

KNOWLEDGE, PERCEPTION AND ATTITUDE OF INFERTILE WOMEN IN BENIN CITY, NIGERIA TO THE CAUSATION OF INFERTILITY AND INVITRO FERTILISATION AND EMBRYO TRANSFER.

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ABSTRACT:

BACKGROUND: The advent of assisted conception services has revolutionized the management of couples with long standing infertility. However, ethical, religious, cultural and moral factors may hamper acceptance of treatment. With increasing utilization of Assisted Reproduction Technology (ART) in Nigeria, it is important to document views and feelings of the infertile couple to ART service in a public funded hospital.

OBJECTIVE: To determine the Knowledge, perception and attitude of infertile women in Benin City to the causation of infertility and ART.

METHODS: This was a questionnaire based survey of 178 infertile patients attending the Human Research and Reproduction (HRRP) unit for the first time, with the aim of determining their knowledge, perception and attitude to ART.

RESULT: More of the respondents (62.5%) knew of the female causes of infertility than those (39.7%) who knew male causes. Majority of the respondents perceived the offsprings from IVF as normal (70.1%) and acceptable (71.9%). Slightly more than half of the respondents (50.2%) perceived the cost of IVF service as high. 24% would not accept IVF because of the cost and only 19% would accept adoption as a last resort

CONCLUSION: This study has shown that there is need for further enlightenment of the populace on factors contributing to infertility and also on the complimentary role of ART and adoption in infertility management. We recommend more government involvement in the provision of affordable ART services in our setting.

Keywords: Infertility, Assisted Reproduction Technology, Adoption Knowledge, perception, attitude

INTRODUCTION

Infertility is a great source of distress and discord among many couples. Population based studies have estimated the incidence of infertility to be between 10-15%,^{1,2} and half of these infertile couples will subsequently conceive without recourse to specialist treatment. Unfortunately, out of those who require treatment over 60% will not achieve conception with conventional infertility treatment³ and hence would require Assisted Reproduction Technology (ART). With the rapid progress in, and the current state of ART treatment outcome have improved greatly and couples hitherto considered to be in hopeless situation can now conceive at a rate similar to what is observed for young fertile couples.⁴

At the moment ART is associated with a lot of ethical and moral issues for which there is a low level of acceptance of ART therapeutic options by infertile couples. These issues have deepened with the advent of newer technologies.⁵ Areas of conflict include the acceptance of the procedures of ART, their possible long term effects on resultant offspring, sex selection, gamete freezing, gamete donation, embryo donation, fate of supernumerary embryo and

more recently pre-implantation genetic diagnosis and fetal reduction.⁶⁻¹⁰ All these significantly affect the perception and attitude of people in general and infertile couple in particular to ART treatment for infertility.

In spite of these controversies ART continue to be widely available and accessible as a compliment for infertility management in developed countries and utilization is very high because in the USA, in 1993 there were 8000 ART birth out of which 1000 were from cryopreserved embryos.¹¹

This is in contrast with the reality in low resource setting like ours where prevalence of infertility has not been recognized as an important index of reproductive health and there is public perception of ART as expensive and exotic treatment for infertility. This is why there are only few infertility management programs in developing countries

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despite its burden of infertility³ because of the notion that preventive strategy is the only profitable management of infertility and that the problem is overpopulation and its consequences and not infertility.¹² The paradox of overpopulation and high fertility existing with high prevalence of infertility in developing countries¹² could be explained by the prevailing social condition that encourage large family size and by the predominant underlying cause of infertility in developing countries. Whereas intrinsic problems like endocrine or genetic abnormality are common causes of infertility in developed countries, most cases of infertility in developing countries follow commonly complications of pregnancy and delivery in the woman and sexually transmitted infections in both sexes. The resultant infertility from these causes in our experience are often refractory to conventional treatment in about 60% of the cases³ which is the reason why ART ought to be available as a complement for infertility treatment.

Presently, ART service in Nigeria has very minimal government involvement because only two of the over fourteen In-vitro fertilization and Embryo transfer (IVF-ET) centers are in government owned hospitals due to the notion that IVF is very expensive and hence a wasteful public spending venture. ART in the private clinics is very expensive. The two public IVF-ET centers in Nigeria (National Hospital, Abuja and University of Benin Teaching Hospital Benin City) are expected to provide affordable IVF service to desiring couples.

With this background the views and feelings of the infertile couple to ART service delivery in a public funded hospital would be important to document alongside other option of infertility management like adoption.

