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Psychological Issues among Women Undergoing Fertility Treatment in a Specialist Fertility Hospital, South East Nigeria

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Abstract

Introduction: In Nigeria, a major reason for marriage is procreation and married couples look forward to having children within a year or two of marriage. The inability to achieve conception and subsequently have a child among couples may lead to psychological complications. **Objective:** This study assessed the psychological impact of infertility and its management on women receiving treatment at a Fertility Specialist Hospital in a poor resource setting. **Methods:** This was a cross-sectional study of 376 consenting married women who sought and received fertility treatment at a private Fertility Specialist Hospital, located at Abakaliki, South-East Nigeria between May 1, 2017 and May 31, 2022. Socio-demographic and Structured questionnaires were administered to the participants over a 5-year period. **Results:** The mean age of the women at presentation was 36.9 (±7.2 SD) years. The majority of the women (227) presented with secondary infertility accounting for 60.4%, while the rest had primary infertility (χ^2 = 16.18, P = 0.001). Male-only factor infertility accounted for 22.9% of all the infertility cases, female-only factor 21.3% while both (male and female factors co-existing) accounted for 52.7% of all the cases. The commonest cause of infertility in the study was poor sperm parameters (176) accounting for 46.8% of cases, tubal factor 19.1% and anovulatory factor 22.3% (χ^2 = 214.21, P = 0.001). Three hundred and thirty four (88.8%) felt depressed, 266 (70.7%) felt guilty about the past, and 222 (59.0%) had suicidal tendencies because of the infertility ordeal. Two hundred and fifty one (66.8%) felt inferior, 237 (63.0%) cried often and 174 (46.3%) were socially withdrawn. However, 10.4% of the women felt satisfied and well. These negative psychological feelings were statistically significant. Concerning the

effect on marriage, the closeness of couples was reduced significantly in 57.7%, 62.8% had reduced coital intimacy, 79.3% had frequent quarrel and misunderstanding, 27.9% had threats of divorce while 4.5% had actually divorced and 11.% separated. However, there was no negative effect of infertility in 8.8% of couples. **Conclusion:** Psychological issues associated with infertility and its management in women include feelings of depression, guilt feelings, suicidal ideation, weeping episodes, social withdrawal, feelings of inferiority, reduced libido, and poverty of intimacy with frequent quarrels and misunderstanding. Women appear to bear more of the psychological issues associated with infertility. Early marriage on the part of the women, preservation of their reproductive youthful ages, and a better understanding of the concept of infertility by the couple will not only reduce the prevalence of infertility but will also reduce the dangerous psychological issues associated with infertility.

Keywords

Infertility, Psychological Issues, Fertility Treatment, Fertility Hospital, Nigeria

1. Introduction

One of the major reasons for marriage is procreation and many married couples especially in Africa look forward to having children within a year or two of marriage. Unlike in the Western world, Africans attach great importance to childbearing, and couples who do not achieve this feel unfulfilled [1]. Generally, infertility is defined as the inability of a couple to achieve conception after twelve months of regular, unprotected vaginal sexual intercourse at least two to three times a week [1]. However, the World Health Organization's definition based on 24 months of trying to get pregnant is recommended as the definition that is useful in clinical practice [2] [3].

Infertility poses a wide range of social, cultural, psychological and financial challenges [1]. More than 80 million individuals suffer at least one form of infertility [1]. The prevalence of infertility varies from country to country and even within the same country. Prevalence of 3% to 30% has been reported [1] [2].

Infertility may be primary when the couple never achieved conception irrespective of the outcome, or secondary when the couple had achieved conception at one time or the other in their reproductive career irrespective of the outcome [4].

In our environment, one major means men and women demonstrate their masculinity and womanhood respectively, is through childbirth [5]. Despite the fact that in most cases of infertility, both men and women contribute equally to the aetiological factor, women are usually blamed when there is a delay in childbirth [6]. In Africa, men are usually regarded as never infertile and unblemished when the issue of infertility is discussed. Women dare not challenge this assumption even when there is scientific evidence that men are culpable. This cul-

tural anomaly leaves the psychological burden of infertility mainly on women and includes frustration, depression, anxiety, hopelessness, guilt, feelings of worthlessness in life, and even suicidal tendency [7]-[13] [14]-[21]. This study assessed the psychological impact of infertility and its management on women receiving treatment at a Fertility Specialist hospital in a poor resource setting.

