Full Length Research Paper

Health status and experiences of barren elderly women in Ondo State, Nigeria

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Abstract

In Nigeria, barren elderly women face many challenges of daily living among which are loss of husbands and features of barrenness. The knowledge of such experiences will assist practicing nurses and social workers to understand special care and social support needs of barren elderly women. This study therefore examined the specific experiences (cultural and interactional), the feelings, and the coping strategies of the barren elderly women. It also assesses the roles of family members in their care. Fortyfour (44) barren elderly women selected by snow balling technique from eight (8) randomly selected local government areas formed the study population. A semi structural interview schedule from world health organization standard interview guides for assessment of the health of barren elderly women was the major instrument used for data collection. The interview schedule was tested for validity and reliability before being used for final data collection. Data collection took twelve (12) weeks. Data collected were analyzed using descriptive and inferential statistics showed that about two third (2/3) of the study population attributed state of fear, anxiety, helplessness, neglect, abandonment, frustration and stigmatization trend to the negative effect of competition especially in polygamous setting. However, 61.4% believed that they were being stigmatized as a result of barrenness. Findings also revealed that the health status of barren elderly women is significantly related to their support. Besides, there is a significant relationship between the ages of barren elderly and their health status (x² 15.22; P<0.01). However the study founded no significant association between the health status of the widowed and non widowed barren elderly women. Lastly there was an association between educational status and health status of the respondents. The study therefore concluded that the health status of the barren elderly women was mostly affected by income, age, effects of barrenness, familiar care coupled with social support and some varying degrees of common ailments being experienced by them.

Keywords: Barren elderly women, health status, socio-demographic condition, social experience.

INTRODUCTION

The joy of rearing children is an experience that most couple looks forward to but that may forever remain a dream due to a multiplication of factors such as infection, ignorance, sheer fate and so on.. In Nigeria, the major cause of infertility is infection (50 to 80%) and includes sexually transmitted diseases, post abortal and puerperal sepsis (Araoye, 2003; Makanjuola et al., 2010). Different believe system places different emphasis on the

importance of marriage, the role of women in the society and the acceptability of controlling fertility all of which can affect level of barrenness. Children have a high value in African society and that people want many children (Dyer, 2008)

Causes of bareness were mainly medical problems and super natural causes (Deity's wrath, evil spirits, and deeds of the past birth) (Anamika and Raini, 2004).

In Nigeria, there is abundant evidence that despite infertility being one of the commonest gynecological presentations, outcome of treatment is usually marred by poor facility, expertise and poverty (*Oladokun et al.*, 2009).

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Even the spiritualist, herbalist and traditionalists who attended to the childless women believed that the women were responsible for the infertility (Umeora et al., 2009) hence wrong diagnosis and large number of childless elderly.

Barrenness is a biological and social phenomenon that is well known in the history of man. Problems associated with barrenness may sometimes bring a couple together because of their commitment in attempting to surmount the problem but may also place more strain on an already unstable marriage. On the other hand, it is well known that infertility can lead to union dissolutions in sub-Saharan Africa (Van-Balen, 2009) as well as stigmatization and abuse (Dyer, 2008).

In recent times the rate of barrenness has being on the increase (Fajemilehin and Feyisetan, 2000; Okonofua, 2005). It is a major cause of psychological trauma; it is tormenting and disheartening experience. Rapid growth in the size of the barren elderly women population concerns about the negative effect of barrenness (Hayward, 2001). It can be estimated that tens of millions of couples worldwide are primary infertile or childless (Van-Balen and Bos, 2010). In Nigeria, about 15% of married couples aged 19-45 years have various forms of infertility problems (Jimoh, 2004). Infertility is a common health problem with devastating psycho-social consequences on the affected couples especially in Africa (Okonofua, 2003). In Nigeria, the prevalence is up to 45 percent (Okonofua, 2003; Adetoro and Ebomoyi, 1991).

