

Acceptability of Gametes Donation in Côte d'Ivoire

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Abstract

Introduction: The need for childbearing is greater in Sub-Saharan countries for socio-cultural reasons. In fact, it is correlated to the need for the transmission of one's own genes. That is why the assisted reproductive technology with a third party donor can be considered as proxy procreation and can be rejected. **Methods:** All female patients who consulted for a childbearing desire and who needed an assisted reproductive technology with a third party donor were included in the study held at the university teaching hospital of Yopougon and in a private clinic from 1 September 2014 to 31 October 2015. 100 couples were included. **Results:** 82% of the men accepted the gametes donation in their couple and 89% of women did. 54% of the men accepted the donation spontaneously and 66% of the women too. The others were reserved before accepting it finally. The reasons for this reserved attitude regarding the donation were mainly the need to reflect for the men and the necessity to seek for their partner's opinion concerning the women. **Conclusion:** The rate of acceptability of the gametes donation is very high in Côte d'Ivoire in spite of the cultural perception of the genes transmission.

Keywords

ART, Gametes Donation, Acceptability, Côte d'Ivoire

1. Introduction

Giving birth to a child is a fundamental right and a duty regarding the species. For a couple and mainly for a woman, being childless is a tragedy.

The Assisted Reproductive Technology (ART) has enabled couples to be happy; then the problem of the men and women whose gametes were completely deficient was raised. Therefore, in 1978, the ART introduced the procedure which has recourse to a third party donor: the sperm donation in 1979 and then the oocytes donation in 1983.

In Africa, a childless couple often has dramatic psycho-social consequences indeed, but these new techniques resorting to a “substitute” in the couple are confronted with socio-cultural, religious and ethical dilemmas.

Since 2009, the obstetric-gynecology service of Yopougon University Teaching Hospital that wanted to be at the forefront of medical technologies like other medical facilities has been endowed with a cutting-edge technology platform in order to practice the ART with a third-party donor.

The need to assess the couple’s perception regarding this method has justified this work.

The University Hospital of Yopougon is the only public health facility in Côte d’Ivoire to perform ART. Only very few patients came from a private structure.

That is why we considered that the data collected in this center would allow to assess the rate of acceptability in Côte d’Ivoire.

2. Female Patients and Methods

It is a longitudinal retrospective and prospective study which was held from 1st September 2014 to 31st October 2015, for 14 months within the outpatients department of the Obstetric-Gynecology service of Yopougon teaching hospital in Abidjan and in a private clinic of Abidjan.

The study concerned female patients consulting for a childbearing desire and their partners. Only the infertile couples who needed an assisted reproductive technology with a gametes donation were selected.

The selection criteria enabled to keep 100 couples for the study.

The information was collected from the medical records of the patients who came to consult in the Obstetric-Gynecology service and registered on the survey form.

The study was explained to all of them and they agreed to participate, so we obtained the couples’ written informed consent.

The following parameters were described:

- Age
- Profession
- Religion
- Parity
- Infertility duration
- Acceptance level of the procedure of the gametes donation.

All the data were processed by the software of the epidemiological analysis EPI INFO 7.

3. Results

3.1. Epidemiology

Tables 1-5 & Figure 1, Figure 2.

3.2. Responses of the Couples and Modalities

Tables 6-9, Table 12, Table 13.

3.3. Follow-Up of the Couples' Cursus

Table 10, Table 11.

Table 1. Distribution of the couples according to the type of ART.

	Number	Percentages
Egg donation	63	63%
Sperm donation	33	33%
Embryo donation	4	4%
Total	100	100%

Table 2. Profession of the couples.

	Number		Percentages	
	Men	Women	Men	Women
Student	0	4	0	4
Unemployed	0	17	0	17
Civil servant	58	54	58	54
Informal sector	19	23	19	23
Liberal profession	23	2	23	2
Total	100	100	100	

Table 3. Religion of the couples.

	Number		Percentages	
	Men	Women	Men	Women
Muslim	56	46	56	46
Christian	43	53	43	53
Animist	1	1	1	1
Total	100	100	100	

Table 4. Duration of the couple's infertility.