2. Methods

2.1. Setting

This study was conducted at a private Fertility Specialist Hospital, located at Abakaliki, South-East Nigeria. Smile Specialist Hospital was established in 2012.

2.2. Participants

This was a cross-sectional study of 376 consenting married women conducted over a five-year period (May 1, 2017 to May 31, 2022). Women aged 16 years and above were included while those with co-morbid medical conditions, single women, past history of mental illness or use substances of abuse were excluded from the study. Every woman who presented for fertility treatment at the hospital was a candidate for the study after ruling out the exclusion criteria as mentioned above. Women who met the inclusion criteria were further asked to voluntarily consent to the study or opt out. Those who consented were finally included but were told they could still opt out at any stage of the study.

2.3. Instruments

2.3.1. Socio-Demographic and Clinical Characteristics Questionnaire

This questionnaire designed by the authors has two parts that show the socio-demographic characteristics and the clinical profile of the study participants. The socio-demographic component of the questionnaire provided information about age, occupational, level of education, ethnicity and religion. The Clinical profile part of the questionnaire was elicited in two ways: the first was from patients' response about her feelings and effects of infertility on their marriage while the second part (type of infertility, aetiology of infertility, factors of infertility, etc.) was supplied by the Gynaecologists after thorough clinical assessment including examination and investigations.

2.3.2. Structured Questionnaire

This elicited the feelings of the women and the effects of infertility on their marriage while information on the factors associated with the infertility, and the aetiological factors as were as the type of infertility were obtained by clinical examinations and investigations.

2.3.3 Ethical Issues

The study protocol was approved by the Ethics and Research Committee of the Smile Specialist Hospital Abakaliki, where the Principal Investigator is affiliated to. The study procedure was interview-based and non-invasive. Written in-

formed consent was also obtained from all the willing participants. Participants were duly informed that they could freely withdraw from the study protocol at any point, even after having consented. Such withdrawals did not affect their medical care in the hospital.

2.3.4. Procedure

The women who met the inclusion criteria were recruited for the study as they presented at the hospital after diligent counseling. Those who consented were given a structured questionnaire to go home with, answer the questions and return the questionnaire during the subsequent clinic visit. Information on the socio-demographic characteristics of the respondents, the feelings of the women and the effect of infertility on their marriage were obtained through the questionnaire while information on the factors associated with the infertility, the aetiological factors as were as the type of infertility were obtained after clinical examination and investigations.

2.3.5. Statistical Analysis

Data obtained were analyzed using MathCAD 14 Professional. The mean, standard deviation and statistical significance were calculated. Data were displayed using tables, frequencies and percentages.

3. Result

Out of the 376 who presented for infertility treatment, none was below the age of 16 years. Only 5 (1.3%) fell within the age range of 16 - 20 years while the largest number of women (115) accounting for 30.6% of the entire women were within the age range of 36 - 40 years. The mean age of respondents is 36.9 (±7.2 SD). All the participants were Christians and of Igbo tribe. Only 23 women (6.1%) had no formal education, 225 (59.8%) had tertiary education while 77 (20.5%) and 51 (13.6%) had secondary and primary education respectively. The largest number of women were in social class one (188) and accounted for 50.0% of the entire respondents while the least belongs to social class five (25) and accounted for 6.6% of the population of the respondents. Table 1 shows the socio-demographic characteristics of participants.

Two hundred and seven (55.1%) married at the age range 26 - 35 years, 111 (29.5%) married at the age range 36 - 45 years. Only 39 women (10.4%) married before age 26 years. Mean age of marriage is 33.4 (±8.0 SD) years. Table 2 shows the age of marriage of the participants.

The duration of marriage of the majority of the women (129), 34.3% before seeking for medical help was less than 6 years. One hundred and sixteen women (30.9%) presented between 6 - 10 years of their marriage, 72 presented between 11 - 15 years of their marriage while 6 women presented after 25 years of their marriage. The mean duration of their marriages at presentation is 9.3 years (±6.3 SD). Table 3 shows the duration of Marriage of the participants.

Majority of the women (227) presented with secondary infertility accounting

Table 1. Socio-demographic characteristics of respondents.

