The International Journal of Indian Psychology
ISSN 2348-5396 (Online) | ISSN: 2349-3429 (Print)
Volume 8, Issue 2, April- June, 2020
DIP: 18.01.012/20200802, DOI: 10.25215/0802.012
http://www.ijip.in

Research Paper

# Self-esteem and psychological adjustment of women with infertility: a comparative analysis

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## ABSTRACT

The present study aimed to evaluate self-esteem and psychological adjustment of women with infertility compared to those attending family planning clinic. The study also explored and compared sociodemographic correlates of self-esteem and psychological adjustment between the two groups. This descriptive cross-sectional study was done using consecutive sampling technique to select 400 women in each group of those attending fertility and family planning clinics. Data were collected using semi-structured socio-demographic questionnaire, index of self-esteem (ISE) questionnaire and fertility adjustment scale (FAS) were administered after matching the groups by their age, marital status and years of education. The study found women attending family planning clinic had higher degree of self-esteem compared to those with infertility and this was statistically significant ($\chi^2$ = 7.12, df=1 p=0.008). Lower self-esteem was found more among women with secondary and tertiary levels of education ($X^2$=32.11, df = 1, p == <0.001), those within age group 45 – 49 years and higher among women in monogamous setting ($X^2$=14.436, df = 5, P=0.011). Women with infertility had higher level of maladjustment with statistical significance, ($X^2$=53.65, df =I, P=<0.001). Lower psychological adjustment was found in women within the age group 30 - 39 years ($X^2$=33.087, df =5, P=<0.001), and good adjustment among women in monogamous setting($X^2$=5.203, df=1 P=0.023), and those with tertiary education ($X^2$=16.661, df=4, P=0.002). The study found poor level of psychological functioning in both studied groups, with a greater degree of poor psychological adjustment and lower self-esteem among infertile women. Infertile women also had higher psychiatric morbidity.

***Keywords:*** *Infertility, Family planning, Comparison, Psychological adjustment, Self-esteem*

Self-esteem has been viewed as a stabilizing factor for the proper psychological functioning of individuals and conversely diminished self-esteem can be a vulnerability factor for a mental break down such as the development of depression (Brown et al, 1986). Self-esteem is seen as the sense of self contentment and self-acceptance which stems from a person's

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**Received: April 5, 2020; Revision Received: May 20, 2020; Accepted: June 25, 2020**

appraisal of his own worth, significance and competence and his ability to satisfy his aspirations (Robinson t al, 1996).

Despite these observations, the impact of self-esteem on the experience of infertility, vis-a-vis mental health of women with the problem is an area that is currently under-researched in Sub-Saharan Africa, and Nigeria in particular (Ukpong and Orji, 2006). Although, interest is growing on the issue of the psychological well-being of women with infertility, the problem still remains not well understood and the sufferings of such 'silent patients' hidden. This study was designed to explore the psychological adjustment and self-esteem of women with infertility in Maiduguri with a view to providing base-line data in North-eastern Nigeria.

## METHODOLOGY

### *Participants*

Two groups of subjects were studied. The first group (index cases) consisted of all patients diagnosed as having infertility and are attending the Gynaecology Clinic of State Specialist Hospital. An average of about 15-20 patients with infertility are seen daily in the Gynaecology Clinic of the Hospital. The clinics are conducted two times a week between the hours of 9:00 am and 2:00pm on Tuesdays and Thursdays.

The second group (comparison or control group) consisted of patients attending the family planning Clinic of the State Specialist Hospital. An average of about 25-30 women are seen weekly in the Family Planning Clinic for contraception. The family planning clinic is conducted only on Wednesdays between the hours of 9:00 am and 2:00pm. The matching was done in the following manner; after a subject with infertility was interviewed, the age, marital status, educational status and past psychiatric history were immediately extracted from the questionnaire. Thereafter, case notes of women attending the family planning clinic were examined to determine their educational status, marital status, age and past history of psychiatric illness. A person was identified as a prospective matching candidate if:

Her age is not more than 5 years different from the previously interviewed infertile woman.
She has about the same level of education as the selected index case.

