

# Depression and Anxiety Disorders amongst a Cohort of Infertile Women Attending an In-Vitro Fertilization Clinic in South-western Nigeria

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## ABSTRACT

**Background:** Psychological consequences of infertility have been documented in both developed and less developed countries. Depression and anxiety disorders have been identified as important causative factors. The prevalence of psychiatric morbidity amongst infertile women has been shown to be quite high with values as high as 46.4%. A high premium is placed on childbirth in Nigeria and failure to conceive is associated with disastrous consequences. Failed In-Vitro Fertilization (IVF) cycles have been implicated in psychological distress.

**Objective:** This study aimed to determine the prevalence of anxiety and depression amongst infertile women undergoing IVF and to examine the psychosocial stressors associated with the development of these morbidities.

**Materials and Methods:** A descriptive cross-sectional study of fifty-one infertile women attending an In-Vitro Fertilization clinic in Lagos, South Western, Nigeria. Participants were recruited consecutively at their first consultation visit and a self-administered questionnaire consisting of sociodemographic information along with the

Hospital Anxiety and Depression Scale (HADS) was completed by the participants. Data obtained from the respondents was analyzed using the Statistical Package for Social Sciences (IBM SPSS, New York) version 21. The Chi-Square statistic was used in testing for associations between categorical variables.

**Results:** The mean age of the respondents was 38.96 ± 5.91 years with a range of 23-49 years. 76.5% (39/51) of the women had infertility greater than 5 years, while 49 % (25/51) of the women were aged 40 years and above with 96% (24/25) of this group experiencing infertility greater than 5 years. Anxiety was recorded in 24 respondents (47.1%) while Eighteen respondents (35.3%) had evidence of depression. Marital disharmony was found to be associated with the development of anxiety (P<0.05).

**Conclusion:** The impact of infertility on the Nigerian couple can be devastating. Lack of support coupled with the overbearing and intrusive nature of family members predisposes to the development of psychosocial distress. We therefore recommend that Physicians pay attention to the psychosocial stressors experienced by infertile women prior to In-Vitro Fertilization with the aim of ensuring appropriate referral for psychiatric assessment and treatment.

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## INTRODUCTION

Infertility refers to the inability of a couple to achieve conception after one year of regular unprotected intercourse. It may lead to physical, emotional and financial burdens.<sup>1</sup> For a normal and very fertile couple having regular unprotected sexual intercourse, their chance of achieving pregnancy in one cycle/month is close to 25% but cumulatively about 90% at the end of one year. Psychological consequences of infertility have been documented in both developed and less developed nations.<sup>2,3</sup> However in Africa, infertility may be an important cause of marital conflicts and societal stigmatization often manifested by exclusion from important family and social events<sup>4</sup>.

The prevalence of psychiatric morbidity amongst infertile women has been shown to be quite high with values as high as 46.4%.<sup>5</sup> Depression and anxiety disorders have been identified as important causative factors<sup>5</sup>. Major Depressive Disorders (MDD) have been reported to be twice as common in women as in their male counterparts with onset in the childbearing years<sup>6</sup>. Psychosocial stressors seem to be the precipitating factor especially in women<sup>7</sup>. High marital conflicts as experienced by infertile couples and attendant low psychosocial support may be reinforcing factors in Africans, who place a high premium on child bearing. Major Depressive Disorders may be recurrent or chronic, thus affecting the individuals for several years, and with profound impact on their families<sup>8</sup>.

There is an urgent need for reproductive health care professionals especially Gynaecologist to identify these morbidities amongst women seeking infertility treatment with the aim to provide the necessary collaborative psychosocial support without compromising care.

## METHODOLOGY

A descriptive cross-sectional study of infertile women attending an In-Vitro Fertilization clinic in Lagos, South West, Nigeria between 1<sup>st</sup> January 2015 and 30<sup>th</sup> June, 2015. Participants were

recruited consecutively at their first consultation visit to the clinic. A self-administered questionnaire consisting of sociodemographic information along with the Hospital Anxiety and Depression Scale (HADS) was completed by the participants. Excluded from the study were non-consenting women and those with a history of mental illness.

Anxiety and depression in these women were assessed using the Hospital Anxiety and Depression Scale which is a 14 item self-report instrument with anxiety and depression subscales. Data obtained from the respondents was analyzed using the Statistical Package for Social Sciences (IBM SPSS, New York) version 21. The Chi-Square statistic was used in testing for associations between categorical variables. P-value of <0.05 was considered significant.