This study was conducted to determine the Knowledge, perception and attitude of infertile women to IVF at the Human Reproduction Research Program Unit of University of Benin Teaching Hospital (UBTH) Benin City which is a dedicated program for infertility research and management. This study was done between June 2007 and May 2008 after the commencement ART services at the UBTH with the aim of detecting factors that may influence acceptance of ART and also assess the acceptance of adoption as a last resort for infertility management

Materials and Method.

This was a questionnaire based study conducted at the HRRP between June 2007 and May 2008.

Female partners of infertile couples consulting for infertility for the first time at the HRRP were requested to complete a semi structured questionnaire after they were counseled and their verbal consent obtained.

The questionnaire explored their demography, their knowledge of causation of infertility, and their knowledge, perception and attitude to ART and adoption.

A computer data base was generated with the completed questionnaire using SPSS statistical package version 15. The respondents were sub-grouped group using demographic criteria for the purpose of statistical analysis. Chi square or Fishers exact test with Yates correction were used where appropriate to determine significance differences in proportion between the subgroups.. A P-value of 0.05 was considered significant.

RESULTS

A total of 178 respondents completed the questionnaire during the study period. The respondents were mostly married (85.4%) in monogamous setting, in age range of 30-39 years(71.9%) with only 13.4% less than 30 years and 14.7% over 40 years. Over half(51.7%) had secondary education and a further 37.1% had tertiary education. About 62%(110 respondents) had never delivered before. The duration of infertility was less than 4 years in 29.2% but 10 years and more in 27% while seventy(57.4% of the 122 respondents that have ever been pregnant had their last pregnancy ending in an induced abortion while 34.4% had term deliveries.(See table 1)

Table 2 shows the respondents knowledge of infertility and invitro fertilization.

Most (37.1%)of the women felt they had the problem(cause of infertility) although 33.7% of the respondents had no idea as to the possible cause of their infertility. Only 4.5% of them felt the problem could be with their husband while 20.2% considered the possibility of both partners being the cause of their predicament. While 176(98.2%) of the respondents generally agreed a female factor can be the cause of infertility, only 110 (62.5%) of them could correctly identify the female factors that could cause infertility. Whereas, of the 156(87.6%) of the women who felt a male factor could be cause of infertility, only 62(39.7% could correctly identify male causes of infertility.

Although 132(74.2%) of the women claimed to having heard of IVF-ET, only 106(59.6%) of them could correctly identify the basic procedures

involved in IVF-ET.

Table 3: Perception of IVF and adoption

The majority (56.2%) of the respondents felt the cost of IVF is extremely high while 38.7% of them had no idea of the cost. The majority of the women see the offspring of IVF-ET as normal (70.1%) and acceptable (71.9%). Nevertheless some of the respondents perceive IVF-ET offspring as abnormal (18.4%) and unacceptable (28.1%) citing the fact that the procedure is not natural (28.1%), religion (20%) and stigma (20%) as reasons for their unwillingness to accept babies conceived through ART.

Table 4: Socio-demographic factors and perception of causation of Infertility and attitude to IVF.

The respondents knowledge of the causes of infertility in male and female was similar in the two age groups compared (i.e less than 35 yrs vs 35 yrs and more). However the older respondents (35 years or more) were more willing to accept offspring from IVF treatment as normal.

The respondents with tertiary education had better knowledge of both male ($p=0.00$) and female ($p=0.04$) factors involved in infertility and were more realistic in their perception of offspring conceived from IVF procedure than respondents with secondary education. ($p=0.005$). Significantly more respondents with higher level education expressed willingness to accept IVF babies as normal

PERCEPTION

The perception of offspring from IVF was not influenced by age, occupation or marital status of the respondents. However, the women who had delivered before were more likely to see IVF babies as abnormal compared to those who have not. ($p=0.00$). The more educated respondents were more likely to perceive IVF babies as normal. Similarly, significantly more respondents who have been infertile for more than 4 years perceived IVF babies as normal than those who have been infertile for less than 4 years. ($p=0.00$)

Acceptance

The older women (35 years or more) were significantly more willing to accept IVF babies than those younger than 35 years. ($p=0.01$). Also, the women who had never delivered before (nullipara) were significantly more likely to accept IVF babies than those who have not. ($p=0.00$).

Also, significantly more women with tertiary education would accept IVF babies than those with lower education. ($p=0.00$) The frequency of

acceptance was not different between women with secondary and those with primary education. ($p=0.12$)

The respondents who have been married for more than 4 years showed more willingness to accept IVF babies than those who were in marriage for 4 years or less. There was no difference in acceptance between women who were married for 4-9 years and those married for 10 years or more.

Only 34 (19.1) of the respondents would accept adoption as an option for the management of infertility. This low level of adoption was irrespective of their age, marital status, type of marriage- whether monogamy or polygamy, parity, educational status or duration of infertility.