Has the same marital status as the index case.
There is no past history of mental disorder.
This procedure was continued until the required sample size was attained.

### *Sample size determination*

Sample size was determined for both groups using the formula for sample size calculation for comparison of two groups ***(Araoye, 2003).***

$N = Z^2qp/d^2$

Where;

N= the desired sample size for comparison group

Z= the normal standard deviate, usually set at 1.96(or more simply at 2.0), which correspond to 95% confidence level.

P= the prevalence of the disorder; for the purpose of this study, a prevalence of 46.4% of psychiatric morbidity among women with infertility in Nigeria as reported by Ukpong and Orji, (2006) was adopted.

q= 1 – p, which is equal to 1 – 0.46= 0.54.

d= degree of accuracy desired, usually set at 0.05.

Substituting in the above stated formula:

$$\text{Then, } N = \frac{1.96^2 \times 0.46 \times 0.54}{0.05^2} = 381.$$

The sample was rounded up to 400 to increase the degree of precision. Therefore, based on the computations above, 400 women attending the infertility and 400 women attending the family planning clinics were targeted as subjects.

***Research design***

This was a descriptive hospital based cross-sectional comparative study conducted among women attending the infertility and family planning clinics of the State Specialist Hospital, Maiduguri.

***Instruments***

**The Sociodemographic Questionnaire**

This is a Questionnaire drawn by the researchers that elicited vital sociodemographic data of the respondents which include their ages, marital status, occupation, educational status, living condition, type of marital arrangement (monogamy or polygamy), and parity.

**Index of Self Esteem (ISE) Questionnaire**

The ISE is a 25-item inventory that is designed to measure the sum total of the self-perceived and self-evaluative component of self-concept which is held by the person (Hudson, 1982). The instrument was developed for individuals above 12 years of age and can be completed in about 10 minutes. The instrument is usually self-administered and the administration could be done either individually or in groups after establishing adequate rapport with the clients. Hudson (1982) has demonstrated that the ISE has good-to-excellent internal consistency, and content, concurrent, construct, and factorial validity.

**Fertility Adjustment Scale (FAS)**

FAS is a 12-item self-administered questionnaire developed by Glover et al in 1999. It has a short duration of administration. These items are expected to provide an indication of the extent to which individuals had considered, or come to terms with, the possibility of life with and without a child. The items cover the range of cognitive, emotional, and behavioural responses to fertility problems. The items are scored on a 6-point Likert scale ranging from 1 indicating always disagree to 6 indicating always agree. The minimum possible score is 12 and the maximum score 72. FAS has a high internal consistency with Cronbach's alpha (0.86) and a test retest reliability of 0.88, it also has a good degree of validity (Glover et al, 1999).

***Procedure***

After obtaining the clearance from the Hospitals' Research and Ethics Committee, familiarization visits were carried out by the researchers. During such visits, the Clinics staff members, patients, and patients' relatives were educated on the purpose of the study and its aim of identifying the psychological well-being and self-esteem of the respondents was highlighted. Then a pilot study was conducted on 20 subjects; consisting of 10 infertile women and 10 women attending the family planning clinic matched with the infertile women for age, marital status, level of education and past psychiatric history. These subjects selected for the pilot study were subsequently excluded from participation in the main research. This was to examine; the acceptability of the instruments, duration of administration and other problems that may be encountered in the course of the study proper. Data entry and analysis was done using the Statistical Package for Social Sciences

version 16.0 (SPSS 16). The sociodemographic variables of respondents were assessed using descriptive statistics. These included means, standard deviations and frequency tables. Chi Square ($X^2$) test was used for qualitative variables; Females with infertility were compared with the females from the Family Planning Clinic on ISE, and FAS. Level of significance was set at 0.05, two tailed.

## RESULT

***Comparison of The Self Esteem of Attendees of The Fertility and Family Planning Clinics.***

In terms of the self-esteem of the respondents, the women attending family planning clinic reported significantly higher degree of self-esteem than those who were attending the fertility clinic, and this was statistically significant ($\chi^2 = 7.12$, df=1 p=0.008). This is shown in table 1.