	Number	Percentages
<5 years	21	21%
[5 - 10 years]	37	37%
>10 years	42	42%
Total	100	100%

Table 5. Deliveries.

Number of deliveries	Number	Percentages
Nulliparous	54	54%
Primipara to multipara	46	46%
Total	100	100%

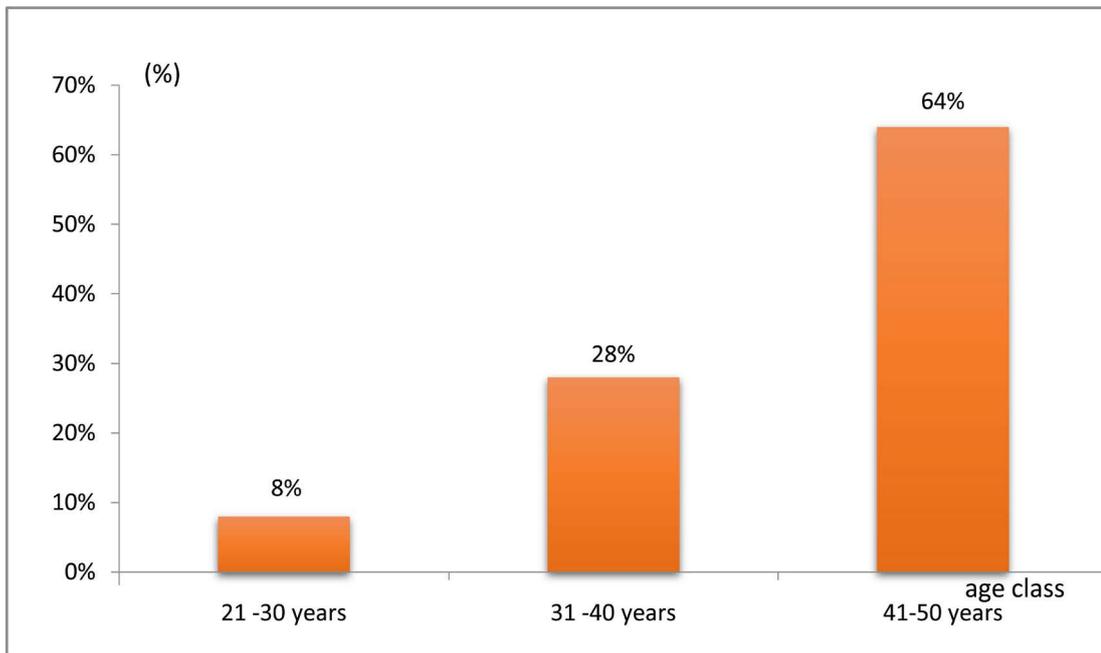


Figure 1. Age of the women. The average age of the women was 41 years \pm 64 with extremes of 21 years and 50 years.