## RESULT

A total of fifty-five consecutive infertile patients attending an In-Vitro fertilization clinic were recruited into the study. Four patients declined participation. Fifty-one patient's data were available for analysis. The mean age of the respondents was  $38.96 \pm 5.91$  years with a range of 23-49 years. 82.4% (43/51) of the respondents were Professionals while other Occupational Classes represented 15.6% (8/51) of the study group (Table 1). Forty-seven of the respondents were in a monogamous union (92.1%), while three were engaged in polygamy. Christianity was the most practiced religion accounting for 82.4% of the study group. A significant proportion of the respondents had tertiary education (72.6%) while 27.4% (14/51) had post-secondary non- tertiary education (Table 1). 52.9% (27/51) of the respondents had previous fertility treatment (29.4% IVF, 19.6% IUI, 3.9 % Adoption), while 47.1% (24/51) had no prior fertility treatment (Figure 1). 74.1% (20/27) of those who had previous fertility treatment had duration of infertility greater than 5 years.

76.5% (39/51) of the women had infertility greater than 5 years, while 49 % (25/51) of the women were

aged 40 years and above with 96% (24/25) of this group experiencing infertility greater than 5 years. Only 5.8 % (3/51) of the women were less than thirty years. Anxiety was recorded in 24 respondents (47.1%) of which 19 of them (79.1%) had experienced infertility for over 5 years. Marital disharmony was experienced by 5 women giving an incidence of 9.8%. Four of these women had anxiety disorder (P<0.05) (Table 2). Eighteen respondents (35.3%) had evidence of depression. This did not show any statistical correlation with age, religion, educational status, previous fertility treatment or marital disharmony (Table 3).

**Table 1: Demographic Characteristics of the Respondents**

S/N	Demographic Variables	N (%)
1	<b>Age group</b>	
	20-29	3 (5.88)
	20-39	23(45.10)
	40-49	25(49.02)
2	<b>Occupation</b>	
	Top Professional	28(54.90)
	Middle Class Professional	15(27.5)
	Skilled Non-Manual Worker	2(3.92)
	Semi-Skilled Worker	6(11.77)
	Unskilled	0(0.00)
3	<b>Religion</b>	
	Islam	9(17.65)
	Christianity	42(82.35)
4	<b>Educational Status</b>	
	Tertiary Education	37(72.55)
	Non-Tertiary Education	14(27.45)
5	<b>Marital Status</b>	
	Monogamous	47(92.16)
	Polygamous	3(5.88)
	Widowed	1(1.96)
6	<b>Marital Disharmony</b>	
	Yes	5(9.80)
	No	46(90.20)

**Total number of Respondents 51**

**Mean age 38.96 ± 5.91**

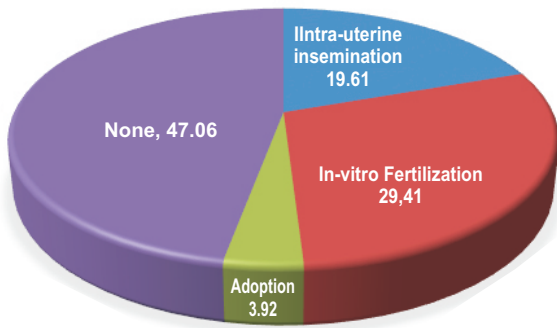
**Mean duration of infertility 9.88 ± 5.19 years**

**Table 2: Cross tabulation between independent variables and anxiety disorder**

S/N	Variable	Anxiety disorder (%)	P-Value
1	<b>Age</b>		1.000
	20-29	1 (33.33)	
	30-39	11 (47.82)	
	40-49	12 (48.00)	
2	<b>Religion</b>		1.000
	Islam	4 (44.44)	
	Christianity	20 (47.61)	
3	<b>Educational status</b>		0.531
	Tertiary Education	16 (43.24)	
	Non-Tertiary Education	8 (57.14)	
4	<b>Previous Fertility Treatment</b>		0.0773
	Yes (IVF, IUI, Adoption)	11 (40.74)	
	No	12(50.00)	
5	<b>Marital Disharmony</b>		<b>0.047</b>
	Yes	4 (80.00)	
	No	19 (41.30)	