***Table1 Comparison of the Self Esteem of the attendees of the fertility and the family Planning Clinics.***

| ISE Group | Fertility Clinic | Family Planning | Total | $X^2$ | P-Value |
|---|---|---|---|---|---|
| | Freq (%) | Freq (%) | Freq (%) | | |
| High Self Esteem | 49 (37.7) | 81 (62.3) | 130 (100) | 7.12 | 0.008** |
| Low Self Esteem | 308 (50.7) | 300 (49.3) | 608 (100) | | |

**NB**

In computing the Index of Self Esteem of both groups, a mean score of 32.04 reported by Onighaiye et al, (1996) among Nigerians was used as the reference value.

***Sociodemographic Correlates of Self-Esteem of Respondents at Fertility Clinic***

Significant proportion of respondents with low self-esteem consisting of 248 subjects representing 80.5% had either secondary or tertiary levels of education ($X^2$=32.11, df = 1, p==<0.001) (Table 2 below).

***Table 2 Socio-demographic Correlates of Self Esteem among the attendees of the fertility Clinic.***

| Socio-demographic Variable | High Self Esteem Freq(%) | Low Self Esteem Freq(%) | Total Freq(%) | $X^2$ | P-Value |
|---|---|---|---|---|---|
| | | *N=357* | | | |
| ***Age (years)*** | | | | | |
| 20-24 | 0 (0.0) | 11 (3.6) | 11 (3.1) | 9.204 | 0.101 |
| 25-29 | 10 (20.4) | 53 (17.2) | 63 (17.7) | | |
| 30-34 | 10 (20.4) | 95 (30.5) | 105 (29.4) | | |
| 35-39 | 18 (36.7) | 66 (21.4) | 84 (23.5) | | |
| 40-44 | 11 (22.5) | 70 (22.7) | 81 (22.7) | | |
| 45-49 | 0 (0.0) | 13 (4.2) | 13 (3.6) | | |
| ***Type of Marriage Setting*** | | | | | |
| Monogamous | 24 (49.0) | 110 (35.7) | 134 (37.5) | 0.000 | 1.000 |
| Polygamous | 25 (51.0) | 198 (64.3) | 223 (62.5) | | |

| | | | | | |
|---|---|---|---|---|---|
| ***Educational Status*** | | | | | |
| None | 0 (0.0) | 32 (10.4) | 32 (9.0) | 32.11 | <0.001** |
| Primary | 4 (8.2) | 17 (5.5) | 21 (5.9) | | |
| Secondary | 4 (8.2) | 59 (19.2) | 63 (17.6) | | |
| Tertiary | 32 (65.3) | 189 (61.4) | 221 (61.9) | | |
| Qur'anic | 9 (18.3) | 11 (3.5) | 20 (5.6) | | |
| ***Employment Status*** | | | | | |
| Employed | 35 (71.4) | 189 (61.4) | 224 (62.7) | 1.832 | 0.176 |
| Unemployed | 14 (28.6) | 119 (38.6) | 133 (37.3) | | |
| ***Parity*** | | | | | |
| None | 35 (71.4) | 231 (75.0) | 266 (74.5) | 1.011 | 0.603 |
| One | 14 (28.6) | 74 (24.0) | 88 (24.6) | | |
| More than One | 0 (0.0) | 3 (1.0) | 3 (0.9) | | |

**** Statistically Significant findings.**

***Sociodemographic Correlates of Self-Esteem of Respondents at Family Planning Clinic***

Self-esteem was significantly lower among women aged 45 – 49 years ($X^2$=14.436, df = 5, P=0.011), higher among women in monogamous setting ($X^2$=5.792, df=1, p=0.016) and lower in nulliparous women ($X^2$=14.089, df=2, p=<0.001) (Table 3)