The victims of barrenness often regard themselves as failure in life. In Nigeria, barren elderly women were held to have dialed to complete their life role, to be considered a successful adult one had to have a child and having children increased the status of both men and women (Kaye, 2001).

Infertility, a stigmatized infertile condition has been relatively neglected as both a health problem and a subject for social science research in Nigeria, as in the developing world generally (Van Balen and Inhorn, 2002; Okonofua, 2005; Ola 2012).

Despite the fact that nurses and other health care practitioners are aware of the problems of the barren elderly women, they tend to give very low priorities to the care of the aged. Barren elderly women are often called names, mocked and believed to have being caused by gods. This rejection makes her to be withdrawn from people and depressed. Depression may also lead to suicidal tendencies. The central difficulty associated with infertility in developing countries like Nigeria is that it transforms from an acute, private agony into harsh, public stigma with complex and devastating consequences (Ola et al., 2010). Barreness has an impact that extends beyond the individual and family, to the society at large and even to the world as a whole (Anamika and Rajni, 2004).

Promiscuity or waywardness during youth is a cause of infertility (Ola et al., 2010) and the risk for STIs is higher

for polygamous and divorced women (Kurewa et al., 2010; Bove and Valeggia, 2009).

Childless women engaged in extramarital sex for procreation and continuity of the family name (Obi, 2006). Infertility and Hiv infection are affecting a large number of couples worldwide with sub-saharan African bearing the largest burden of these two reproductive disorders (Dhonts et al., 2011 p 38), and thus infertile women are exposed to a higher risk of HIV infection due to their promiscuous sexual behavior in search of pregnancy (Ikechebelu et al., 2003).

Risky sexual behavior has been used to solve fertility problems for a long time in this community (WHO, 2010). Otherwise, infertile couples put themselves at risk of STIs, including HIV infection (WHO, 2010). Barren women engaged in extramarital sex for different reasons, the important consideration for indulging in extramarital sex are procreation and continuity of the family name (Obi, 2006).

Hence, this study is therefore designed to identify those problems barren elderly women normally have with sharing of inheritance of their husband, the effect of barrenness and other things related to barrenness. The need for maximum support both from the family members and the health professionals especially the roles of nurses in alleviating the barren elderly women from suffering.

The main objective of this study is hence to identify the health and social problems of the barren elderly women in Nigeria.

Hypotheses

- (1) Social demographic characteristics (Level of education, finance) and age of the barren elderly women will tend to affect her health status and support.
- (2) The health status of barren elderly women in Ondo State will vary with their marital status.

Research design

The study adopted descriptive exploratory approach to document the experiences of the barren elderly women in Ondo State and examine their health status.

Study location

The study was carried out in some selected local government areas in Ondo State, Nigeria. Ondo State is one of the thirty six (36) states of Nigeria. The area of land is 14,788,723km² with a population of 2,185,723 approximations. The people the state are practically Yoruba.

Ondo state was selected as the universe of the study because of the numerous cultural orientations and

histories of several traditional towns which not only define the original culture Yoruba race but also possess a very significant number of the barren elderly women with outstanding wealth of experience.

The target population

The target populations in this study are the barren elderly women aged sixty (60) years and above irrespective of their level of education, both widowed and non-widowed.

Sampling and sample size

Purposive and snow balling approaches were used to select the participants for the study through the chiefs within the community. Ondo State consisted of eighteen local governments. Eight (8) local governments were purposely selected based on dialect. From each local government, the headquarters of the local government were used. About 5-6 barren elderly women were identified for the study in each community interviewed; the chiefs who were the first point of contact in the community invited their confidant. The traditional ruler of each community introduced the researchers to the respondents; this enhances high response interpersonal relationship and cooperation.

A total of forty four (44) barren elderly women were interviewed and this cut across all the eight (8) randomly selected local government areas in all the six (6) dialectical groups in the state. To ascertain the actual age of the respondents, calendar and dates of both natural and accidental events were used for computation.

