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ASSISTED REPRODUCTION TECHNOLOGIES

Payment to gamete donors: equality, gender equity, or solidarity?

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Abstract

Purpose Regulation of payment to gamete donors varies substantially across countries. The development of an ethically sustainable governance system of payments in gamete donation demands that the preferences of different stakeholders be heard. This study intends to contribute to improving the understanding of payment to gamete donors by analysing the views of donors and recipients about the preferred form of payment and its associations with their sociodemographic characteristics.

Methods This cross-sectional study included 70 donors and 172 recipients recruited at the Portuguese Public Bank of Gametes (July 2017–June 2018). Participants completed a self-reported questionnaire. Views about the preferred form of payment were collected through a multiple-choice question and an open-ended item. Associations were quantified through $\chi 2$ tests; content analysis was conducted with the open-ended answers.

Results Both donors (48.6%) and recipients (40.7%) considered that reimbursement is the preferred form of payment to ensure solidarity-based motivations to donate. This option was followed by compensation for non-financial losses (41.4% of donors; 33.7% of recipients) based on gender equity. Preference for a fixed reward (22.7% of recipients; 8.6% of donors) was less frequent among younger donors and married/living with a partner or employed recipients, being based on the promotion of equality.

Conclusion In the context of the search for cross-border reproductive care and gamete circulation across countries, the findings from this study claim for the need to create solutions for payment to gamete donors that take into account gender equity and are simultaneously sensitive to donor's actual expenses and further health complications.

Keywords Donor conception · Compensation · Reproductive techniques, assisted · Infertility

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Introduction

Payment to gamete donors can be defined as a "generic term covering all kinds of transactions involving money, and goods with monetary value, whether those transactions are understood as recompense, reward or purchases" (pp. 2) [1]. A 'recompense' occurs whenever a payment is made to donors in recognition of material or other losses they have incurred (it takes the form of 'reimbursement' in the case of payment of direct financial losses or 'compensation' in the case of non-financial losses, such as discomfort and time). A reward consists in a material advantage gained by a person as a result of donating gametes, which goes beyond a 'recompense' for the losses they have incurred in the donation process. Lastly, payment can take the form of purchase if there is a direct exchange for the material being donated [1]. Nevertheless, the need to establish strict limits for payment is widely recognized to avoid the commercialization of human reproductive cells [1–4], the exploitation of donors [3, 5, 6] and the concealment

of relevant health information to be accepted as a donor [2, 7], while ensuring solidarity-based motivations to donate, such as helping a childless couple [4, 8–10]. The non-differentiation of payment according to donors' characteristics or the number and quality of gametes has also reached a consensus, aiming to avoid 'positive eugenics' and the commodification of bodily material [3, 11].

The conditions and regulation for payment to gamete donors vary substantially across countries, being largely determined by ethical and social frameworks linked to donor-assisted reproduction that are context-bound and value-laden [12, 13]. The system of payment defined by a country may influence, on the one side, the efficacy of donor recruitment and the increase (or decrease) in the number of treatments [11] and, on the other side, it may have an effect on the search for cross-border reproductive care or shape the way gamete circulation occurs across countries [14]. According to the reports published by the European Commission [15] and the International Federation of Fertility Societies [16], 68 countries have standardized data on national policies or guidelines regarding payment to gamete donors. In over one-third (n = 28), both oocyte and sperm donors are reimbursed for time and expenses, 16 provide compensation beyond reimbursement (i.e. donors are entitled to receive, for example, small tokens or a free physical check-up, beyond reimbursement for time and expenses), seven do not provide any payment, six do not have legislation in this field and four do not allow gamete donation. In the remaining seven countries, recompense is different for oocyte and sperm donors (in three of these countries, women have compensation beyond reimbursement while men receive reimbursement for time and expenses). The present study was conducted in Portugal, where donors are recompensed both for loss of earnings (reimbursement) and for inconvenience (compensation) through a fixed sum of money, which has been recently updated to a maximum of 843€ for oocyte donation and 338€ for sperm donation. These values are set by the Government for all fertility clinics in relation to the social support index (a monetary amount that serves as a reference to the Portuguese Social Security for the calculation of workers' contributions, pensions and other social benefits): one-tenth of the index value for each sperm donation and twice the value of the index for oocyte donation [17]. In addition, donors are exempted from the payment of user charges under the National Health Service [18] (e.g. users do not need to pay for regular appointments with their family physician). The National Health Service covers up to three treatment cycles for recipients and 69% of the total cost of infertility medication [19].