***Table3 Socio-demographic Correlates of Self Esteem Among the Attendees of the Family Planning Clinic***

| **Socio-demographic** | **High Self Esteem Freq. (%)** | **Low Self Esteem Freq. (%)** | **Total Freq. (%)** | **$X^2$** | **P-Value** |
|---|---|---|---|---|---|
| N=381 | | | | | |
| ***Age Group (years)*** | | | | | |
| 20-24 | 0 (0.0) | 4 (1.3) | 4 (1.1) | 14.436 | 0.011** |
| 25-29 | 11 (13.6) | 45 (15.0) | 56 (14.7) | | |
| 30-34 | 7 (8.6) | 63 (21.0) | 70 (18.4) | | |
| 35-39 | 38 (46.9) | 99 (33.0) | 137 (36.0) | | |
| 40-44 | 25 (30.9) | 77 (25.7) | 102 (26.7) | | |
| 45-49 | 0 (0.0) | 12 (4.0) | 12 (3.1) | | |
| ***Type of Marriage*** | | | | | |
| Monogamous | 56 (69.1) | 165 (55.0) | 221 (58.0) | 5.792 | 0.016** |
| Polygamous | 25 (30.9) | 135 (45.0) | 160 (42.0) | | |
| ***Educational Status*** | | | | | |
| None | 18 (22.2) | 42 (14.0) | 60 (15.8) | 30.373 | <0.001** |
| Primary | 4 (4.9) | 24 (8.0) | 28 (7.4) | | |
| Secondary | 14 (17.3) | 70 (23.3) | 84 (22.0) | | |
| Tertiary | 35 (43.2) | 161 (53.7) | 196 (51.4) | | |
| Qur'anic | 10 (12.4) | 3 (1.0) | 13 (3.4) | | |

| | | | | | |
|---|---|---|---|---|---|
| ***Employment Status*** | | | | | |
| Employed | 42 (51.9) | 182 (60.7) | 224 (58.8) | 1.801 | 0.180 |
| Unemployed | 39 (48.1) | 118 (39.3) | 157 (41.2) | | |
| ***Parity*** | | | | | |
| None | 0 (0.0) | 2 (0.7) | 2 (0.5) | 14.089 | 0.001** |
| One | 2 (2.5) | 2 (0.7) | 4 (1.0) | | |
| More than One | 79 (97.5) | 296 (98.6) | 375 (98.5) | | |

** Statistically Significant Findings

***Comparison of Psychological Adjustment of The Attendees of The Fertility and Family Planning Clinics.***

Infertile respondents had a proportionately higher level of maladjustment, 93% of the total respondents while the family planning clinic attendees had a proportionately higher level of good adjustment, 27.6% of the total respondents as against 7% of the fertility clinic respondents who had good adjustment. These findings were statistically significant, $X^2$=53.65, df=I, P=<0.00.1 as shown in table 4 below.

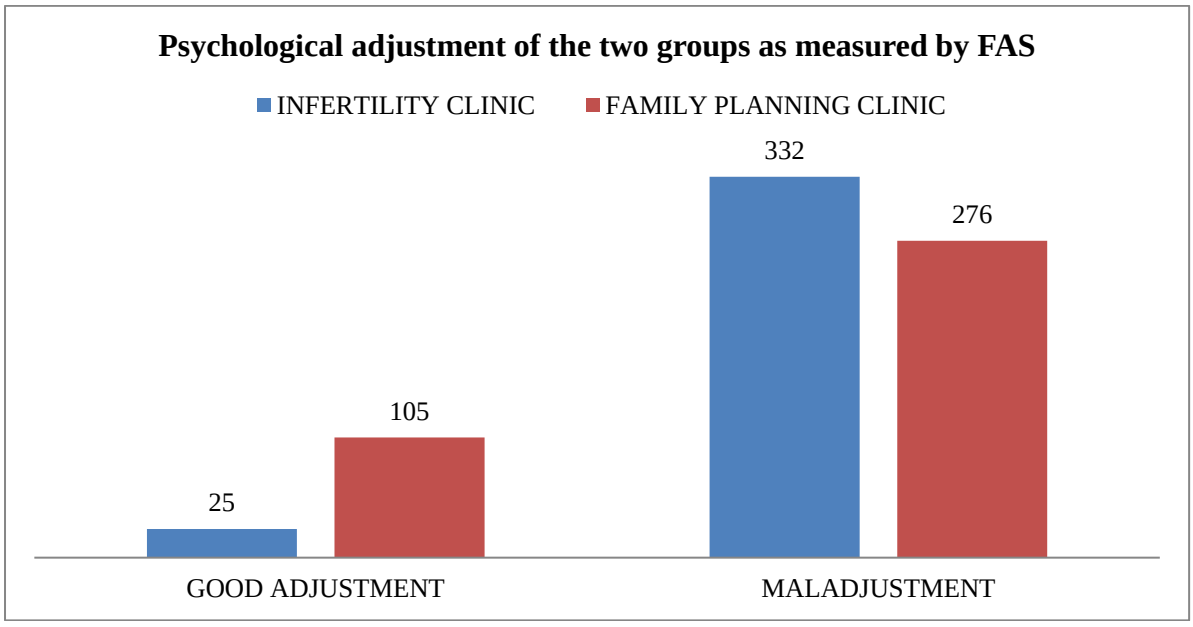
***Table 4 Comparing the psychological adjustment among the two groups using the FAS.***

