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Public opinion regarding oocyte donation in Turkey: first data from a secular population among the Islamic world

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INTRODUCTION: We aimed to reveal the general attitudes of Turkish people toward various aspects of oocyte donation. METHODS:This descriptive study was carried out in two separate districts of a large Turkish city. Four hundred participants were chosen by cluster sampling methods. The questionnaires were performed by 4th year medical students face to face with the participants. RESULTS: The participants consisted of 232 women (58%) and 168 men (42%); 65% were married, 5% were divorced; 64% had children, 15 (4%) had infertility problems, 263 (66%) were graduates of high school or university; 269 (67%) considered themselves religious. Only less than one-third of the respondents actually knew what oocyte donation meant. Approval of oocyte donation was high in our study sample. Only 61 (15%) respondents showed complete objection to oocyte donation and more men were in favour than women. Less than half of the participants thought that their religion would prevent oocyte donation if they needed it. More than half of the participants would prefer the use of oocyte donation treatment rather than adoption of a child. CONCLUSION: This is the first report on the attitudes towards oocyte donation from a country having a secular constitution and whose population is mainly Muslim. The most important conclusion to be drawn from the present study is the fact that most of the participants did not have any objection to oocyte donation treatments.

Key words: oocyte donation/public survey/third party reproduction

Introduction

Since the birth of the first test tube baby in 1978 (Steptoe and Edwards, 1978), assisted reproduction treatment has evoked a great deal of interest among the public as well as the medical profession. There are a number of different assisted reproduction modalities, some of which involve a third party as a gamete source, embryo source or even as a carrier of pregnancy. Third party assisted reproduction treatment has been one of the more contentious issues surrounding assisted reproduction, eliciting active debate within many societies with regard to its moral, ethical and religious implications (Serour, 1995).

Oocyte donation may be a treatment option for women having had cancer treatment, women with premature ovarian failure, peri- and post-menopausal women, women who are known carriers of a gene for serious X-linked disorders and autosomal conditions, women with poor oocyte and/or embryo quality or multiple failures during prior attempts to conceive by means of assisted reproduction treatment (American Society for Reproductive Medicine, 2004).

There are various regulations and a diverse spectrum of practices with regard to ED in different countries, with some countries practising without any guidelines or regulations (Jones and Cohen, 2001). Third party reproduction is forbidden by Turkish legislation (http://www.saglik.gov.tr/default.asp?sayfa=mevzuat&cid=3. item no:8), forcing infertile Turkish couples requiring third party treatment, to participate in the assisted reproduction 'tourism trade', requiring them to travel to another European country to receive treatment. Since legislation is mostly based on the socio-ocultural status of the society, one of the first steps in the process of constructing or modifying the regulations is to determine the society's opinion. Information on public attitudes towards oocyte donation is, however, severely lacking with only a few studies addressing the issue (Alder *et al*., 1986; Sauer *et al*., 1988; Lessor *et al*., 1990; Oskarsson *et al*., 1991; Pettee and Weckstein, 1993; Kazem *et al*., 1995; Chliaoutakis *et al*., 2002; Azimaraghi and Stones-Abbasi, 2004). Most of these studies are of limited value, because of sample and methodology shortcomings. As yet there are no studies reflecting the public opinion of Turkish people toward oocyte donation.

In all societies there are conflicting, and at times controversial, opinions with regard to practices that contain a religious element. Although there are supporters of the opinion that any kind of third party reproduction is not acceptable in Islam (Serour and Omran, 1992), there are reports revealing that oocyte donation has been practised with no objection in

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Islamic populations (Schenker, 1985; Azimaraghi and Stones-Abbasi, 2004).

Because of the lack of published data on the attitudes of Islamic people toward oocyte donation, we conducted this study to reveal the attitudes of Turkish people towards various aspects, religious and other, of oocyte donation, in an effort to contend with current legislation restricting third party assisted reproduction treatment in Turkey.

Materials and methods

This descriptive study was carried out in June 2004 in two separate districts of the city of Antalya. The first district was an urban area with higher socioeconomic status and the second district was a rural area with lower socioeconomic level. Two hundred participants (>18 years old) from each of the two districts were chosen by cluster sampling method. Cluster sampling is a technique where the population is divided into groups, or clusters, and a random sample of these clusters is selected. This sampling technique may be more practical and/or economical than simple random sampling or stratified sampling (Bennett *et al*., 1991).