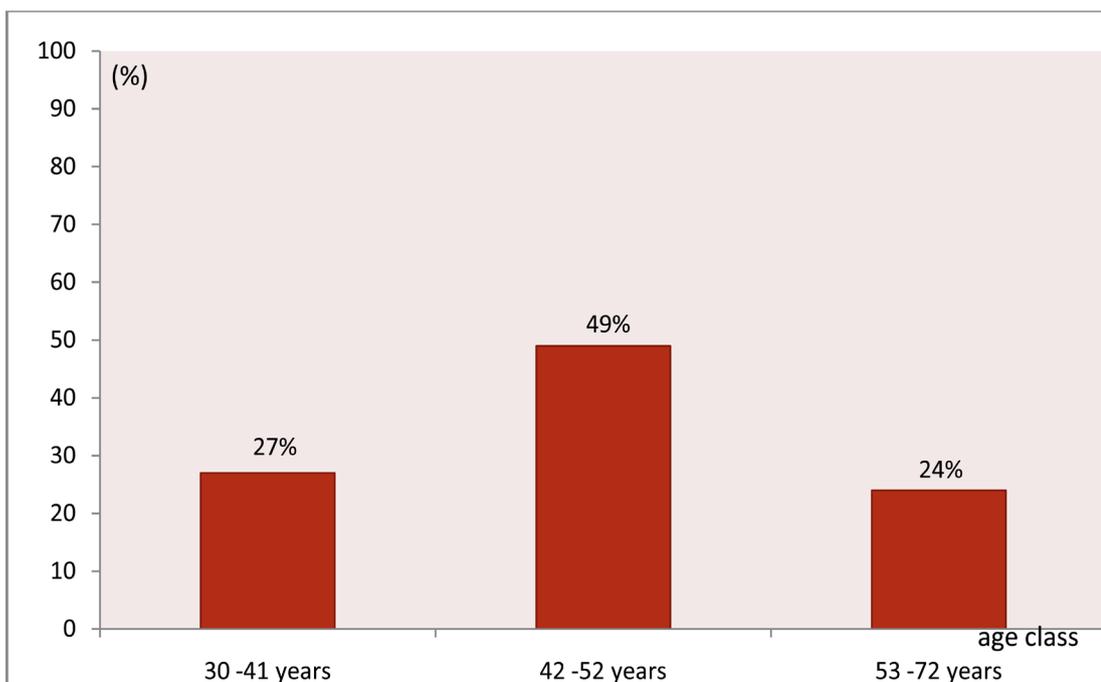


Figure 2. Age of the men. The average age of the men was 46.5 years \pm 7.3 with extremes of 30 years and 72 years.

Table 6. General situation.

	MEN	WOMEN
Spontaneous acceptance	54	66
After a period of reflection	28	23
Refusal	18	11
Final acceptance	82	89

Table 7. Distribution of the couples according to the concordance of their answers.

Acceptance	Number	Percentages
Yes	77	77%
No	08	08%
Discordant opinion	15	15%
Total	100	100%

Table 8. Reasons for delayed acceptance.

	MEN	WOMEN
Need for reflection	69.9%	11%
Genetic reasons	22.2%	17%
Religion	8.9%	17%
Opinion of the husband		55%
Total	100	100%

Table 9. Reasons for refusal.

REASONS	NUMBER		PERCENTAGES	
	MEN	WOMEN	MEN	WOMEN
Genetics	12	4	66.7%	36.4%
Religion	5	6	27%	54.6%
Anterior paternity/maternity	1	1	5.56%	9%
Total	18	11	100%	100%

Table 10. Effectiveness of the donation realization.

	Number	Percentages
Yes	66	85.7%
No	11	14.3%
Total	77	100%

Table 11. Reasons for the non-realization of the donation.

	Number	Percentages
Financial	32	48.5%
Ongoing procedure	34	51.5%
Total	66	100%

Table 12. Acceptance according to countries.

Authors	countries	years	percentages
Ugwu [16]	Cameroun	1992	19.6%
Fabamwo [7]	Nigéria	2008	82.5%
Akyuz [3]	Turquie	2009	63.9%
Lampiao [9]	Malawi	2013	47.8%
Okwelogu [12]	Nigéria	2013	37.2%
Bello [5]	Nigéria	2014	59.9%
Our study	Côte d'Ivoire	2015	77%

Table 13. Reasons for the refusal of the gametes donation.

Authors	Countries	Percentages
OUR STUDY	Côte-d'Ivoire	Genetics: 22%
		Religion: 17%
		Anterior conception: 5% to 9%
UGWU [16]	Nigeria	Fear of an infection
FABANWO [7]	Nigeria	Religion: 17.5%
		Cost: % not precised Fear of failure: % not precised
ONAH [13]	Nigeria	Religion: 23%
		Genetics: 36%
		Infection: 14%
ADESIYUN [2]	Nigeria	Various beliefs: 52%

4. Discussion

The interest of this study comes from the fact that it is one of the rare studies, if not the only one in the black African francophone literature dealing with the gametes donation.

In fact, most of the studies about the gametes donation have been conducted in Nigeria, which is the African leader in terms of the gametes donation, as indicated in the various following bibliographical references.

4.1. Epidemiology

In this study, the most represented Assisted Reproductive Technology method with a third party donor is the eggs donation: 63% of cases (**Table 1**).

