

RESEARCH ARTICLE

Assessment of Willingness and Attitude of Female Undergraduates of Universities in Kwara State, Nigeria towards Egg Donation to Infertile Couples

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Abstract

Background: Literature is limited on research focusing on attitudes and willingness of undergraduate females, who are the target population for egg donation clinics. This study investigated the attitude of female undergraduates in Kwara State, north-central Nigeria, towards ethical issues in egg donation and their willingness to donate egg to infertile couples.

Methods: We used a descriptive cross-sectional study design. A multistage sampling technique was also used to select 559 female undergraduates in universities in Kwara State enrolled for the 2017/2018 academic session. An adapted questionnaire validated and tested for reliability ($r = 0.86$) was used for data collection. IBM SPSS version 20 was used to analyse the data. Percentage was used to answer research questions, while Chi-square was employed to test the hypotheses at 0.05 level of significance.

The Results: Majority of the respondents were 15-20 years old 371 (66.3%), unmarried 541 (96.8%), Muslims 338 (60.5%), Yoruba (82.8%) and first-year students 304 (54.4%). Only a few respondents 100 (17.8%) believed it is good to support egg donation. Majority 357 (63.9%) believed that egg donors should be compensated (in cash or kind). Only 187 (33.4%) respondents agreed that egg donor and egg recipient should know each other. In addition, majority 503 (89.9%) of the respondents said they would not disclose their involvement in egg donation to their spouses. Slightly more than half (54.9%) of the respondents are not willing to donate their eggs for fear of the procedure, religious and cultural reasons.

Conclusion: Female undergraduates in the study area are not in support of egg donation and are mostly unwilling to donate their eggs. The university authorities should include egg donation as a topic in General Studies (GNS) to keep female students abreast of issues in egg donation to enable them make informed decisions prior to donation.

Keywords: Attitudinal Disposition, Egg Donation, Ethical Issues, Female Undergraduates, North-central Nigeria, Willingness to Donate Eggs

INTRODUCTION

All over the world, an estimated 15 percent of couples are infertile giving a staggering figure of about 48.5 million

couples (Agarwal *et al.*, 2012). There exists a number of treatment options for the management of infertility which include medical, surgical, and, in recent times, the assisted

reproductive technology (ART). ART involves the donation of healthy eggs, sperm, or embryo to enable an infertile couple to conceive and have their own babies. The donors of these eggs

and sperms may be known to the recipients or they may be anonymous. (Amato *et al.*, 2012) posited that these options are familiar in the reproductive communities of the western climes such as the United States of America (USA) where even those without infertility issues have used the said methods for procreation.

Egg donation is a form of treatment that includes the use of fertility medications to stimulate super ovulation (in the donor), ultrasound-guided laparoscopic egg retrieval and in-vitro fertilization of egg with spouse/donor sperm to form an embryo (Sargent, 2007). During the process of egg donation, eggs from another person (donor) are fertilized with sperm from the intended parent or designated sperm donor and transferred into the uterus of the patient (recipient) who is trying to conceive (Sam, 2016). Egg donation is mostly indicated in patients with terminated ovarian functions such as menopausal or ovariectomized patients, women with genetic disease or women who had received chemotherapy or radiotherapy at a young age and patients who have experienced recurrent miscarriages because of chromosomal abnormalities (Uslu *et al.*, 2016).

Although, there has been a slow public acceptance of this third party conception, egg donation has nevertheless become a popular method of treatment for infertility (Purewal, 2012). In actual fact, several thousand children are being born by conception through egg donation every year (Nancy J. *et al.*, 2010). Egg donation has, however, generated worldwide discussion involving its ethical, social, and psychological issues and risks (Brezina *et al.*, 2012).