N = 376		
Socio-demographic Characteristics	**No of Respondents**	**Percentage (%)**
Age		
16 - 20	5	1.3
21 - 25	11	2.9
26 - 30	63	16.8
31 - 35	71	18.9
36 - 40	115	30.6
41 - 45	52	13.8
>45	59	15.7
Mean (SD)	36.9 (±7.2)	
Parity		
0	149	39.6
1 - 4	201	53.5
≥5	26	6.9
Educational Status		
None	23	6.1
Primary	51	13.6
Secondary	77	20.5
Tertiary	225	59.8
Social Class [21]		
1	188	50.0 [17]
2	92	24.5
3	54	14.4
4	17	4.5
5	25	6.6

Note: Social class based on the woman's educational level and her husband's occupation [21].

Table 2. Age of marriage.

N = 376		
Age of Marriage	**No of Respondents**	**Percentage (%)**
<26	39	10.4
26 - 35	207	55.1
36 - 45	111	29.5
>45	19	5.0
Mean (SD)	33.4 (±8.0)	

for 60.4%, while the rest had primary infertility (χ^2 = 16.181, P = 0.001). Table 4 shows type of infertility.

Male only factor infertility accounted for 22.9% of all the infertility cases, female only factor 21.3% while both (male and female factors co-existing) accounted for 52.7% of all the cases. In 3.1%, the factor of infertility is unknown (χ^2 = 189.36, P = 0.001). Table 5 shows the factors of infertility. The commonest cause of infertility in the study was poor sperm parameters (176) accounting for 46.8% of causes, tubal factor 19.1% and anovulatory factor 22.3% (χ^2 = 214.21, P = 0.001). Table 6 shows aetiology of infertility. Three hundred and thirty four (88.8%) felt depressed at one point or the other, 266 (70.7%) felt guilty of their past lives, 222 (59.0%) had suicidal tendency at one time or the other in their infertility ordeal. 251 (66.8%) felt inferior, 237 (63.0%) cried often while 174 (46.3%) felt withdrawn from the public for shame. However, 10.4% of the women felt satisfied and well. Table 7 shows expressed feelings of infertile women.

Concerning the effect on the marriage, closeness of the couples were reduced

Table 3. Duration of marriage.

N = 376		
Duration of Marriage	**No of Respondents**	**Percentage (%)**
<6	129	34.3
6 - 10	116	30.9
11 - 15	72	19.1
16 - 20	31	8.2
21 - 25	22	5.9
>25	6	1.6
Mean (SD)	9.3 (±6.3)	

Table 4. Type of infertility.

Types of Infertility	No of Respondents	Percentage (%)	χ^2	P-value
Primary	149	39.6	16.181	0.000
Secondary	227	60.4		
Total	376	100.0		

Table 5. Factors of infertility.

Factors of Infertility	Number	Percentage (%)	χ^2	P-value
Male only	86	22.9	189.362	0.000
Female only	80	21.3		
Both	198	52.7		
Unknown	12	3.1		
Total	376	100.0		

significantly in 57.7% , 62.8% had reduced coital intimacy, 79.3% had frequent quarrel and misunderstanding, 27.9% had threats of divorce while 4.5% had actually divorced and 11.% separated. However, there was no negative effect of the infertility on 8.8% of couples. All the negative effects on marriage were statistically significant. Table 8 shows the negative effects of infertility on the marriage.

Table 6. Aetiology of infertility.

Aetiology	Number	Percentage (%)	χ^2	P-value
Tubal	72	19.1	214.213	0.000
Anovulatory	84	22.3		
Poor sperm parameters	176	46.8		
Uterine	32	8.5		
Unknown	12	3.3		
Total	376	100.0		

Table 7. Expressed Feelings of infertile women.

N = 376				
Feelings	**No of Respondents**	**Percentage**	**Z-test**	**P-value**
Depressed	334	88.8	226.766	0.000
Feel like committing suicide	222	59.0	12.298	0.000
Feel like dying	168	44.7	4.255	0.039
Cries often	237	63.0	25.543	0.000
Feels inferior	251	66.8	42.223	0.000
Feeling of withdrawal from public	174	46.3	2.085	0.149
Feels guilty	266	70.7	64.723	0.000
I hate myself	238	63.3	26.596	0.000
Feels well and satisfied	39	10.4	236.181	0.000

Table 8. Negative effects of infertility on the marriage.