Literature has shown that payment of travel, time off work and medical costs is seen as a fair option by donors [6, 20] and recipients [21], as well as compensation for the invasive nature of the procedures in oocyte donation and its associated risks [2, 21]. Others have stated that offering gynaecological check-ups [22] or free cinema tickets [21] beyond reimbursement could be appropriate, arguing that it would improve the availability of donated gametes [7, 21, 22]. Given the diversity of perspectives about what should be considered an ethically justifiable reward, as well as a reasonable and fair payment for effort, time, inconvenience and discomfort associated with the donation process [3, 5, 23], gathering data about the values and preferences of the various stakeholders who are directly involved in gamete donation is essential to guide policy concerned with payment to gamete donors. However, data on such topic is scarce. The very few studies analysing the influence of sociodemographic factors on the attitudes toward payment to gamete donors found no association between these attitudes and gender, educational level, religion, age, income, ethnicity, marital status, sexual orientation, occupation and having biological children [7, 22, 24, 25]. Besides that, studies have mainly focused on only one group of stakeholders at a time: oocyte donors [20], sperm donors [8], gamete recipients [21, 24] or the general public [7, 22]. Thus, empirical research on the perspectives of donors and recipients about payment of gamete donors and the respective associated factors is needed.

This study intends to contribute to improving the understanding about the payment to gamete donors by analysing the views of oocyte and sperm donors as well as recipients about the preferred form of payment and its associations with the sociodemographic characteristics of the participants.

Materials and methods

Participants and data collection

In this observational cross-sectional study, gamete donors and recipients who attended at least one medical appointment at the Portuguese Public Bank of Gametes were invited to participate between July 2017 and June 2018, regardless of the stage of the treatment. This centre is located in a public hospital and performs homologous and heterologous treatment cycles through artificial insemination (AI) and in vitro fertilization (IVF)/intracytoplasmic sperm injection (ICSI). At the end of the appointment, donors and recipients received an informative leaflet about the study from a health professional, after which all of them were invited by a researcher to participate in the study, who answered their questions. Those who decided to participate were accompanied to a private setting at the hospital, where they read and signed the informed consent, developed in accordance with the World Medical Association's Declaration of Helsinki and the Oviedo Convention, and completed a self-reported structured questionnaire. Of the 329 people invited, 78 refused to participate in the study due to lack of time (n = 39), unwillingness to participate (n = 20) and psychological unavailability (n = 8); others did not report the reason

for refusal ($n = 11$). In total, 251 people (72 donors and 179 recipients) agreed to participate (response rate: 76.3%).

The structured questionnaire was purposely developed by the research team for a wider project, concerning the ethical, legal and social issues involved in gamete donation, based on a literature review and a complete inventory of existing instruments on the topic. The questionnaire was validated by experts from the social and health sciences and by a pilot administration to donors and recipients. This process resulted in linguistic modifications, and some items were removed. The final version of the questionnaire included 58 multiple-choice items, one scale composed of 11 items and 12 open-ended items divided into four sections: (1) opinions about access to and governance of gamete donation (e.g. awareness of communication campaigns, views about preferred forms of payment to donors and anonymity); (2) willingness to donate gametes for family, friends and research purposes, as well as to receive gametes from family, friends or unknown donors; (3) willingness to donate embryos for reproductive and research purposes; and (4) sociodemographic and reproductive characteristics. Filling in the questionnaire required 15 min on average. For the purposes of this paper, we analysed only the results regarding the views about the preferred form of payment to gamete donors and their association with sociodemographic data.