The donation of egg and sperm to infertile couples has become an accepted method of assisted reproduction especially for couples who cannot produce the requisite egg and sperm (Olugbenga-Bello *et al.*, 2014) but availability of viable egg and sperm as and when due is, however, a prerequisite for all forms of ART. Most studies have focused on actual oocyte donors (Nancy J. *et al.*, 2010; Yee *et al.*, 2011; Eric Blyth *et al.*, 2012; Tulay *et al.*, 2019; American Society for Reproductive Medicine (ASRM), 2021), given the acute shortages of oocyte donors in recent times (Purewal *et al.*, 2009; Bernsen *et al.*, 2011; Mensah, 2019; Mensah *et al.*, 2020;), it is imperative to investigate what females from the general population think about oocyte donation as they constitute the pool of potential egg donors. Higher institutions in Kwara State enrol large number of female students who are potential donors of eggs to those who are

in need as a solution to their infertility problem. Therefore, willingness and attitude of undergraduate female students towards egg donation are very important influencing factors in the treatment of infertile couples whose infertility management requires donor eggs. It was based on this ground that this study was carried out to determine the willingness and attitude of female undergraduates of Universities in Kwara State, North-central, Nigeria towards egg donation to infertile couples.

METHODOLOGY

This descriptive cross sectional study was carried out between April and July 2018 among female undergraduates in Kwara State, North-central Nigeria enrolled for the 2017/2018 academic year (27,027 female undergraduates). The minimum sample size for the study was estimated using the formula for estimating sample size for a cross sectional survey when population is greater than 10,000 ($n = Z^2 PQ / d^2$, with a prevalence of 38% from a previous study (Tulay *et al.*, 2019). Multi-stage sampling technique was used to recruit a total of 559. An adapted, content validated questionnaire was used to collect the data for the study. The questionnaire was validated by experts and subjected to a reliability test, where reliability co-efficient of 0.86 was obtained, using Spearman Brown's split-half method. A total of 559 copies of the questionnaire were administered and retrieved by the researcher and the four trained research assistants. Likert's Scale was used to determine the attitudes of respondents while 'Yes' or 'No' response mode was used to assess their willingness to donate eggs. Frequency tables and charts were used to present the data. while Chi-square was employed to test the hypotheses at 0.05 level of significance. Ethical approval was obtained from the University of Ilorin Ethics Committee (UERC Approval number: UERC/ASN/2018/1406). Written informed consent was equally obtained from the participants and they were allowed to decline to participate in the study at any point in time.

RESULTS

Findings from this study revealed that two-thirds of the respondents 371 (66.3%) were within 15-20 years' age group (Table 1). Almost all the respondents were single 541 (96.8%), while those of the Islamic faith (Muslims) were the majority 338 (60.5%). More than four-fifth of the respondents were students of a public university (Unilorin) 461(82.4%). More than half of the respondents 304 (54.4%) in this study were in 100 Level (Figure 1). In table 2, it is shown that only a minority 109 (19.5%) of respondents

agreed that egg donation could help relieve emotional problems of infertile couples. while about the same proportion 100 (17.8%) believed it is good to support egg donation. This implied that the respondents in this study have a negative attitude towards egg donation. Regarding anonymity, about one third of the respondents 189 (33.4%) agreed that 'egg donor and egg recipient' should know each other. More than half 319 (57.1%) of the respondents also agreed that 'egg donors should have contact with the child(ren) produced through their egg(s) in the future'. Half 285 (51%) of the respondents agreed that 'child(ren) born by egg donation should be told about the donor of the egg that made them. This implied that respondents were not in support of anonymity in egg donation (Table 3).

Table 3 also shows the attitudinal disposition of respondents towards 'disclosure in egg donation'. Majority of the respondents were not in support of disclosure. This is because majority of them did not agree that egg donor should tell her friends 276 (49.4%), nor her parents 422 (75.5%) or her husband 503 (89.9%). As shown in table 4, majority 357 (63.9%) of the respondents believed that egg donors should receive compensation (in cash or kind). Most of the respondents felt that collection of money for egg donation was for the pain suffered by the donor and some of the respondents 119 (29%) would still prefer to be paid for the egg(s) they donate. However, slightly more than one-third 201 (36.0%) of the respondents felt that collection of money for egg donation is like selling the gift of life and some 178 (32.3%) believed that egg donation to infertile couples should be by altruisms (spirit of selflessness). Figure 2 shows that less than half of the respondents 252 (45.1%) were willing to donate their eggs.