Data was collected with the use of a standardized interview guide; consisted of four (4) sections A to D. the respondents consent was sought before embarking on data collection. The interview guide which was written in English but translated into Yoruba language for the respondents who do not understand English was used. All information collected was made Permission was obtained from the head of the household where necessary and the consent of the respondents and their significant others were obtained. The field work was done by the researcher himself to ensure that problems arising in the field were given prompt attention. Each interview session lasted between forty (40) to sixty (60) minutes. Every one of them was interviewed face to face separately with a short introduction, the interview day and time was fixed ahead as dictated by the respondents through the help of the chiefs within the community. Issues that were covered in the in-depth interview included those related to household relationship, income and management, socio economic changes, coping strategies and problems of barren elderly women.

RESULTS

Table 1 showed the socio demographic characteristics of participants. The table showed even distributions of the respondents across the eight (8) selected local government areas. The age distribution of the respondents showed that over two third of the study population were within 60-69 years age bracket (70.5%). Only a few 3 (6.8%) were well advanced in age. The marital profile of the respondents revealed that the majority 61.4% of the barren elderly women were married. 9.1% remarried after the death of their first husband, while about one third (29.5%) were widowed.

Of forty four respondents, 17 (38.6%) were from monogamous family, while 27 (61.4%) were from polygamous family. Religion of the barren elderly participants showed that 33 (75%) were Christians, 2.3% belongs to other unspecified religion. Distribution of respondents by educational level showed that more than half of the respondents did not have any formal education.

The results from table 3 below revealed that respondents are divergent in their opinion and consistence to the extent that no less than one third (34.9%) gave their family members a pass mark for their sufficient on barren elderly women. Ironically about the same proportion of respondents (32.6%) criticized their family members over their lackadaisical and care free disposition to the welfare of barren elderly women. However about 14.0%, 11.6% and 7% were respondent's responses in respect to fair attention, no attention at all and insufficient attention respectively.

From table 4 below, it was deduced that most significant strategies of health promotion/maintenance of barren elderly women are good care of oneself, like personal and environmental hygiene, medical checkup and good diet together with treatment of oneself with traditional medicine with respective percentages of 31.8%, 22.7% and 20.5%.

Other strategies of health promotion by the participants include taking adequate rest and engaging in themselves in exercises (11.3%) while 13.6% engages in prayer.

Ailments often experienced by barren elderly women in table 5 below revealed that 56.9% suffered different form of aches such as headache, toothaches, stomach ache, and backache e t c. 29.6% often experience mild ailments such as dizziness, insomnia e t c while 43.1% exhibit symptoms of body problems in forms of skin rashes, boils, poor sight and ear problem.

Hypothesis 1: social demographic characteristics (e.g. level of education) and finance of barren elderly women will affect their health status.

From table 6 below, it was deduced that 41.7% of the barren elderly women had primary education and below had poor health status, about 35% of the barren elderly women that had secondary education or below, and 65%

Table 1. Distribution according to local government areas

S/N	Local government	Frequency	Percentage	
1	Akoko North West	6	13.6	
2	Akoko south west	5	11.4	
3	Akure south	5	11.4	
4	Idanre	5	11.4	
5	llaje	6	13.6	
6	Odigbo	6	13.6	
7	Ondo west	5	11.4	
8	Owo	6	13.6	
	Total	44	100.0	

 Table 2. Socio demographic characteristics of respondents.