Views about the preferred form of payment to gamete donors were measured through two items. First, a multiple-choice question was presented: 'There are different ways to pay people who donate oocytes and sperm. In your opinion, which of the following proposals is the most appropriate to pay gamete donors? Please choose only one option'. The response categories were the following: (1) A fixed amount of money that is the same for all oocyte and sperm donors; (2) A variable amount of money according to the type of gametes donated—oocytes/sperm; (3) A variable amount of money according to the donor's actual expenses or losses resulting from the donation; and (4) A variable amount of money according to the characteristics of the donor. These categories correspond to the synthesized terminology to define the payments made in connection with bodily material proposed by the Nuffield Council on Bioethics [1], which will be adopted in this manuscript: (1) A fixed amount of money that is the same for all oocyte and sperm donors corresponds to a 'fixed reward'; (2) A variable amount of money according to the type of gametes donated—oocytes/sperm corresponds to 'compensation'; (3) A variable amount of money according to the donor's actual expenses or losses resulting from the donation corresponds to 'reimbursement'; and (4) A variable amount of money according to the characteristics of the donor corresponds to 'purchase'. Second, participants answered the following open-ended question: 'It is important for us to understand the reason(s) for your answer above. Please give a brief explanation'.

Data on the following sociodemographic characteristics was analysed: sex, experience with gamete donation, educational level, marital status and working status. Educational level was assessed through a multiple-choice item with the following answer categories: (1) None, and cannot read or write; (2) None, but can read and write; (3) 1st cycle of basic education (4th year); (4) 2nd cycle of basic education (6th grade); (5) 3rd cycle of basic education (9th grade); (6) Secondary education (12th grade); (7) Bachelor's degree; (8) Licentiate degree; (9) Master's/Integrated Master's; and (10) PhD. For analysis, this variable was dichotomized in ≤ Secondary education (12th grade) and > Secondary education (12th grade). Perceived income adequacy was assessed through the question: 'Thinking of your household income, would you say that your household is able to make ends meet?', being the answers categorized in three options: insufficient/caution with expenses; enough to make ends meet; and comfortable. Subjective social class was assessed by asking participants to include themselves in one of the following social classes: low, middle-low, middle-high, high or none of the above. This study included 242 participants with available data on the outcome: 70 gamete donors and 172 recipients. From these, 187 answered the open-ended question (65 gamete donors and 122 recipients).

Data analysis

Descriptive data on the opinion about the preferred form of payment to gamete donors according to participants' characteristics (categorical variables) is presented as counts and proportions; medians and percentiles are presented for the continuous variable 'age'. The associations between the categorical sociodemographic characteristics of participants and the outcome were quantified through a chi-squared test or Fisher's exact test, in the cases that did not meet the chi-squared test assumption that all expected frequencies in each cell should be greater than five [26]. A post hoc test, with Bonferroni correction, was used to compare pairwise proportions. The outcome response category 'A variable amount of money according to the characteristics of the donor' (purchase) was not included in this analysis due to the small number of individuals in each category of the sociodemographic characteristics, which could threaten the assurance of anonymity and confidentiality of participants. The significance of the median differences for the variable 'age' was calculated through the Kruskal–Wallis test due to the non-parametric distribution of data in this variable. The analyses were performed with the IBM Statistical Package for the Social Sciences (SPSS) Statistics for Windows, version 23.0, Armonk, NY, USA, and statistical significance was defined as $p < 0.05$.

The contents of the answers to the open-ended question with similar meanings were inductively synthesized into categories after emergent coding (i.e. categories were established

following examination of the data), according to Stemler's protocol for content analysis [27]. This protocol was chosen taking into account that we intended to determine the frequencies of categories. The first and last authors independently conducted coding, and disagreements in classification were resolved by consensus. An almost perfect strength of agreement between authors was achieved (≥ 0.81) [27]. The reasons underlying participants' opinion on the preferred form of payment to gamete donors were synthesized in the following categories: (1) 'ensuring solidarity-based motivations', which included references to providing only a symbolic recompense to a person for donating, taking into account an altruistic dimension of donation and the willingness to accept costs to assist others based on the perception of similarity and shared social practices and values; (2) 'gender equity', when quotations advocated for different compensation values for women and men, in order to enhance fairness; (3) 'equality', where the answers established no difference between each of the parties involved nor the type of reproductive cells, describing a sense of similarity (among male and female donors, outcomes of sperm/egg donation and analogies with donation of other biological material); (4) 'encouraging more people to become donors'; and (5) 'financial gain', containing arguments related with receiving a material advantage. Participants' answers were classified in more than one category, when they provided more than one reason underlying their opinion.