N = 376				
Negative Effects	**No of Respondents**	**Percentage**	**Z-test**	**P-value**
Reduce closeness of couple	217	57.7	8.947	0.003
Reduced coitus	236	62.8	24.511	0.000
Frequent quarrel	298	79.3	128.723	0.000
Frequent fighting	167	44.4	4.691	0.030
Separated	43	11.4	223.670	0.000
Divorced	17	4.5	311.074	0.000

Continued

Threats of divorcement/separation	105	27.9	72.287	0.000
Husband married another wife	48	12.8	208.511	0.000
Threat to marry another wife	79	21.0	126.394	0.000
Willingness to seek help from another man	107	28.5	69.798	0.000
Has actually sought help from another man	65	17.3	160.947	0.000
Advised by husband to seek another man	45	12.0	217.543	0.000
Reduced closeness with in-laws	176	46.8	1.532	0.216
Interference from in-laws	248	66.0	38.298	0.000
No negative effect	33	8.8	255.585	0.000

4. Discussion

The study showed that the majority of the women were within the age range of 36 - 40 years, with the mean age of 36.9 (±7.2 SD) years while the mean age of marriage was 33.4 (±8.0 SD) years. It has been reported that the fertility of a woman is affected among other factors by her age, rising from puberty, peaking at 25 years of age and then falling as the age increases such that at the age of 35 years, the fertility of a woman has declined by 50% and at age 37 years, she only has a fertility profile of 25% especially if the woman has not conceived before [15]. The majority of the women had tertiary education and were in social class one. An increasing number of women in our society are deferring their marriages in the quest for advanced western education with subsequent better social lives unlike what was obtained in the past when our parents and grandparents in Africa married at a very early age, some even before their menarche [15] [16]. This new embrace of better education and social life at the expense of early marriage is increasingly becoming a significant factor in infertility in our environment [15]. Harrison has demonstrated that the basic educational level a woman needs to attain in order to reduce maternal mortality and give excellent care to her children is the secondary level of education [18] [19] [20]. It may therefore be better for a woman to acquire this basic education, marry early before or at the peak of her fertility, and commence childbirth to avert or reduce the prevalence of infertility and its attendant consequences, thereafter; she may obtain more education and pursue her career. A greater percentage of the women presented for help within the first five years of marriage. In our environment, childbirth is a major reason for marriage and couples and their relatives get worried if after a few months of marriage, there is no sign of pregnancy [1] [2] [5] [19] [20] [21] [22] [23]. It is not surprising, however, that as high as 34.8% presented for help after 10 years of marriage. In our environment where religion is a very important part of our daily lives, many couples resort to their religious faith and

beliefs as the first line of treatment and only seek medical attention when it appears their hopes have been dashed.

Secondary infertility is commoner in this study accounting for 60.4% of all the respondents. This agrees with other studies which have reported secondary infertility as a commoner in our environment [4]. Late marriage with an attendant decline in ovarian reserve as well as pelvic infections from various factors such as puerperal sepsis from delivery in an unhygienic environment which is common in our society as well as unsafe abortions and sexually transmitted infections, may be responsible for the high incidence of secondary infertility [4] [6] [15]. Both males and females contribute almost equally to the aetiology of infertility in this study. This agrees with other studies [6] [19]. In many climes all over the world, women are usually blamed as the harbinger of infertility designating men as innocent and inculpable [6]. Many studies have continuously implicated women and men in equal proportion as far as infertility is concerned [6]. It is therefore necessary for the couples to understand the meaning of infertility which is inability of a couple (and not a spouse) to achieve conception after 12 months of unprotected, regular vaginal intercourse of 2-3 times a week [1] [2] [3]. A better understanding of this definition will eliminate or reduce to the barest minimum the unnecessary blame games. This will in turn mitigate the psychological issues associated with infertility as both couple will pursue the remedy with love and trust.

The majority of the women in this study had depression as the commonest psychological issue in their ordeal. This is followed by feeling of guilt and an inferiority complex. Others felt like committing suicide, while others prefer to cry and get withdrawn from the public for shame. This agrees with other reports [1] [14]-[23]. Many women in their youthful age misbehave and fail to handle their reproductive health properly. Some get engaged with unsafe sexual intercourse with attendant pelvic inflammatory diseases and unwanted pregnancies leading to unsafe abortions. All these eventually lead to tubal blockage [4]. Some deliberately turned down many suitors and ended up marrying late. When they look back to their wasted youthful age, they felt depressed, guilty and inferior, hating themselves for their unwise actions in the past. Some actually feel like committing suicide and may eventually do that if not properly and timely handled.