	Frequency	Percentage
Age in years		
60-64	14	31.8
65-69	17	38.7
70-74	10	22.7
75-79	3	6.8
Total	44	100
Marital Status		
Married	27	61.4
Remarried	4	9.1
Widowed	13	29.5
Total	44	100.0
Education level		
No formal education	17	38.6
Primary	7	15.9
Secondary	5	11.4
Post secondary	10	22.7
Others	4	9.1
Total	43	97.7
Missing system	1	2.3
Type of marriage		
Monogamy	17	38.6
Polygamy	27	61.4
Total	44	100.0
Type of family		
Nuclear	18	40.9
Extended	26	59.1
Total	44	100.0
Religion		
Christianity	33	75
Islam(muslim)	1	2.3
Traditional	8	18.2
Others	1	2.3
Gilloro	43	97.7
Missing system	1	2.3
Sources of income	•	2.0
Employer	4	9.1
Self employment	5	11.4
Family	11	25.0

Table 2. Continue

Friends	2	4.5
Charity	18	40.9
Others	3	6.8
Total	44	100.0

Table 3. Family members' assessment by participants in terms of meeting their needs (health needs).

S/N	Items	Frequency	Percentage
1	Addressed with much attention	15	34.9
2	Addressed with fair attention	6	14.0
3	Just with look warm attention	3	7.0
4	Care free/ careless about	14	32.6
5	No attention at all	5	11.6
	Total	43	100.0

Table 4. Data on Health promotion/maintenance strategies engaged in by the participants.

S/N	Items	Frequency	Percentage
1	Good care(personal and environmental hygiene)	14	31.8
2	Prayer	06	13.6
3	Exercise	2	4.5
4	Medical check up	10	22.7
5	Adequate rest	3	6.8
6	Good diet with traditional medicine	9	20.5
	Total	44	100.0

Table 5. Common ailment suffered by barren elderly women

S/N	Ailments	Frequency	Percentage
1	Pains e.g back pain	08	18.2
2	Intestinal or abdominal trouble	4	9.1
3	Fever/ dizziness	13	29.6
4	Skin rashes/ skin problem	17	38.6
5	Other ailments e.g eye problem and hearing impairment	2	4.5
	Total	44	100.0

Table 6. Relationship between education and health status

Level of Education	Health status			
	Poor	Good	Total	
Primary education and below	10(41.7%)	14(58.3%)	24	
Secondary education and above	7(35%)	13(65%)	20	
Total	17	27	44	

X²=0.20, DF=1 P<0.05 Ns=not significant

Table 7. Relationship between income (finance) and health status

Level of income	Health status		
	Poor	Good	Total
Low income	12(52.2%)	11(47.8%)	23
High income	2(9.5%)	19(90.5%)	21
Total	14	30	44

 $X^2 = 9.20$, DF=1 P=0.002 S= significant.

Table 8. Relationship between health status and marital status.

Marital status	Health status			
	Poor	Good	Total	
Widowed	3(23%)	10(77%)	13	
Non-widowed	11(35.5%)	20(65%)	31	
Total	14	30	44	

that had secondary education and above had good health.

From the table 7 above, about 52.2% of the barren elderly women that earn low income had poor health status. About 9.5% of the respondents with high income also had poor health status while 47.8% of the respondents with low income had good health status.

Hypothesis 2: The health status of barren elderly women in Ondo State will vary with their marital status.

From the table 8 above, 23% of the barren elderly women that are widowed reveal that their health status were satisfactory while 11(35.5%) of the respondents that are non-widowed also claimed that their health status were satisfactory. About 77% of the respondents that were widowed claimed not to have health status that is satisfactory while 65% non widowed claimed not to have satisfactory health status since P=0.65, x^2 =0.20 df=1.

DISCUSSION

The study revealed that most of the respondents were suffering from social isolation despite the fact that they live within their husband or relations in the same household. Many responded to feelings of boredom, neglect and loneliness because of their childlessness, This was supported by Upkong and Orgi (2010) as well as Orji et al., 2002 that there is usually pressure from relatives for the husband in a childless union to marry another wife, because more often than not family members tend to perceive the woman as the infertile partner. The intrusive nature of in-laws therefore constitute potent sources of stress for these women.