**Table 3: Cross tabulation between independent variables and depression**

S/N	Variable	Anxiety disorder (%)	P-Value
1	<b>Age</b>		0.651
	20-29	1 (33.33)	
	30-39	10 (43.47)	
	40-49	7 (28.00)	
2	<b>Religion</b>		0.703
	Islam	4 (44.44)	
	Christianity	14 (33.33)	
3	<b>Educational status</b>		1.000
	Tertiary Education	13 (35.13)	
	Non-Tertiary Education	5 (35.71)	
4	<b>Previous Fertility Treatment</b>		0.365
	Yes (IVF, IUI, Adoption)	10 (37.03)	
	No	7(29.16)	
5	<b>Marital Disharmony</b>		0.336
	Yes	2 (40.00)	
	No	15 (32.60)	



**Figure 1: Pie Chart showing Percentage distribution of Previous Fertility Treatment**

## DISCUSSION

Human reproduction is a *Pas de deux* (dance by two), implying both partners are equally responsible for the outcome. The prevalence of infertility demonstrates geographic variation and is said to be highest in resource poor countries and an infertility belt has been described in West Africa with prevalence rates as high as 35 percent<sup>9</sup>. In developing countries such as Nigeria, a high premium is placed on child bearing and as such infertility places a huge physical, emotional, psychological and financial burden on the couple. The female partner often bears the stigma and the consequences evidenced by social isolation, humiliation and abuse<sup>10</sup>. This abuse may be physical or psychological leading to psychosocial morbidities.

The prevalence of anxiety in this study was 47.1% while depression was 35.3%. This finding though from a small cohort of infertile women provides an insight into the possible psychosocial consequences of infertility in a developing country like Nigeria. This finding is in congruence with the outcome of a study conducted by Upkong and Orji in 2006 on the mental health of infertile Nigerian women attending the fertility clinic of a tertiary health centre. They found a prevalence of 37.5% and 42.9% for anxiety and depression respectively in 112 infertile subjects studied. This was attributed mainly to lack of spousal support and advancing maternal age.

In this study, the prevalence of anxiety increased with advanced maternal age with about half of the women aged 40-49 years presenting with anxiety disorder. This may be attributable to the sociocultural beliefs and high premium placed on childbearing and rearing in many developing countries. Severe psychological distress has been associated with primary infertility, long standing infertility and financial burden of treatment for infertility<sup>10,11</sup>. About half of the respondents in the study were in their fourth decade with most of these women (96%) experiencing infertility for over 5 years. Late presentation for advanced fertility care is not uncommon in Nigeria where couples have to pay out of pocket for their care with little or no government support. In this study, eighty percent of women with marital disharmony suffered anxiety disorder ( $p < 0.05$ ), further emphasizing the role family pressure plays in the development of anxiety. Eighteen respondents had evidence of depression which did not show any statistical correlation with age, religion, educational status, previous fertility treatment or marital disharmony. This finding may be as a result of the limited population studied and must be cautiously applied to the general population.

Lack of support and the overbearing and intrusive nature of family members of infertile couples may result in the development of psychosocial distress<sup>11</sup>. It is therefore necessary that Gynaecologist pay attention to the psychosocial stressors experienced by their clients when providing assisted reproduction and appropriate referral for psychiatric assessment should be made before commencing treatment. Providing support through counseling should be an initial step in the process of infertility management in a developing country like Nigeria given the high prevalence of anxiety and depression as evidenced by this study and supported by others in literature. A study by Lauri et al (2012) examined the impact of psychological distress on In-Vitro Fertilization (IVF) outcomes and concluded that failed IVF cycles predicted subsequent psychological distress as opposed to pre-existing distress. The study suggested that more efforts

should be devoted towards interventions that prepare patients to cope with treatment and treatment failure<sup>12</sup>. This invariably underscores the influence of failed treatment on anxiety and depression amongst infertile patients. About half of our respondents had participated in some form of fertility treatment prior to presentation and this may have contributed to the anxiety and depression observed.

## CONCLUSION

The impact of infertility on the Nigerian couple can be devastating and can often manifest as psychosocial morbidities. This study provides an insight into the high prevalence of anxiety and depression amongst women seeking In-Vitro Fertilization. In this study marital disharmony was significantly associated with anxiety and further underscores the significance of family pressure, a common occurrence in Nigeria, on the development of psychosocial morbidities. Anxiety and depression did not show any statistical correlation with age, religion, educational status or previous fertility treatment. This may be a limitation of the small cohort of women studied. It is imperative for Gynaecologist involved in fertility care to provide background screening for anxiety and depression as part of preparation for assisted conception with the aim of providing appropriate psychiatric referral and to enhance coping strategies for fertility treatment and possible failed treatment. A holistic and multidisciplinary approach to providing fertility treatment will enhance the quality and coping abilities of the infertile women in Nigeria.

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