The study population consisted of 40 clusters each containing 10 individuals. Starting points of the groups (clusters) were based on the household determination files. The questionnaires were read out and the data were compiled by 4th year medical students face-to-face with the participants. The interviewers were trained by an IVF practitioner and given standard written instructions to explain oocyte donation to respondents. A pilot study with a sample of 40 individuals was conducted prior to the present study in order to verify that the questions were easily comprehensible. A questionnaire form which was previously used by another group (Azimaraghi and Stones-Abbasi, 2004) was modified according to the conclusions of the pilot study and subsequently used in the present study.

The questionnaire form consisted of three parts. Part I contained questions to determine the general characteristics of the participants. Part II contained questions to reveal the general knowledge of the participants about 'oocyte donation' and attitudes about 'oocyte donation'; in Part III the participants selected the conditions in which 'oocyte donation' is thought to be acceptable in their opinion.

χ^2- and trend χ^2-tests were used for the statistical analyses of the data and $\alpha < 0.05$ was considered statistically significant. The study was approved by the ethics committee of Antalya IVF.

Results

Sociodemographic information

All individuals approached agreed to participate in the survey. A total of 400 respondents constituted the study group, 232 (58%) women and 168 (42%) men. The mean age of the women was 34.08 ± 10.97 and 34.19 ± 12.15 years for the men. All respondents were Muslim; 170 (73. %) of the women and 99 (59%) of the men considered themselves religious. Education levels of the men were significantly higher than that of the women ($P < 0.05$). General characteristics of the participants are shown in Table I.

Knowledge of, and attitudes to, oocyte donation

Results indicating knowledge of, and attitudes to, oocyte donation are shown in Table II. Most respondents were not aware of oocyte donation. No difference in the level of knowledge was found between men and women. When knowledge about oocyte donation was analysed according to education level, it was noted that increased education levels were associated with increased knowledge ($P < 0.01$). Knowledge about oocyte donation was 44.5-fold higher in university graduates compared with the illiterate group (Table III). Only one respondent reported that a relative had had oocyte donation treatment.

Thirty (7.50%) of the respondents had encountered infertility problems themselves, while 273 (68.25%) were fertile and the remaining did not know their fertility status. Women and men did not show any difference regarding fertility status.

Most of the women and men reported that if they had had a child by oocyte donation they would have told their friends and relatives. There was no significant difference in the response between women and men with regard to this question.

More than half of the women and nearly two-thirds of the men thought that their religion would allow oocyte donation. More men than women approved of oocyte donation ($P < 0.05$). More than half of the respondents thought that oocyte donation was a better option than adoption. There was no significant difference between women and men with regard to this opinion. Both women and men agreed that infertility was not necessarily the woman's problem only. Nearly half the women and the men thought that childlessness would have an impact on the relationship with their spouses. The response by women and by men regarding childlessness was similar. Nearly half of the respondents did not think that the donor had any legal rights to the child. Only 12.5% of the women and 14.9% of the men thought that the donor may have the right to claim the child.

The vast majority of the respondents thought that if people needed oocyte donation, knowledge of the treatment should be restricted to the man, the woman and the doctor and that the child should never be informed.

The majority of the participants thought that genetics play some part in what we are, but that the way we are brought up (environmental influence) was more important. Significantly more men were convinced of this ($P < 0.05$). Most of the respondents also thought that it is possible for a mother or father to love an oocyte donation child as much as a genetic child.

Table I. General characteristics of the participants

	Women (n = 232)	Men (n = 168)
Marital status		
Married	160 (68.96)	99 (58.92)
Single	58 (25)	63 (37.5)
Divorced	14 (6.03)	6 (3.57)
Had children	160 (68.96)	96 (57.14)
Education level		
Illiterate	15 (6.46)	0
Primary school	78 (33.62)	44 (26.19)
High school	95 (40.94)	78 (46.42)
University	44 (18.96)	46 (27.38)

Values in parentheses are percentages.