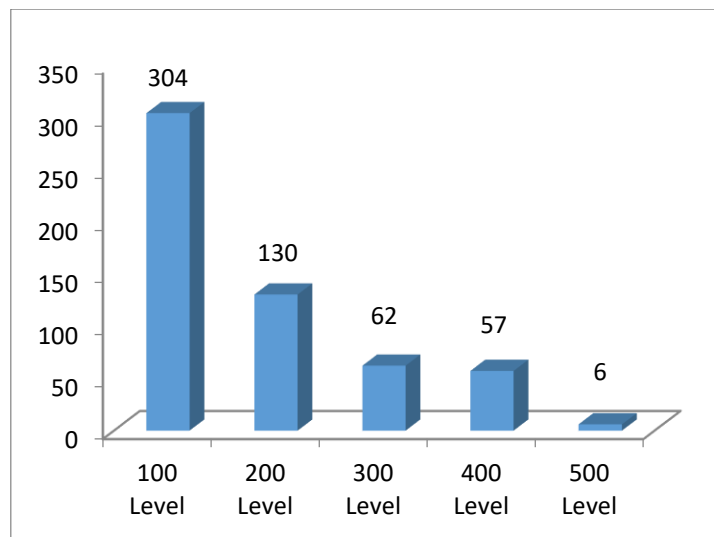


Figure 1: Level of Education of the Respondents

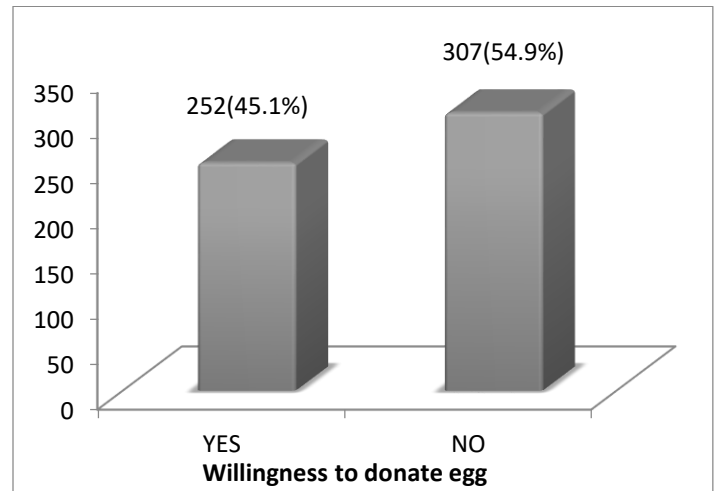


Figure 2: Willingness of Female Undergraduates of Universities in Kwara State to Donate Eggs to Infertile Couples

Table 1: Socio-demographic Characteristics of the Respondents

Variables	Frequency (%)	N=559
Age Groups		
15 – 20	371 (66.4)	
21 – 25	171 (30.6)	
26 – 30	15 (2.7)	
31 – 35	2 (0.4)	
Marital Status		
Single	541 (96.8)	
Married	17 (3.0)	
Divorced	1 (0.2)	
Religion		
Christianity	221 (39.5)	
Islam	338 (60.5)	
Institution		
Unilorin	461 (82.5)	
Kwasu	20 (3.6)	
Alhikma	78 (14.0)	
Ethnicity		
Yoruba	463 (82.8)	
Hausa/Fulani	35 (6.3)	
Igbo	15 (2.7)	
Others	46 (8.2)	

Table 2: Attitudes of the Respondents towards Egg Donation

S/N	Items	SA	A	PR	D	SD	NR
29	Egg donation is a good development to help infertile couples.	9 (1.6%)	14 (2.5%)	23	249 (44.5%)	287 (51.3%)	559
30	It is good to help infertile couples through egg donation by fertile women.	19 (3.4%)	43 (7.7%)	62	311 (55.6%)	186 (33.3%)	497
31	It is nice to donate egg to married female relatives who are infertile.	14 (2.5%)	85 (15.2%)	99	303 (54.2%)	157 (28.1%)	460
32	Egg donation can help relieve emotional problems of infertile couples.	27 (4.8%)	82 (14.7%)	109	261 (46.7%)	189 (33.8%)	450
33	It is good to support egg donation.	36 (6.4%)	64 (11.4%)	100	302 (54.1%)	157 (28.1%)	459