| FAS outcome | Fertility Clinic Attendees Freq. (%) | Family Planning Clinic Attendees Freq. (%) | Total Freq. (%) | $X^2$ | P-Value |
|---|---|---|---|---|---|
| Good adjustment | 25 (7.0) | 105 (27.5) | 130 (17.6) | 53.65 | <0.0001 |
| Maladjustment | 332 (93.0) | 276 (72.5) | 608 (82.4) | | |
| TOTAL | 357 (100.0) | 381 (100.0) | 738 (100.0) | | |

**NB:** In computing the psychological adjustment of the respondent, a mean score of 39.2± 1.7 reported by Glover et al, (1999) was used as the reference value.

***Comparative Description of Psychological Adjustment of Respondents At Fertility And Family Planning Clinics In Figure 1 Below***

**FIGURE 1**



***Socio Demographic Correlates of Psychological Adjustment Among the Attendees of The Fertility Clinic.***

Psychological adjustment was found to be lower among women within age group of 30 -39 years ($X^2$=33.087, df=5, P=<0.001), good adjustment was found among women in monogamous setting ($X^2$=5.203, df=1 P=0.023), those with tertiary education ($X^2$=16.661, df=4, P=0.002) and employed women ($X^2$=15.887, df=1, P=<0.001) (Table 5).

***Table 5 Socio-demographic Correlates of Psychological Adjustment among the attendees of the fertility Clinic***

| Socio-demographic Variable | Good adjustment Freq(%) | Maladjustment Freq(%) | Total Freq(%) | $X^2$ | P-Value N=357 |
|---|---|---|---|---|---|
| ***Age (years)*** | | | | | |
| 20-24 | 4 (16.0) | 7 (2.1) | 11 (3.1) | 33.047 | <0.001** |
| 25-29 | 7 (28.0) | 56 (16.9) | 63 (17.7) | | |
| 30-34 | 0 (0.0) | 105 (31.6) | 105 (29.4) | | |
| 35-39 | 3 (12.0) | 81(24.4) | 84 (23.5) | | |
| 40-44 | 7 (28.0) | 74 (22.3) | 81(22.7) | | |
| 45-49 | 4 (16.0) | 9 (2.7) | 13 (3.6) | | |
| ***Type of Marriage Setting*** | | | | | |
| Monogamous | 18 (72.0) | 116 (34.9) | 134 (37.5) | 5.203 | 0.023** |
| Polygamous | 7 (28.0) | 216 (65.1) | 223 (62.5) | | |
| ***Educational Status*** | | | | | |
| None | 0 (0.0) | 32 (9.6) | 32 (9.0) | 16.661 | 0.002** |
| Primary | 0 (0.0) | 21 (6.3) | 21 (5.9) | | |
| Secondary | 0 (0.0) | 63 (19.0) | 63 (17.6) | | |
| Tertiary | 25 (100.0) | 196 (59.0) | 221 (61.9) | | |
| Qur'anic | 0 (0.0) | 20 (6.1) | 20 (5.6) | | |
| ***Employment Status*** | | | | | |
| Employed | 25 (100.0) | 199 (59.9) | 224 (62.7) | 15.887 | <0.001** |
| Unemployed | 0 (0.0) | 133 (40.1) | 133 (37.3) | | |
| ***Parity*** | | | | | |
| None | 2 (8.0) | 264 (79.5) | 266 (74.5) | 12.292 | 0.015** |
| One | 20 (80.0) | 68 (20.5) | 88 (24.7) | | |
| More than One | 3 (12.0) | 0 (0.0) | 3 (0.8) | | |