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Table II. Background knowledge and attitudes about oocyte donation

	Women	Men
Do you know what 'oocyte donation treatment for infertility' means?		
Yes	69 (29.74)	51 (30.35)
No	93 (40.08)	61 (36.31)
Not too sure	70 (30.17)	56 (33.33)
Have any of your relatives had oocyte donation treatment?		
Yes	1 (0.43)	0 (0.00)
No	163 (70.25)	113(67.26)
Don't know	68 (29.31)	55(32.73)
Do you personally have any infertility problems?		
Yes	20 (8.62)	10 (5.95)
No	163(70.25)	110(65.47)
Don't know	49(21.12)	48(28.57)
If you had an oocyte donation child, would you tell your close friends and family? Yes	138(59.48)	99(58.92)
No	57(24.56)	35(20.83)
Don't know	37(15.94)	34(20.23)
Would your religion prevent oocyte donation if you need it (in your opinion)?		
Yes	103 (44.39)	58 (34.52)
No	129 (55.60)	110 (65.47)
Do you believe that it is better to adopt a child than to try and have one via oocyte donation?		
Yes	107 (46.12)	76 (45.23)
No	125 (53.87)	92 (54.76)
Do you believe that the infertility is a 'woman's problem'?		
Yes	6 (2.58)	9 (5.35)
No	204 (87.93)	135 (80.35)
Don't know	22 (9.48)	24 (14.28)
If you (your wife) would remain childless do you think that it would have an impact on your relationship (if not married, just make an assumption)?		
Yes	118 (50.86)	81 (48.21)
No	69 (29.74)	56 (33.33)
No comment	49 (21.12)	31 (18.45)
'Recipients are usually concerned about whether a donor might try to find the baby and claim it, as her baby'. Do you think the donor has the right to do so?		
Yes, that's her baby	29 (12.5)	25 (14.88)
Not too sure	86 (37.06)	68 (40.47)
No, its not her baby	114 (49.13)	75 (44.64)
'If people need oocyte donation, the treatment should be only kept between man and a woman and a doctor'		76 (45.23)
Strongly agree	90 (38.79)	52 (30.95)
Agree	93 (40.08)	32 (19.04)
Disagree	38 (16.37)	8 (4.76)
Strongly disagree	11 (4.74)	
'A child should never know that it is born as a result of oocyte donation'		
Strongly agree	77 (33.19)	67 (39.88)
Agree	64 (27.58)	38 (22.62)
Disagree	65 (28.01)	46 (27.38)
Strongly disagree	26 (11.21)	17 (10.11)
'I think that genetics play some part in what we are, but the way we are brought up (environmental influence) is more important'		
Strongly agree	68 (29.31)	62 (36.90)
Agree	137 (59.05)	76 (45.24)
Disagree	19 (8.19)	22 (13.09)
Strongly disagree	8 (3.45)	6 (3.57)
'I think it is possible for a mother or father to love an oocyte donation child as much as a genetic child'		
Strongly agree	107 (46.12)	80 (47.62)
Agree	97 (41.81)	54 (32.14)
Disagree	20 (8.62)	27 (16.07)
Strongly disagree	6 (2.59)	5 (2.97)

Values in parentheses are percentages.

Conditions in which oocyte donation is thought to be acceptable by the participants

Only 61 (15.25%) respondents showed complete objection to oocyte donation. One hundred and ninety two (82.76%) women and 147 (87.5%) of the men thought that 'oocyte donation' was acceptable at least under one of the conditions proposed. Approval of oocyte donation did not show any statistically significant difference ($P > 0.05$) between fertile (82.3%) and infertile (86.7%) individuals.

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Table III. Analysis of knowledge about oocyte donation according to education level

	No	Yes	Odds ratio
Illiterate	12 (92.3)	1 (7.7)	44.57
Primary	69 (73.4)	25 (26.6)	10.25
High school	59 (58.4)	42 (41.6)	5.22
University	14 (21.2)	52 (78.8)	1

Values in parentheses are percentages.

Discussion

Reproductive choice is basically a decision made by an infertile couple, but the process of having an assisted reproduction technology baby is decided by society through legislation. Legislation is based on the sociocultural and religious stature of the society, as well as on its ethical and moral values. This legislation, without the necessary consultation and education of society, prohibits certain reproductive treatments. To challenge and rewrite such legislation it is essential to examine and record the attitude of society towards these contentious issues. For this very reason we have examined the attitudes of Turkish people toward various aspects of oocyte donation.

Less than than one-third of the participants had any general knowledge pertaining to oocyte donation, and its role in the treatment of infertility. This proportion was much lower than that found by Kazem *et al*. (1995) (>80%). The interviewers were given standard written information on oocyte donation. This information was related to the respondents prior to answering further questions.