Ethical approval

Ethical approval was granted by the Portuguese Data Protection Authority and the Ethics Committee for Health from the Centro Hospitalar Universitário do Porto. All research data collected, stored, processed and analysed have been anonymized. To guarantee confidentiality and data protection, questionnaires do not disclose participants' identification.

Results

Sociodemographic characteristics

Most participants were female (64.3% among donors and 61.0% among recipients), employed (55.1% of donors and 91.8% of recipients), perceived their subjective social class as low/middle-low (72.6% of donors and 71.1% of recipients) and their income as enough to make ends meet or comfortable (70.0% among donors and 70.6% among recipients) (Table 1). While 55.7% of donors had more than secondary education (12th grade) and 82.9% were single/divorced, most recipients had less than or equal to secondary education (12th grade) (58.1%) and were married or living with a partner (90.1%). The median age was lower among donors than recipients (median [P25-P75] = 26.0 [23.8–30.0] versus 36.0 [34.0–39.0]).

The opinion of oocyte and sperm donors and recipients about payment to gamete donors

According to both donors and recipients, reimbursement is the preferred form of payment to gamete donors (48.6% of donors and 40.7% of recipients) (Table 1). This option was closely followed by the preference for compensation (41.4% of donors and 33.7% of recipients). Fewer participants considered that a fixed reward should be provided to oocyte and sperm donors, a more common position among recipients (22.7%) than among donors (8.6%). Only a minority agreed with purchasing (1.4% of donors and 2.9% of recipients).

Table 2 shows the associations between the sociodemographic characteristics of the participants and their opinion about the preferred form of payment, stratified by donors and recipients. Among donors, those who preferred the option of a fixed reward were older (median [P25-P75] = 31.5 [28.5–37.0]) than those who preferred compensation (median [P25-P75] = 27.0 [24.0–29.5]) or reimbursement (median [P25-P75] = 25.0 [23.0–29.0] $p = 0.016$). Among recipients, those who were married/living with a partner were less likely to prefer the option of a fixed reward ($p = 0.043$), as well as employed participants ($p = 0.012$).

Reasons underlying participants' opinion on payment to gamete donors

Participants, both donors and recipients, who considered that the preferred form of payment to gamete donors should consist in reimbursement justified their opinion mainly with reasons related to ensuring solidarity-based motivations underlying donation (26/30 donors and 33/54 recipients), which included references to avoiding commercialization, commodification and donors' exploitation (Table 3). This view was compatible with giving recompense to a person for donating (to cover expenses related with the donation, such as medication, travelling, time and loss of earnings).

Most donors and recipients who selected compensation justified their preference based on issues linked with gender equity (24/29 donors and 30/45 recipients), acknowledging the higher burden of oocyte donation compared with sperm donation. The former is a more invasive and lengthy procedure, causing pain and involving higher health risks for women who undergo the entire donation process. Gender equity was referred to a lesser extent by recipients who opted for reimbursement (14/54) and was never addressed by those (donor or recipient) who defended a fixed reward.