DISCUSSION

The age and parity distribution of infertile women in this study shows that the majority of women with infertility had not delivered before and were aged between 31-39 years and this bears a good relationship with findings from a ten year experience earlier published from our unit.³ Women in this age group (31-39) are approaching the end of their reproductive years and are therefore more likely to seek medical assistance. The findings that a significant proportion of the women had their last pregnancy ending in induced abortion underscores the contribution of induced abortion to the aetiology of infertility.^{2,3,11,12}

Although several authors have documented the significant contribution of the male factor to the causation of infertility^{2-4,13}, few women from this study were knowledgeable about the role of the man in the causation of infertility as less than a quarter of them felt their husband could be the cause of their infertility with less than 40% being able to identify specific male factors of infertility. This finding demonstrates the prevailing ignorance of our women (and men) of infertility being the problem of the couple and not that of the woman alone¹² and this may explain the unfortunate observation that female partners of infertile union often times present to the clinic alone rather than in company of their husband. Whereas over half (50.6%) of the women in this study correctly recognized the basic procedures involved in IVF-ET with 79.9% expressing willingness to accept the procedure of IVF and the resulting offspring should the procedure be offered by their doctor, some 24% of them would still not accept IVF for reason of cost, stigma or religion. The older women (35 years or older) in this study showed

more wiliness to accept IVF and the offspring reflecting the greater desperation exhibited by women as the get older. Understandably to, more women who have never delivered before were more willing to accept IVF babies than those who have had one or two deliveries in the past. It is also instructive to note the positive effect of education on frequency of acceptance of IVF babies in this study. An increasing trend in acceptance was noted with increasing educational level. (See table 4) Previous authors have documented the positive impact of education on the health seeking behavior of patients.^{14,15}

Aside from socio-cultural factors that may affect acceptability of IVF-ET in any community, the cost of the procedure may also be an obstacle to desiring couple particularly in developing countries with high level of poverty. The vast majority (71.2%) of respondents in this study felt the cost of IVF was prohibitive and exclusive thereby confirming cost as a major impediment to wide spread acceptance.^{4,6,13,16}

This finding supports the concept behind the establishment of a government owned IVF center in our unit to provide services at low cost to desiring couples and also underscores the need for the establishment of similar centers in tertiary health institutions across the country.

The unwillingness of couple to accept adoption as an option in the treatment of infertility in our environment has been documented in the past by Odujirin and Lawson,¹⁷ and Aniebue and Aniebue⁷ from western and eastern Nigeria respectively. The findings from this study shows that the situation has not changed significantly as only 19.1% of the respondents showed willingness to accept adoption as an option should IVF fail. This rejection attitude was not influenced by socio-demographic characteristic of the women but rather was underlined by mainly religious and cultural factors. There is therefore an urgent need to educate the populace on the place of adoption in the management of infertility at every level of health care delivery as some women albeit a small percentage of the whole would go through IVF without success. That is nature/life!

CONCLUSION

We have shown in this report that women seeking infertility treatment in our center are mostly nulliparous (never delivered before and significantly old. Their knowledge of causes of infertility is unacceptably low particularly the male factor. It is reassuring that most of the women were aware of

IVF which is the ultimate in medical treatment of infertility and are also willing to accept IVF treatment but the cost was identified by the majority as hindrance to access. The proportion of respondents who still deride IVF in this 21st century shows that there is need for public enlightenment in the area of acceptability.

We also revealed the low level of acceptance of adoption as a last resort of infertility management in our setting. Again this calls for education of the populace on the place of adoption in infertility management as not all infertile couples would go through IVF successfully.

RESULTS: Table 1: Dermography y

Characteristic	Frequency	%	
Age (yrs)	=24	4	2.2
	25-29	20	11.2
	30-34	54	30.3
	35-39	74	41.6
	=40	26	14.7
Parity	0	110	61.8
	=1	68	38.2
Marital Status	Single	22	12.4
	Married	152	85.4
	Separated / divorced	4	2.2
Education	1 ^o	20	11.2
	2 ^o	92	51.7
	3 ^o	66	37.1
Occupation	Business	110	61.8
	Civil Servant	46	25.8
	Housewife	10	5.6
	Student	12	6.7
Type of Marriage	Monogamous	132	86.8
	Polygamous	20	13.2
Previous Childbirth	Yes	68	38.2
	No	110	61.8
Years of infertility	= 4yrs	52	29.2
	5-9yrs	78	43.8
	= 10yrs	48	27.0
Last Pregnancy Outcome	Induced Abortion	70	57.4
	Miscarriage	10	8.2
	Delivery	42	34.4