Our results showed a high level of approval for oocyte donation. Only 61 (15.25%) respondents showed complete objection to oocyte donation, and although both genders expressed positive attitudes, more men than women were in favour. This finding with regard to gender difference is in accordance with the results of previous reports (Lessor *et al*., 1990; Kazem *et al*., 1995). Although Sauer *et al*. (1988) reported contradictory findings, their sample was drawn from infertile couples only, which may have biased their opinion (Sauer *et al*., 1988).

In Turkey, the social status of a woman, her dignity and self-esteem, are closely related to her procreation potential. The strong family-based culture of Turkish society makes infertility a very public problem for an infertile couple, so an inability to have a child may cause a feeling of inadequacy and worthlessness (Guz *et al*., 2003). These social pressures to procreate may give rise to the development of certain psychiatric symptoms, such as poor self-esteem, grief, depression, marital distress and somatic symptoms, in the female partners of infertile couples. This social blame may also give rise to the threat of divorce or having a fellow wife (Guz *et al*., 2003). In their study, 10% of the infertile women reported negative reactions from their partners while 26% of them had negative reactions from their partners' families.

Almost 98% of the population in Turkey are muslim (http://www.die.gov.tr/ ENGLISH/index.html). Since Turkey is a secular country, the civil and religious laws are separate from each other. According to the law enforcement act on assisted reproduction treatment, all third party reproduction is strictly banned and treatment is only allowed in married couples (http://www.saglik.gov.tr/default.asp?sayfa=mevzuat&cid=3.item no:8). The law was created by a committee established by the ruling government without the necessary consideration for, or consulation with, couples requiring third party reproduction. Two fears were integral to the decisions made by the committee: the fear produced by the incomprehension of new technology and the religious issues of a country with a predominately Muslim culture.

There are publications in the literature addressing the often controversial and emotive religious perspective of oocyte donation (Schenker, 1985, 1997; Pettee and Weckstein, 1993; Serour, 1993; Fasouliotis and Schenker, 1999), but most of these studies are either not population-based (Schenker, 1985, 1997; Serour, 1993; Fasouliotis and Schenker, 1999) or are based on small participant samples (Pettee, 1993). The validity of their conclusions on public opinion may therefore be questionable. Our study differs from those since it directly reflects public opinion. In our study, less than half of the participants thought that their religion would prevent oocyte donation if they needed it. This questions the opinion expressed in other studies that third party reproduction is not acceptable to Islam (Serour and Omran, 1992). Furthermore, more than half of the participants reported that they would prefer the use of oocyte donation treatment above that of adopting a child. It has, however, been stated that Islam is a flexible religion adaptable to necessities of life, and what is unethical in one situation may become ethical in another situation or at another time (Serour, 1993). Alternative solutions are welcomed as long as they do not conflict with the spirit of its primary sources and are directed to the benefit of humanity (Serour, 1991).

In the Quran, the importance of marriage, family formation and procreation are clearly stated (Holy Quran, Sura Al Shura; Holy Quran, Sura Al-Nahl; Holy Quran, Sura Al-Ra'd). Importantly, third party reproduction (oocyte donation) is not related to a sexual relationship, hence does not interfere with the marriage contract and in addition may prevent social conflicts within the family and society. Although sperm donation is not practised in any of the Islamic countries (Schenker, 1985), oocyte donation is practised in Iran—a country which is directed by the Sharia rules (Islamic law which regulates everyday activities of life to be adhered to by good Muslims), clearly indicating that there is diversity of thought even in countries with Islamic rule. Interestingly oocyte donation is permitted in less than one-third of 39 European countries practising assisted reproduction treatment, but sperm donation is allowed in 24 of the countries (Schenker, 1997).

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Only one woman in our study reported that one of her relatives had had oocyte donation treatment. The response to this question may contain an inherent bias, as respondents may not know whether any of their relatives have had third party infertility treatment.

It is not always possible to assume that the results of a questionnaire correctly reflect the attitudes of the whole population, but we feel our sample's characteristics are appropriate and may therefore be a true reflection of the population. Antalya is one of the largest and fastest growing cities in Turkey, its growth is dominated by the migration of people from the other regions of Turkey, according to the last census conducted in 2000 (http://www.die.gov.tr/yillik/03_Nufus.pdf). The population from which our sample was drawn may therefore contain the necessary socioeconomic and cultural diversity required to validate the expression of recorded public opinion.