Source: Field Survey (2018) Key: SA- Strongly Agree, A- Agree, PR- Positive Response, D- Disagree, SD- strongly Disagree, NR- Negative Response

Table 3: Attitude of the Respondents towards Anonymity and Disclosure in Egg Donation

S/N	Items	SA	A	PR	D	SD	NR
34	The egg donor and the egg recipient should know each other even if they are not from the same family.	48 (8.5%)	139 (24.9%)	187	209 (37.4%)	163 (29.2%)	372
35	Child(ren) born by egg donation should be told about the donor of the egg that made them.	112 (20.1%)	173 (30.9%)	285	171 (30.6%)	103 (18.4%)	274
36	The egg donor should have contact with the child(ren) produced through her egg(s) in the future.	107 (19.2%)	212 (37.9%)	319	156 (27.9%)	84 (15.0%)	240
37	The egg donor should tell her friends before donating her eggs to infertile couples.	99 (17.7%)	184 (32.9%)	283	156 (27.9%)	120 (21.5%)	276
38	The egg donor should tell her husband before donating her eggs to infertile couples.	21 (3.8%)	35 (6.3%)	56	244 (43.6%)	259 (46.3%)	503
39	The egg donor should tell her parents before donating her eggs to infertile couples.	24 (4.3%)	113 (20.2%)	137	240 (42.9%)	182 (32.6%)	422
40	The egg donor should share her participation as egg donor with family.	55 (9.8%)	168 (30.1%)	223	195 (34.9%)	141 (25.2%)	336

Source: Field Survey (2018) Key: SA- Strongly Agree, A- Agree, PR- Positive Response, D- Disagree, SD- strongly Disagree, NR- Negative Response

DISCUSSION

As said earlier, Muslim respondents were the majority 338 (60.5%). This finding contrasted sharply with that of (Mensah, 2019) in Ghana in which the respondents were predominantly Christians (94.2%). This may be a reflection of the fact that this study was carried out in multiple institutions including public, private and faith-based (Islamic faith); while the Ghana study was done in only one public university.

Only 17.8% of respondents believed that it was good to support egg donation (in other words, they have a positive attitude towards egg donation). This finding is at variance with the findings of (Mensah, 2019) where more than half (52%) of the respondents showed positive attitude towards egg donation. It is also not in consonance with the findings

of (Purewal *et al.*, 2009) where almost half of the study participants had positive attitude towards human egg donation. Attitudes toward egg donation are connected to the perceived importance of what compromises motherhood and fatherhood (Purewal *et al.*, 2009). These attitudes tend to be grounded in cultural normative beliefs, which are often reinforced by religion. Hence, differences in the religious and socio-cultural settings of the respondents in this study compared to those in (Mensah, 2019) and (Purewal *et al.*, 2009) could explain the sharp contrasts in their attitudinal dispositions.

Regarding attitude towards anonymity, only one third of the respondents (33.4%) agreed that 'the egg donor and the egg recipient' should know each; implying that majority were in support of anonymous donation. This finding agreed with

what was reported by (Wånggren *et al.*, 2013). This finding also agreed with the finding by (Armuaud *et al.*, 2019).

From most studies, it appeared that most egg donors and egg recipients alike preferred anonymity and secrecy (i.e. non-disclosure) (Baetens *et al.*, 2000; Jadva *et al.*; Laruelle *et al.*; Thorn *et al.*). The reasons egg donors and egg recipients prefer anonymity and secrecy vary from region to region (Brezina *et al.*, 2012). The reasons for preference for anonymity and secrecy also vary with the type of donation. These concerns have been documented in previous studies (Baetens *et al.*, 2000; Purewal *et al.*, 2009; Brezina *et al.*, 2012). For example, with a known donor, the issue of anonymity is downplayed and the egg recipients would often play along and disregard anonymity; whereas recipients of eggs from commercial or volunteer donors might prefer anonymity in egg donation for fear of the fact that the egg donor may decide to claim ownership of the resulting child or children in the future should she encounter any reproductive difficulty.