****Statistically Significant Findings**

***Socio Demographic Correlates Of Psychological Adjustment Among The Attendees Of Family Planning Clinic.***

Overwhelming majority of those with good adjustment and maladjustment belonged to the 35-44 years age bracket, 63.6% and 61.3% respectively ($X^2$=23.846, df=5, P<0.001), so also those with either secondary or tertiary education, 77.2% and 72.1% respectively ($X^2$=25.884, df=4, P=<0.001) (Table 6)

***Table 6 Socio-demographic Correlates of Psychological Adjustment among the Attendees of the family planning Clinic***

| ***Socio-demographic* Variable** | **Good adjustment** Freq(%) | **Maladjustment** Freq(%) | **Total** Freq(%) | **$X^2$** | **P-value** |
|---|---|---|---|---|---|
| N= 381 | | | | | |
| ***Age group (years)*** | | | | | |
| 20-24 | 0 (0.0) | 4 (1.5) | 4 (1.1) | 23.846 | <0.001** |
| 25-29 | 14 (13.3) | 42 (15.2) | 56 (14.7) | | |
| 30-34 | 17 (16.2) | 53 (19.2) | 70 (18.4) | | |
| 35-39 | 56 (53.3) | 81 (29.4) | 137 (36.0) | | |
| 40-44 | 14 (13.3) | 88 (31.9) | 102 (26.7) | | |
| 45-49 | 4 (3.9) | 8 (2.8) | 12 (3.1) | | |
| ***Type of Marriage Setting*** | | | | | |
| Monogamous | 67 (63.8) | 154 (55.8) | 221 (58.0) | 1.820 | 0.177 |
| Polygamous | 38 (36.2) | 122 (44.2) | 160 (42.0) | | |
| ***Educational Status*** | | | | | |
| None | 9 (8.6) | 51 (18.5) | 60 (15.8) | 25.884 | <0.001** |
| Primary | 4 (3.8) | 24 (8.7) | 28 (7.4) | | |
| Secondary | 32 (30.5) | 52 (18.8) | 84 (22.0) | | |
| Tertiary | 49 (46.7) | 147(53.3) | 196 (51.4) | | |
| Qur'anic | 11 (10.4) | 2 (0.7) | 13 (3.4) | | |
| ***Employment Status*** | | | | | |
| Employed | 67 (63.8) | 157 (56.9) | 224 (58.8) | 1.203 | 0.273 |
| Unemployed | 38 (36.2) | 119 (43.1) | 157 (41.2) | | |
| ***Parity*** | | | | | |
| None | 0 (0.0) | 2 (0.7) | 2 (0.5) | 3.096 | 0.542 |
| One | 1 (0.9) | 3 (1.1) | 4 (1.0) | | |
| More than One | 104 (99.1) | 271 (98.2) | 375 (98.5) | | |

**** Statistically Significant Finding**

## DISCUSSION

This comparative study is the first in North Eastern Nigeria to determine the impact of fertility on self-esteem and psychological adjustment in women with infertility.

With respect to their self-esteem, we found a greater proportion of high self-esteem among the women attending family planning clinic compared to their counterparts in fertility clinic. The higher low self-esteem (86.3%) in the women with infertility has been previously established by studies conducted elsewhere which reported high likelihood of low self-esteem and psychological problems among them (Abbey et al., 1991; Anvar et al., 2006). This observation is also in tandem with socio-cultural expectations that child bearing after marriage is a major life goal and failure to fulfil may be interpreted as self-failure. In another manner, the significantly high low self-esteem found among women attending family planning clinic is still laying credence to the impression that the wish to have contraceptive done is apparently against their religious beliefs which copiously support procreation and childbearing with mouth-watering benefits for those that engage in such acts. The socio-cultural perception of the study site is also massively in support of this religious

prescription. Therefore, it is not surprising that these women who engage in this act which seems to go in contrary to their inner desires are at risk of having low self-esteem considering the perceived shame and guilt associated with their ambivalent decision to embrace contraception (Duze and Mohammed 2006; Renne 1996).