The promotion of equality emerged as a key explanation for preferring a fixed reward that is similar for oocyte and sperm donors among recipients (17/23) and donors (5/6), based on the view that the donations made by men and women are equal and have the same value, because both serve the same objectives and are a means to help other people to

Table 1 Characterization of the participants, stratified by donors and recipients

	Total $N = 242$	Donors $n = 70$	Recipients $n = 172$
Age, median (P25-P75)	35.0 (29.0–38.0)	26.0 (23.8–30.0)	36.0 (34.0–39.0)
	n (%)	*n* (%)	*n* (%)
Sex			
Female	150 (62.0)	45 (64.3)	105 (61.0)
Male	92 (38.0)	25 (35.7)	67 (39.0)
Educational level			
≤ Secondary education (12th grade)	128 (52.9)	31 (44.3)	97 (58.1)†
> Secondary education (12th grade)	109 (47.1)	39 (55.7)	70 (41.9)†
Marital status			
Married/living with a partner	167 69.0)	12 (17.1)	155 (90.1)
Single/divorced	75 (31.0)	58 (82.9)	17 (9.9)
Working status			
Employed	194 (81.2)	38 (55.1)†	156 (91.8)†
Student/unemployed	45 (18.8)	31 (44.9)†	14 (8.2)†
Perceived income adequacy			
Insufficient/caution with expenses‡	71 (29.6)	21 (30.0)	50 (29.4)†
Enough to make ends meet	127 (52.9)	32 (45.7)	95 (55.9)†
Comfortable	42 (17.5)	17 (24.3)	25 (14.7)†
Subjective social class			
Low/middle-low	141 (71.6)	45 (72.6)†	96 (71.1)†
Middle-high/high	56 (28.4)	17 (27.4)†	39 (28.9)†
Preferred form of payment to gamete donors§			
Fixed reward	45 (18.6)*	6 (8.6)	39 (22.7)
Compensation	87 (36.0)*	29 (41.4)	58 (33.7)
Reimbursement	104 (43.0)*	34 (48.6)	70 (40.7)
Purchase	6 (2.5)*	1 (1.4)	5 (2.9)

* Proportions do not add to 100% due to rounding

† The total does not add up to 70 donors and 172 recipients due to missing values (missings range from 1 to 8 among donors; and from 2 to 37 among recipients)

‡ This category refers to the lowest perceived income adequacy

§ The categories presented refer to: fixed reward—a fixed amount of money that is the same for all oocyte and sperm donors; compensation—a variable amount of money according to the type of gametes donated (oocytes/sperm); reimbursement—a variable amount of money according to the donor's actual expenses or losses resulting from the donation; and purchase—a variable amount of money according to the characteristics of the donor

conceive. This argument was never used by those who selected compensation.

Regardless of the opinion about the preferred form of payment to gamete donors, fewer participants mentioned the need to encourage more people to become donors or financial gain as reasons to support their position.

Discussion

This study provides further information about donors' and recipients' understanding of the preferred form of payment to gamete donors by exploring the different representations and reasoning underpinning the opinions of both groups of stakeholders in Portugal. The results indicate a socioethical framework linked to solidarity in combination with the values of equity or equality and social representations of gender, where donors and recipients seem to understand that there is more involved in payment to gamete donors than either the difference between male and female gamete donation or the sense that only solidarity drives the donors. Thus, data from this study holds potential to launch the debate on the creation of payment solutions that integrate empirical social scientific analysis about the real concerns of the stakeholders [3, 28, 29] with an ethical analysis drawing normative conclusions [30]. The fact that both donors and recipients would prefer payment to consist of a variable amount of money dependent on the donor's actual expenses with or losses resulting from the donation (reimbursement or compensation) and taking into account the type of gametes donated, challenges the existence of a predefined value system that is currently in force in 13 countries

Table 2 Opinion about the preferred form of payment to gamete donors, according to the sociodemographic characteristics of the participants, stratified by donors and recipients

