60	62.5	36	37.5	<0.0001	1.821 (1.237–2.118)
Income level						
Low	15	23.8	48	76.2		
Medium/high	124	48.2	133	51.8	<0.0001	2.885 (1.473–5.649)
Educational level						
Illiterate/primary school	40	33.1	81	66.9		
Secondary school and higher	99	49.7	100	50.3	0.003	1.087 (0.635–1.859)

income, and higher education level were significant determinants for accepting oocyte donation rates in the presence of medical conditions.

DISCUSSION

When the characteristic of the study area is analyzed and questioned for the research sample received, we can see that lower- and middle-income individuals are more and approximately one-third of them are illiterate or primary school graduates. Two regions were parallel in terms of demographical data. In a similar study, Isikoğlu et al. (16) studied 400 participants who had similar level of education in the same city.

Most respondents in this study were not familiar with oocyte donation. Although oocyte donation is not legal and even recommendation by doctors is forbidden in the country, one of three responders (33.1%) knew and were able to define oocyte donation exactly. In a previous study conducted in the same region (16), knowledge was 29.73% in women, 30.3% was for men; i.e., the rate was very close to our finding. About 20 years ago, a study associated with oocyte donation was conducted in England, and the awareness rate was over 80% (14). After explaining oocyte donation, and the confirming; the most important factor has emerged as the existing medical necessity, being free of oocyte donation. In oocyte donation subjects, the medical requirements are diminished ovarian reserve in women (after chemotherapy or radiotherapy or genetically), numerous trials of previous failed assisted reproduction treatment, or presence of treated genetic disease. In the presence of such a medical condition, nearly half of the participants denoted that oocyte donation should be free. In our study, we observed attitudes characteristic to the Turkish society in general; the presence of a medical condition for oocyte donation, female gender, being included in the 40 year age group, and high levels of income and high education were significant determinants. Yet, in many countries in the world, without medical necessity (among homosexuals as well as heterosexuals), having children through gamete donation optionally is legal, supported, and acceptable by a certain segment of society in England and Wales (17). The most important reason is considered that it can stem from social, cultural, religious, socio-economic, and educational differences between countries in the laws and opinions (7). In our study, although gamete donation is not legal in our country, to the question "oocyte donation should not be performed under any circumstances," 16.9% of the participants agreed, 15.9% were undecided, and 67.2% disagreed. This situation shows a positive outlook toward oocyte donation even in semi-rural areas of the country. When we examined the profile of 43.4% who answered that "oocyte donation should be performed only in the presence of medical conditions," we saw that it includes the individuals who are under 40 years of age, single, and middle- and upper-income and have a higher level of education. These individuals are characterized by high awareness, relatively far from the Turkish traditional nuclear family structure, are more integrated with the world, and have other talents and interests besides having children. In our study, more than half of participants stated that "If I have children via oocyte donation, I would keep it confidential from friends or relatives; and only doctors and my spouse need to know about it." More than half of the participants considered that if they have children via oocyte donation, the children would not need to know about it at any time. This

hiding trend could be because of social stigma reasons. In another study conducted in Turkey, it was shown that because of social pressure, infertility can lead to a sense of worthlessness and inadequacy in couples and is considered a social problem (18). Yet, in the western society, the subject on disclosure of donors and recipients or keeping this information open is still seen as an increasing attitude and behavior (19, 20). In some studies, the same subjects were examined, but the attitudes, behaviors, and elements of religion were at the forefront (4, 13, 16, 21-23). In our study, that's why majority of the society is already Muslim, thinking socio-economic and social outlook a bit more important, we choose to ignore the religious element and we did not ask any question related to this issue. We do not have enough information on whether oocyte donation was rated with the same social factors or was it the actual medical rate provided by the group if their relatives did not have children through oocyte donation (98.4%). We think that the ratio of the group indicating that their relatives were not receiving oocyte donation treatment (or they did not know) was high, might be acquired more rational and objective perspective to such treatment, with another aspect. Again, in the same manner, a high rating of the group indicates that they did not have infertility problem themselves and the failure in statistics comply with the possibility that the rate of couples experiencing infertility problems in general is due to cultural reasons. A tendency to hide infertility problems among people can be explained by social stigma as well (18). In our study, conflicting with traditional ways of thinking, a higher ratio of 57.5% stating that a more accurate way of oocyte donation is to adopt was a surprising finding. This situation may be explained in several ways: one of them is conventional thinking about their son carrying their genetic characteristics and their lineage being more like-minded, and the others are conditions encountered in Turkey's adoption laws drawn with sharp boundaries and difficulties (24). In addition, the emotional dimensions and satisfaction of being pregnant and breastfeeding element are other factors. Despite being from a semi-rural area, a fairly high rate of participants did not agree that "infertility is the only women's problem," indicating their awareness and suggesting the beginning of breaking the patriarchal structure. When questioned about sharing information with third parties when receiving oocyte donation treatment, the percentages of individuals who agreed and did not agree with "only doctors and patients' spouses should know" were very close to each other. It can be explained by the extended family structure and the family members connected to each other with deep ties. Half of the participants did not agree with informing children about this treatment. These results may stem from cultural factors or may be caused by attitudes and behaviors to protect the psychology of children in the future.

CONCLUSION

Our results show that the Turkish society supports oocyte donation, particularly if there is a medical condition. Although offering by doctors is not legal in the country, the respondents knew about the subject, which is promising.

There were some limitations in the present study. The first is the possibility of error because of our cluster sampling method, which we chose because of its advantages in terms of implementation. This method is lesser representative than other methods such as simple random or systematic sampling, although a large sample was selected to decrease the possibility of bias.

Ethics Committee Approval: Ethics committee approval was received for this study from the ethics committee of Akdeniz University/B.30.2.AKD.0.20.05.056.

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