Table 2: Respondents' Knowledge of Infertility and IVF/ET

Type of Knowledge	Frequency	%	
Cause of Her Infertility	Don't Know	60	33.7
	Will of God	8	4.5
	Self	66	37.1
	Husband	8	4.5
	Both	36	20.2
Can a woman be Cause of Infertility.	Yes	176	98.9
	No	2	1.1
Identification of female causes	Correct	110	62.5
	Incorrect	66	37.5
Can a man be cause of Infertility.	Yes	156	87.6
	No	22	12.4
Identification of male cause	Correct	62	39.7
	Incorrect	94	60.3
Heard of IVF	No/Yes	46	25.8
	Yes	132	74.2
	Correct	106	59.6 (80.3)
	Incorrect	26	14.6 (19.7)

Table 3: Perception of IVF and Adoption by Patients

	Response	Frequency	%
Cost	Very High	84	47.2
	High	16	9.0
	Affordable	18	10.1
	Don't Know	56	33.7
Perception of Babies from IVF	Abnormal	32	18.4
	Normal	122	70.1
	Don't Know	20	11.2
Acceptance of IVF babies	Yes	128	71.9
	No	50	28.1
Reasons for Non acceptance	Cost	12	24.0
	Not Natural	14	28.0
	Religion	10	20.0
	Stigma	10	20.0
	Don't know	4	8.0
Acceptance of Adoption	Yes	34	19.1
	No	144	80.9
Reasons for Non acceptance	Don't Know	8	5.6
	Cultural	46	31.9
	Religion	16	11.1
	Stigma	24	16.7
	Have a child	18	12.5
	Want own Child	32	22.2

Table 4: factors affecting Knowledge, perception and attitude to infertility and IVF

Variables(n)	Female causes		Male causes		IVFbabies		Accept IVF baby	
	Correct N(%)	P value	Correct	P value	Normal.	P value	Yes	P value
Age- <35(78) =>35(100)	42(53.8 68(68)	0.07	32(38.5 30(30.0)	0.17	54(69.2 68(68.0)	0.99	48(61.5 70(70)	0.01
Education.1(20) 2(92) 3(66)	3(15) 52(56.5) 55(83.3)	0.00	2(10.0) 33(35.9) 27(40.9)	0.04	9(45.0) 53(57.6) 60(90.9)	0.00	10(50) 62(67.3) 56(84.8)	0.00
Parity 0(110) =>1(68)	58(52.7) 52(76.5)	0.08	39(35.6) 23(38.2)	0.95	86(78.2) 36(52.9)	0.00	92(83.6 3652.9)	0.00
Duration =<4years(52) 5-9(78) =>10(48)	26(50) 46(59) 28(58.3)	0.56	20(38.5) 32(41.0) 15(31.3)	0.52	27(51.9) 61(78.2) 34(70.8)	0.01	29(55.7 59(75.6 40(83.3)	0.01
Occupation Business(110) Civilservant(46) House wife(10) Student(12)	67(60.9) 29(63.0) 4(40) 10(83.3)	0.22	33(30.0) 18(39.1) 4(40.0) 7(58.3)	0.53	78(70.9) 30(69.60) 6(60.0) 8(66.0)	0.83	74(67.3 32(69.6 4(40.0 8(66.0)	0.34
Type of marriage Single(22) Separated(4) Monogamous(134) Polygamous(20)	10(45.5) 3(75.0) 75(56.8) 12(60)	0.64	10(45.0) 1(25.0) 47(35.6) 4(20.0)	0.01	10(45.0) 2(50) 96(72.7) 14(70.0)	0.09	13(59.1 3(75.0 97(73.5 15(75.0)	0.61

Table 5: Attitude of Women towards Adoption

Variables(n)	Yes(n(%)	No(n(%)	p-value
Age	<35yrs(78)	14(17.9)	64
	>35yrs(100)	20(20.0)	80
Educational Status	1(20)	4(20.0)	16
	2(92)	14(15.2)	78
	3(66)	16(24.2)	50
Occupation	Business(110)	22(20.0)	88
	Civil Servant(46)	8(17.4)	38
	House Wife(10)	0(0.0)	10
Parity	Student (12)	4(33.3)	8
	0(110)	22(20.0)	88
Type of Marriage	=1(68)	12(17.6)	56
	Single (22)	2(9.1)	20
Duration of Infertility	Divorced/ Separated(4)	1(25.0)	3
	Monogamous(132)	25(18.9)	107
	Polygamous(20)	6(30.0)	14
	=4yrs(52)	10(19.2)	42
Acceptance of Adoption	=5-9yrs(78)	12(15.4)	66
	=10yrs(48)	12(25.0)	36
	No	144	80.9

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