	Donors				Recipients			
Preferred form of payment to gamete donors*	Fixed reward $n = 6$	Compensation $n = 29$	Reimbursement $n = 34$	p	Fixed reward $n = 39$	Compensation $n = 58$	Reimbursement $n = 70$	p
Age, median (P25-P75)	31.5 (28.5–37.0)	27.0 (24.0–29.5)	25.0 (23.0–29.0)	0.016	36.0 (33.0–39.0)	36.0 (33.0–38.3)	36.0 (34.0–39.0)	0.805
		n (%)				*n* (%)		
Sex								
Female	4 (66.7)	18 (62.1)	23 (67.6)	0.929‡	25 (64.1)	33 (56.9)	45 (64.3)	0.649
Male	2 (33.3)	11 (37.9)	11 (32.4)		14 (35.9)	25 (43.1)	25 (35.7)	
Educational level								
≤ Secondary education (12th grade)	4 (66.7)	13 (44.8)	14 (41.2)	0.515‡	27 (73.0)†	31 (54.4)†	36 (52.9)†	0.116
> Secondary education (12th grade)	2 (33.3)	16 (55.2)	20 (58.8)		10 (27.0)†	26 (45.6)†	32 (47.1)†	
Marital status								
Married/living with a partner	1 (16.7)	4 (13.8)	7 (20.6)	0.801‡	31 (79.5)	55 (94.8)	65 (92.9)	0.043‡
Single/divorced	5 (83.3)	25 (86.2)	27 (79.4)		8 (20.5)	3 (5.2)	5 (7.1)	
Working status								
Employed	6 (100.0)	14 (48.3)	18 (54.5)	0.061‡	30 (81.1)†	57 (98.3)	64 (91.4)	0.012‡
Student/unemployed	0	15 (51.7)	15 (45.5)		7 (18.9)†	1 (1.7)	6 (8.6)	
Perceived income adequacy								
Insufficient/caution with expenses§	1 (16.7)	13 (44.8)	7 (20.6)	0.131‡	14 (37.8)**,†	15 (25.9)**	19 (27.1)	0.560
Enough to make ends meet	2 (33.3)	12 (41.4)	18 (52.9)		18 (48.6)**,†	36 (62.1)**	38 (54.3)	
Comfortable	3 (50.0)	4 (13.8)	9 (26.5)		5 (13.5)**,†	7 (12.1)**	13 (18.6)	
Subjective social class								
Low/middle-low	5 (83.3)	18 (66.7)†	22 (75.9)†	0.643‡	24 (75.0)†	32 (71.1)†	37 (69.8)†	0.855
Middle-high/high	1 (16.7)	9 (33.3)†	7 (24.1)†		8 (25.0)†	13 (28.9)†	16 (30.2)†	

* The categories presented refer to: fixed reward—a fixed amount of money that is the same for all oocyte and sperm donors; compensation—a variable amount of money according to the type of gametes donated (oocytes/sperm); and reimbursement—a variable amount of money according to the donor's actual expenses or losses resulting from the donation

** Proportions do not add to 100% due to rounding

† Due to missing values, the totals do not add up to 29 (compensation) and 34 (reimbursement) among donors, and to 39 (fixed reward), 58 (compensation) and 70 (reimbursement) among recipients (there are 7 missing cases among donors; and missings range from 2 to 37 among recipients)

‡ Fisher's exact test

§ This category refers to the lowest perceived income adequacy

[15], including Portugal [17]. Currently, oocyte and sperm donors are reimbursed for time and expenses in over than one-third of countries (e.g. Argentina, Australia, Belgium and China), while 16 countries provide compensation beyond reimbursement (e.g. Chile, Nigeria, Slovenia and Spain) [15, 16]. Thus, our results highlight the need to reassess current policy toward the implementation of a model of variable recompense that goes beyond mere reimbursement to also include compensation for discomfort and health complications, which tend to be experienced more frequently by female donors.

The emphasis on ensuring solidarity-based motivations revealed how the donation of gametes is mainly considered a solidaristic practice through which people are willing to accept some type of cost (a burden or loss resulting from the donation) to assist others with whom they have something relevant in common [31], such as the importance of reaching parenthood [4]. This positioning may be rooted in a prevailing value of the Catholicism, which is the predominant religion in Portugal, related with promoting solidarity among the members of a society [31]. As previously reported in studies focused on the reasons underlying acceptability of any kind of payment to gamete donors, the mentioning of solidarity and altruism as reasons to donate is not incompatible with the need to guarantee that donors' costs related with the donation are covered (e.g. travelling and days off work). This is also seen as a fair option by donors in studies in the UK [20] and Australia [6], as well as by recipients in Belgium [21]. In line with the results of our study, the compensation for the physical and emotional discomfort and further health complications were also previously highlighted [20, 24]. The reimbursement of direct financial expenses and compensation for non-financial costs are thus compatible with the expression of an altruistic attitude [11, 28].