Regarding disclosure in egg donation, majority of the respondents in this study were not in support of disclosure as 89.9% did not agree that egg donors should tell their partners, parents (75.5%) or friends (49.4%). This finding is at variance with the submission of some researchers who had reported positive attitudes towards disclosure (Hershberger *et al.*, 2007; Yee *et al.*, 2011). This finding is also not in consonance with the report of (Skoog Svanberg *et al.*, 2003) in which most of the study participants had positive attitude towards disclosure. The fact that (Skoog Svanberg *et al.*, 2003) conducted their survey among the public in Sweden rather than among sub-Saharan population of female students as in this study might explain the reason for the contradictory views of both populations. Furthermore, this finding is also at variance with the findings of (Uslu *et al.*, 2016) in which majority of the respondents (52.8%) had positive attitudes towards disclosure in egg donation. This study also discovers that respondents have divergent views regarding payment of compensation for egg donation. Whereas most (63.9%) believed that egg donors should receive compensation (in cash or kind) for the pain and discomfort suffered by the donor during the egg donation process; a minority of them (36%) felt that collection of money for egg donation is like selling the 'gift of life' and some (32.3%) felt that egg donation should be by altruisms (a spirit of selflessness). This submission of altruistic donation is supported by the minority in this study. In other words, most respondents were not favourably disposed to altruistic donation. This finding contrasts sharply with the findings of (Eric Blyth *et*

al., 2012) who, in their study amongst Canadian egg donors, reported that majority of the participants were largely in favour of an exclusively altruistic model of egg donation rather than collecting compensation in return for donated eggs.

The positive attitudinal disposition towards compensation in egg donation observed among most of the respondents (63.9%) in the current study corroborates the report of (Jadva *et al.*, n.d.) where most of their participants (98%) had positive attitudinal disposition towards financial compensation. This finding is also in consonance with the finding of (Tulay *et al.*, 2019) in which it was discovered that the major motivation of the egg donor in Nicosia North was the financial benefit. The positive attitude towards receipt of compensation as found in this study is also in consonance with the findings of (Lindsay B *et al.*, n.d.). In this study, less than half of the respondents (45.1%) were willing to donate their eggs. This is similar to findings of Mensah(2019) while a slightly different trend was observed by (Purewal *et al.*, 2009).

CONCLUSION

Female undergraduates in the study area have a negative attitude towards egg donation and towards disclosure in egg donation. They have divergent views on compensation in egg donation. However, they have a positive attitude towards anonymity in egg donation. Most of them are unwilling to donate their eggs to infertile couples for fear of the procedure, religious and cultural reasons. University authorities should include egg donation as a topic in General Studies (GNS) in order to equip students with adequate health information about it.

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CONFLICT OF INTREST

This research is original and has not been submitted or accepted for publication elsewhere. We hereby declare that there is no potential conflict(s) of interest(s) on this research.

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AUTHORS CONTRIBUTIONS

AHA: contributed to conception and design; participated in data analysis and interpretation and wrote the final draft

IRM: Took part in data collection, and statistical analysis, revised and approved the final draft.

OF: Contributed to statistical analysis, revised and approved the final draft.

AHA: Contributed to statistical analysis, revised and approved the final draft.

SAG: Contributed to statistical analysis, revised and approved the final draft.

MOI: Contributed to statistical analysis, revised and approved the final draft.

ASA: Contributed to statistical analysis, revised and approved the final draft.

ATM: Contributed to statistical analysis, revised and approved the final draft.

AIS: Contributed to statistical analysis, revised and approved the final draft.

ATS: Contributed to statistical analysis, revised and approved the final draft.

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