Infertility has been reported to have tremendous negative effects on marriages all over the world [1] [7]. This study also agreed with the above assertions. The commonest negative effect on marriages is frequent quarrel followed by reduced frequency of sexual intimacy and interference by in-laws. Unfortunately, the reduced frequency of coitus will eventually exacerbate the problem of infertility as the couples will likely miss the fertile periods of the woman. Other sad negative effects on the marriages include frequent fighting, threat of separation/divorce, threat to marry another wife, actual divorce/separation, threat to seek help from another man and actually seeking help from another man, marrying another wife and agreement by both couples for the wife to seek help from another man when

the man has sperm problem. These negative effects have been reported by many researchers and in many countries both developed and developing [1] [7]-[14].

5. Limitations

This was a cross-sectional study with participants selected from one Centre. The findings may not be generalized to the entire population. The data however provide useful information for future studies. Also, the study did not follow the women up to know how psychological issues were resolved.

6. Conclusions

Infertility is a big marital challenge affecting all climes with attendant psychological consequences. It appears to be increasing all over the world because of the increasing incidence of late marriages and wastage of youthful age. Both couples are equally culpable in the aetiolgy of infertility though society tends to harass women as the harbinger of the problem. Women, therefore, bear more of the psychological issues associated with infertility, more so as the men have various methods of getting out of the quagmire such as marrying another wife.

Early marriage on the part of the women, preservation of their reproductive youthful ages, and a better understanding of the concept of infertility by the couple will not only reduce the prevalence of infertility, it will also reduce the dangerous psychological issues associated with infertility.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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Questionnaire

Questionnaire on the Psychological issues among women undergoing fertility treatment in a Specialist Fertility Hospital, South East Nigeria.

This questionnaire is strictly for research purposes only. All information obtained shall be treated with utmost confidentiality. Participants are free to join (except if they do not meet the inclusion criteria) and are free to opt out at any stage of the study without any consequences.

A. Socio-Demographic characteristics of participants

1. Age (yrs) (a) <16 (b) 16 - 20 (c) 21 - 25 (d) 26 - 30 (e) 31 - 35 (f) 36 - 40 (g) 41 - 45 (h) >45
2. Parity. (a) 0 (b) 1 - 4 (c) ≥5
3. Educational Status (a) None (b) Primary (c) secondary (d) Tertiary
4. Occupation of your husband (a) Artisan (b) Civil Servant (c) Teacher (d) Lecturer
   (e) Business mogul (f) Politician (g) Farmer
   (h) Trader (i) Banker (j) Corporate Executive
   (k) Any other (explain)……..
5. How old were you when you married (yrs)? (a) <26 (b) 26 - 35 (c) 36 - 45 (d) >45
6. How old is your marriage (yrs)? (a) <6 (b) 6 - 10 (c) 11 - 15 (d) 16 - 20 (e) 21 - 25(f) >25

B. Clinical characteristics of the participants

7. Type of Infertility (a) Primary (b) Secondary
8. Factors of Infertility (a) male only (b) Female only (c) Both (d) Unknown
9. Aetiology of Infertility. (a) Tubal (b) Anovulatory (c) Poor Sperm parameters (d) Uterine
   (e) Unknown
10. How do you feel that you do not have any child?
    (a) Depressed (b) feel like committing suicide (c) Feel like dying (d) Cries often
    (e) Feels inferior (f) Feeling of withdrawal from the public (g) Feels guilty (h) I hate myself
    (i) Feels well and satisfied
11. Have you had any treatment for infertility in the past (a) yes (b) No
12. Have you had IVF (*in vitro* fertilization) treatment in the past? (a) Yes (b) No
13. How did you feel when your last treatment failed?
    (a) Depressed (b) feel like committing suicide (c) Feel like dying (d) Cries often
    (e) Feels inferior (f) Feeling of withdrawal from the public (g) Feels guilty (h) I hate myself
    (i) Feels well and satisfied
14. How does the absence of any child in your marriage negatively affect your marriage and your relationship with your husband?
    (a) Reduced coitus (b) Frequent quarrel (c) Frequent fighting (d) Separated
    (e) Divorced (f) Threats of divorcement/separation (g) Husband married another wife
    (h) Threats to marry another wife (i) Willingness to seek help from another man
    (j) Has actually sought help from another man (k) Advised by husband to seek another man
    (l) Reduced closeness with in-laws (m) Interference from in-laws
    (n) No negative effect