In addition to ensuring solidarity, the promotion of gender equity emerged as a key concern for those who considered compensation, varying for oocyte and sperm donors, as the preferred form of payment to gamete donors. This view supported the recognition that a fair distribution of resources should privilege women over men because oocyte donation entails more discomfort, health risks and physical intrusion than sperm donation [32, 33], instead of arguments of equality, which defend that individuals should be treated the same as those with different attributes.

Table 3 Qualitative synthesis of the reasons underlying participants' opinion about the preferred form of payment to gamete donors, stratified by donors and recipients

	Donors			Recipients		
	Fixed reward $n = 6$	Compensation $n = 29$	Reimbursement $n = 30$	Fixed reward $n = 23$	Compensation $n = 45$	Reimbursement $n = 54$
Ensuring solidarity-based motivations	3	6	26	6	8	33
Gender equity	0	24	2	0	30	14
Equality	5	0	2	17	0	4
Encouraging more people to become donors	0	1	3	4	8	7
Financial gain	1	2	3	3	3	9

The total number of reasons ($n = 224$) is higher than the total number of respondents ($n = 187$), because 37 participants reported two reasons to sustain their opinion

The few participants supporting a fixed reward never mentioned gender equity. Both donors and recipients relied mostly on arguments related to an equality of the value of sperm and eggs. This 'equal value' attributed to gametes, often connected with a comparison to the donation of other material (e.g. blood), may be grounded in the significance attributed to the donation itself, which is mostly focused on the result—i.e. the possibility of generating a child—than in the donation process [21]. The preference for a fixed reward was most present among older donors. Married/living with a partner or employed recipients seemed to be less supportive of a fixed reward for gamete donors. This may relate to the fact that older donors may be in a more stable economic position and, thus, are not as sensitive to the need for compensation or reimbursement of effective expenses.

Data was collected during a full year in the only Public Bank of Gametes in Portugal, which is a positive aspect accounting for the generalizability of the profile of both donors and recipients. However, some limitations should be acknowledged. First, although the recruitment of the sample at the only Public Bank of Gametes has allowed for the analyses of users of the public health care system, differences in the positioning of participants may be found among users of private centres. Thus, it would be important to include them in future studies. Second, the sample size is small, but it is comparable with most studies investigating psychosocial attitudes, motivations and experiences of oocyte donors, recipients and egg sharers [34]; also, it should be framed in a context where anonymity of gamete donors prevailed, which turns donors and recipients of donated gametes into hard-to-survey participants [35]. Additionally, this sample is skewed by the level of education (more than 45% of the respondents hold a university degree, while in Portugal this percentage was of 22.9% in 2011) [36], which could have affected the options of their preferred forms of payment. Lastly, it would be interesting to also collect information on participants' views about the amount of money that should be considered.

In summary, this study's results allowed us to gather relevant data that may contribute to inform policies regarding payment to gamete donors. It shows that donors' and recipients' views about the preferred form of payment are influenced by a socioethical framework linked to values of solidarity, gender equity or equality. This study reinforces the need to promote a critical discussion around the creation of payment solutions that can be adapted to combine normative ethics with the perspectives and values of those involved in gamete donation [3, 28]. However, more empirical studies are needed to provide an in-depth understanding of the views of donors and recipients on payment to gamete donors in the context of the search for cross-border reproductive care and gamete circulation across countries [14, 37]. The development of international recommendations regarding 'reasonable compensation' [11] could attenuate differences between countries, by establishing maximum amounts that consider gender equity and providing clear guidance on the adjustment to donor's actual expenses and further health complications.

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Compliance with ethical standards

Conflict of interest The authors declare that they have no conflict of interest.

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