While low self-esteem impacts all age groups among the infertile group, women in the age group 45-49 years were mostly affected in those who attend family planning clinic. This finding reinforces the fact that childbearing which is a major life achievement could impact on self-esteem across all age groups since everyone desires good tidings including children which engender generational continuity and sense of having your own that you can lean on during old age.

We also found nulliparity to be associated with low self-esteem among those with infertility which is in consonance with previous studies that found same observation (Taymor & Brensnic 1979; Daniluk 1988; Benazon, Wright & Saborin 1992) and this finding was substantiated in the context of underlining feeling of anger, envy and guilt towards women with children (Robinson and Steward, 1988) or a sense of inadequacy due to the society and cultural significance placed upon fertility in the study environment.

It is worthy of note that polygamous family background was found to be consistently associated with low self-esteem in both groups which may not be unconnected to the usually intense rivalry and competition among co-wives for attention and care from the husbands (Hamzah, 2010). This family setting also seems not to offer an appreciable confiding relationship from husband whose attention is divided among multiple wives (Brown et al 1986).

The observation of low self-esteem being associated with participants who were employed and had at least secondary level of education should be taken with caution as a disproportionate number of the participants were well educated in both groups compared to the uneducated which by extension accounted for their high employment status. Certainly, this will lay a foundation for future studies.

Expectedly and in complement to previous studies significantly high level of maladjustment (93%) was observed in the women with infertility (Greil et al, 1988; Golombok, 1992; Greil, 1997). This reveals a poor coping mechanism often employed by this group to weather the storm of infertility in our environment vis-à-vis the unrelenting condemnation from husband's family, infertility stigma associated with societal expectations and inadequacy at fulfilling an arguably greatest desire of womanhood. Conversely, it is not surprising that women who were attending family planning clinic displayed a high level of good adjustment having successfully satisfied a major challenge of woman existence through childbearing. This finding is consistent with earlier reports from previous studies thus lending support to the existence of infertility and poor psychological adjustment (Greil et al, 1988; Golombok, 1992; Greil, 1997).

Women at their prime ages in their marriages (30-39 years) and close to menopausal period (40-44 years) demonstrated high levels of poor psychological adjustment which may seem to be an indication of inability to fulfil one of the most important life desires of achieving pregnancy with high propensity for desperation and indiscriminate problem solving acts. With hopes at crescendo, any failure at this point will seamlessly provoke a greater psychological distress including psychological mal-adjustment.

As stated earlier, nulliparity and polygamous marriage background remain determining factors for psychological distress including low self-esteem and poor psychological adjustments. The polygamous setting in our environment appears to be bereft of optimal intimate support, riddled with envy, laced with mockery and unhealthy machinations which are all in sharp contrast to the necessary succour that an already distressed woman with infertility craved for. In contrary, with high levels of education and employment status which confer substantial social contacts, resilience, financial well-being and help seeking behaviour; an adaptive psychological adjustment is expected regardless of infertility as revealed by this study and other study elsewhere (Remennick, 2000).

***Limitation***

The study is hospital-based, utilizing one facility and therefore not a representative of a larger and more comprehensive community-based survey. The use of non-probability sampling method may have introduced selection bias in the sampling of subjects and also the instruments utilized in the study were not diagnostic, and as such, could only indicate likelihood of the presence of the investigated conditions in the study sample.

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***Acknowledgements***

The authors acknowledge and appreciate all Clinics staff and those who participated in the study and helped to facilitate the research process.

***Conflict of Interest***

The author declared no conflict of interest.

**How to cite this article:** H A Kndale, A Y Armiya'u & L I Bamidele (2020). Self-esteem and psychological adjustment of women with infertility: a comparative analysis. *International Journal of Indian Psychology*, *8*(2), 93-103. DIP:18.01.012/20200802, DOI:10.25215/0802.012