The superimposition of this figure with that of the age class of women between 41 and 50 years (64%) reveals that the eggs donation concerns this category, therefore, the younger patients have a neglectable place (**Figure 1**).

Most of the patients are between 41 and 50 years. This situation is due to a cultural atavism regarding procreation. In fact, the society emulates “the great procreators”. Only menopause “sounds the death knell” for the reproductive life in African women.

Independently of the childbearing culture, the long medical cursus of the patients must be evoked.

In female patients over 45 years, they had more often been married before: In Africa, marriage is not well established without a child within the couple [1] [2] [3]. In some cases, the only child died several years ago and there is still the hope of having another child thanks to the new methods of the Assisted Reproductive Technology.

A certain proportion of young girls under 30 years old (5%) is concerned by these gametes donations.

In female patients under 35, the indication was mostly about the sperm donation in their partner. The sperm donation concerns all ages, because contrary to

women, the severe alterations of the spermiogram can be found at any age [4] [5]. In a young woman, the egg donation often reveals a genetic problem; but in our study, we haven't been able to explore the couples genetically because of the high cost of the karyotype.

In men, we notice that the average age is higher (46 years) (Figure 2). It is a social phenomenon in Africa where it is normal and even fundamental for a man to be older than his partner.

In both sexes, the civil servants are more numerous, so we can guess that they have stable financial means (Table 2).

As a matter of fact, in developing countries, the informal sector is not organized; therefore, it can be unstable.

Female students can't afford these techniques without the help of their partners.

The teaching hospital represents a luxury facility for the public sector because of the high cost of cares. Thus, most patients belong to the middle class.

The presence of female patients from less rich socio professional groups within our sample is justified by their union with relatively wealthy men. In fact, there are neither students nor unemployed people among the men.

The religion of the couples shows the general distribution in the whole Côte-d'Ivoire (Table 3).

In fact, the last general census of the population and the housing in Côte-d'Ivoire conducted in 2014 has revealed that 42% of the population are Muslims and 34% are Christians (all the various Christian communities together). Whereas the deists-agnostics-atheists and the animists represent respectively 19% and 4% of the population.

More than 3/4 of the couples have a long-lasting infertility. We have noticed a very long medical cursus, as in all the studies conducted in developing countries [6] [7] (Table 4).

This long medical cursus is not only related to the limited medical technical platform, but also to the personal cursus of the couples who "flirt" with traditional therapy or parallel practices at the same time.

Even when women have already children, childbearing keeps importance for them; therefore, multiparous accept gametes donation (Table 5).

A study carried out in Brazzaville, has shown that of 5265 consultations, 40% to 50% of women attend prayer groups called "bizinga" and 15% of women are treated with herbal teas or go and see healers [8].

This clear prevalence of *in Vitro* Fertilization with egg donation confirms what all the studies have repeatedly demonstrated, namely the negative impact of age on fertility.

4.2. Acceptability

4.2.1. General Situation

This work is a first edition study because none of the papers on the gametes donation has been published before.

89% of women have accepted the procedure compared to 82% of men (Table

6).

77% of couples have accepted to undergo a procedure with a gamete donation, among them 22% accepted spontaneously.

The acceptance rates are very high.

In most African societies, infertility is a source of social stigmatization which is difficult to bear [9].

In the African traditional thought, a child represents everything. He/she is the pillar, the centre of life and everything converges towards him/her naturally. The child symbolizes not only the continuity of life, the perpetuation of the human kind, but also of the clan and the lineage.

In our study, the pace of the couple's position regarding the donation is given by the man. In fact, it seems that the main reason of the female patients' reserve about the gametes donation was their husband's opinion (Table 8). This concerned female patients who came alone for a consultation.

Generally speaking, the gametes donation is well-accepted by couples: more than half of them agree (Table 12). The variation of rates seems related to the particularity of the sex according to the studies.

For example in Fabanwo's studies [10], the acceptance rate concerned women, and we notice that it is almost similar to ours.

The high acceptability in women could be explained by the maternal innate instinct. In our practice, when they come with their partner, he is the one who decides and then, she adheres to his opinion.

As for men, the child is not only a proof of fertility, but mostly a proof of virility. And these two notions often mean the same in men's conception.