The existing studies on oocyte donation in non-Islamic (Alder *et al*., 1986; Sauer *et al*., 1988; Lessor *et al*., 1990; Oskarsson et al., 1991; Kazem *et al*., 1995; Chliaoutakis *et al*., 2002) and Islamic countries (Azimaraghi and Stones-Abbasi, 2004) have also shown that general societal attitude toward oocyte donation is favourable. Most of these studies are subject to some methodological shortcoming, only including women (Alder *et al*., 1986) or infertile couples (Sauer *et al*., 1988; Oskarsson *et al*., 1991) in the studies, while others looked at oocyte donation between siblings or sisters (Sauer *et al*., 1988; Lessor *et al*., 1990). Internet-based studies are subject to the inherent sample bias of education and access (Azimaraghi and Stones-Abbasi, 2004; Sakyiama and Stones-Abbasi, 2004).

In their survey, Alder *et al*. (1986) showed that 79% of the women of reproductive age would themselves be willing to donate oocytes for research. In another study, 66% of the respondents were found to be willing to donate an oocyte to a sibling or 41% to a stranger, (Genuis *et al*., 1993). Two studies were conducted utilizing samples from both fertile and infertile men and women (Kazem *et al*., 1995; Chliaoutakis *et al*., 2002). In the study by Kazem *et al.* (1995) the responses from a relatively small number of participants showed that nearly 91% of the individuals thought that oocyte donation was an acceptable treatment modality. Chliaoutakis *et al.* (2002) conducted a questionnaire study utilizing a self-report method and showed that the acceptability of receiving and donating oocytes was 48.7 and 50.8% respectively. In our study, 85% of the participants approved oocyte donation treatment under at least one of the proposed conditions. The outcomes of most of these studies therefore only provide speculative answers, which cannot be extrapolated as popular opinion. It may be the subject of future multicentre studies to examine how the inherent cultural characteristics (including religion) affect public opinion.

In our study, a medical reason such as cancer treatment was the most commonly accepted condition (80.5%) (Table IV) for oocyte donation. Contrary to the Iranian study in which 57% of the participants were reported to be against oocyte donation being used for those who are infertile due to age (Azimaraghi and Stones-Abbasi, 2004), infertility due to age was the second most approved condition in our study (64.8%) followed by inherited medical (or mental) problems in the family (49.3%) and having a previous disabled child (46.8%). Approval of oocyte donation showed no statistically significant difference between fertile and infertile individuals. Although our sample size of infertile respondents was small, this response was contrary to the findings of Kazem *et al*. (1995).

The recipient in oocyte donation treatment is the uterine mother even if the offspring is not related to her genetically. Both partners in this situation contribute to the process of childbearing, contrary to the donor sperm situation where the male partner does not contribute. That is why we chose oocyte donation as the topic instead of sperm donation, as it may present fewer controversial issues.

Legislation on ethical matters illustrates the uneasy mix of ethics and politics. Although the majority has the political right to express its moral views in the law, a number of more important ethical values urge the majority to take the minorities' position into account (Pennings, 2004).

Infertile couples travelling abroad for oocyte donation treatment constitute an important part of reproductive tourism benefiting those countries which have no laws on assisted reproduction treatment. For example, according to the Belgian register of assisted reproduction for 1999, 60% of all recipients of oocyte donation were foreigners (College of Physicians 'Reproductive Medicine' and Belgian Register for Assisted Procreation, 2001). Legislative changes in the wake of scientific studies in the countries where oocyte donation is not allowed may help to facilitate the process of having a child by any means possible.

In conclusion, this is the first report on the attitudes towards oocyte donation from a country having a secular constitution and whose population is mainly Muslim. Importantly, the results of the present study demonstrate that most of the participants do not have any objection to oocyte donation treatments. The ethical, sociocultural and religious stature of the society

Table IV. Conditions in which oocyte donation is thought to be acceptable by the participants

	Women	Men
Medical condition (illness, such as cancer treatment or other that may make her infertile)	188 (81.03)	134 (79.76)
Woman is infertile due to age (e.g. she remarries and wants a child, but is no longer 'productive')	158 (68.10)	101 (60.12)
Previous disabled child	115 (49.57)	72 (42.86)
Inherited medical (or mental) problems in the family	105 (45.26)	92 (54.76)
Under no circumstances	40 (17.24)	21 (12.5)

Values in parentheses are percentages.

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adapts to ongoing developments in time. We truly hope that these preliminary data may well be a background for a potential change.

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