That's why in African societies, an infertile man will never denounce an illegitimate child given to him by his wife, since it would be the proof of his lack of virility. The lowest rate was found in Cameroon, but at that time, the IVF was still a recent technique and it probably caused a sort of distrust, therefore, what could be said about this new technique with gametes donation?

4.2.2. Reasons for the Couples' Choices

Globally, the same reasons for the reserved opinion are found in African couples; they are genetic and religious reasons which confirm the existence of a common African perception of the child: "our offspring is insured if our genes are transmitted" (Table 9, Table 13) [11] [12] [13] [14].

The predominance of the acceptability in women is due to the fact that in Africa, women are considered to be responsible for the infertility of the couple because the African society doesn't believe in men's infertility [15].

An original reason for refusal is the fear of infection, which may explain the repulsion as regards to the gametes donation perceived as a real intrusion with baleful consequences. [13] [16] [17]

In men, the main reason for refusal was genetics. Whatever the mode of the cultural patrilineal or matrilineal succession, modernity imposes the absolute right of the father on the child's patronym in our societies. The man needs to feel this bond between his child and himself. In case of a sperm donation, this

link is broken.

Even regarding the egg donation, the man needs to bring his offspring under control. In Africa, a woman gets married because of her moral virtues which will be hopefully transmitted to her children. With the egg donation, this chain is broken.

In the women, the predominant reason for the refusal was religion. Genetics is less obvious here, because as we said above, the woman accompanies the man in his desire for paternity. The predominance of refusal due to religion is found in most African women.

In Africa, men have frequently recourse to a surrogate mother. Illegitimate children are often brought back home and accepted by legal wives.

The oocytes donation constitutes a more acceptable solution because it is identical to filiation: it is “another person’s child” but the oocytes donation has the advantage to concern a perfect stranger only and to involve the legal wife through the pregnancy she will carry.

Spirituality plays a very important role in women, and it sometimes comes before the home interest, even in the couples who have already procreated.

4.2.3. Couples with Discordant Opinions

15% of couples will remain frustrated in the quest for their parental project; the concerned couples were discordant as regards to their opinion: one partner agreed and the other refused (**Table 7**). Among the discordant couples, one got finally separated. The indicated Assisted Reproductive Technology procedure was the sperm donation. The man had already two children in a previous marriage and did not recognize his infertility. The woman also had a child from an anterior union and she had a clean bill of health. This kind of situation reveals once again that in Africa, the woman is responsible for the infertility of her couple.

4.3. The Effectiveness of the Donation

This need of procreation is obvious in the effectiveness of the donation. Half of the couples have realized the donation (**Table 10**). In Africa, the couples are really limited by the cost of the Assisted Reproductive Technology methods because half of them are waiting for financial means (**Table 11**).

In fact, the egg donation costs 2.800.000 F in the private sector (4300 euros). The sperm donation is 50.000 F (76 euros), it is more expensive than intra conjugal Assisted Reproductive Technology. 50.000 F represents the price of the frozen sperm tube. For women coming from the teaching hospital which has a partnership with the private clinic, the cost of the egg donation is 1.000.000 F. As for the insemination and the IVF, the costs vary from 100.000 F to 225.000 F (152 to 345 euros) and 550.000 to 650.000 F (838 to 990 euros) (excluding drugs).

50.000 F corresponding to the frozen sperm tube still stands.

These costs representing 1/3 of the price in private sector remain prohibitive

for patients. This is a concern, since the University teaching hospital of Yopougon is the only public health establishment of the sub-region to provide Assisted Reproductive Technology to its patients.

5. Conclusions

Nowadays, infertility constitutes a real public health problem. In developed countries, the Assisted Reproductive Technology has helped many couples to have children.

Whereas in Africa, where the couples are more affected by this emerging phenomenon, the Assisted Reproductive Technology is less known to most populations. The Assisted Reproductive Technology with gametes donation is an unexpected solution for developing countries where being childless is considered as a curse. The political and social authorities should consider this particular aspect in their decision-making about the health policy of their countries.

Conflict of Interest

Authors have no conflict of interest to declare.

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