Culturally, it is an assumed traditional belief of people that a childless woman would nave period of self assessment which would make her feel bad, hence the barren elderly woman might become very withdrawn and not much of her views could be known to others around her and it was a general belief of the participants that the barren individuals were called carious kind of names that add more to the frustration and psychological in balance of the barren women, and hence affect their health status.

Among the labels and names that people called barren elderly women are

- 1. Witch (Aje)
- 2. Male dog (Ako Aja)
- 3. Unproductive woman (Iya Agan)
- 4. Empty barrel (Agba Ofo)
- 5. Infertile woman (Alakiriboto)

This was supported by the findings of kaye (2001) that barren elderly women are called various names and at some points in history, childless women have being accused of being witches. It was also supported by Aina (2007) that the childless elderly persons are left to suffer from the agony of childbearing failure and this is manifested in form of emotional disturbances, depressive illness and marital disharmony.

Culturally, it was deduced from this study that barrenness is a strong social factor that promote polygamy. This is supported by the findings of Oni (1996) as well as Fajemilehin, (2003) that is culturally acceptable orientation among the Yoruba to put pressure on a man to take a second or a third wife; if the first wife finds it difficult to have a child. This has a health implication on human immunodeficiency virus (HIV) as a result of multiple sexual partners of the barren elderly women husbands. This was supported by Kurewa et al., (2010) as well as Bove and Valeggia (2010) that the risk for STIs is higher for polygamous and divorced women, This was also reported in Ikechebelu et al., (2003) findings that thus infertile women are exposed to a higher risk of HIV infection due

to their promiscuous sexual behavior in search of pregnancy.

Sources of health care services of the respondents are from hospitals and traditional healers because of their effectiveness and accessibility and these have to do with their income. Moderate exercise, good food and relaxation contributed to their good health. The study found that trouble in form of backache which a leading symptom among the respondents was as a result of unwillingness to change from previous occupation that are strenuous and require bending down such as farming and pounding. This was supported by (Stanly et al., (2005) that older adults are the primary users of health care services from acute care facilities to rehabilitation, long-term care, and the community

Respondents bad health status were due to poverty, this may be as a result of the death of their husbands, lost of close relations, homelessness and isolation either due to physical inability or as a result of restraints by relations.

Many respondents claimed that a times they weep loudly or silently whenever

- 1. They think of their status of health
- 2. They are lonely
- 3. Because of their barrenness
- 4. Frustration and poverty
- 5. Harassment from people/stigma.
- How they will be buried when they die. 6.

Barren elderly women should be cared for totally by evaluating their needs for love, self esteem, and spiritual fulfillment. As barren elderly woman ages she loses friends and family, most of them either indulged in keeping pet (cat, dog or bird) by deriving joy by adopting child(ren). The pet acts as a clock in an otherwise structure less day and the pets unquestioning acceptance of the barren elderly women despite their barrenness and other discomfort she might be having, but her pet (especially cat) might also be used to label her as her agent of witchcraft.

In other hand, barren elderly women also derived joy (mental health) from the adopted child(ren) that is(are) living with them in the following ways

- The adopted child helps in domestic ways. 1.
- 2. People used the adopted child's name to call them.
- For the child to be staying with her she has sense 3. of love and belonging and she is not lonely.
- The adopted child always tells her what people say about her and this reduces the harassments and labeling she receives from people.
- The adopted child(ren) helps whenever she is 5. sick.
- The adopted child(ren) calls her mummy and this gives hope to the barren woman that she is a mother.

In Nigeria culture, adoption that is a source of joy to the barren woman can also be a source of sorrow because the adopted child could also be used to labeled the women. This was supported by (Oladokun et al.,

(2009) findings that adoption that may serve as an alternative strategy for the affected couples is not widely practiced and culturally adoption does not remove the stigma of being barren or childless. Childlessness is seen as a perceived role failure that is characterized with social and emotional consequences, hence bad health status.

Therefore, there is no significant association between education and health status of the barren elderly women. this is because the observed probability (p-value) associated with chi-square statistics of 0.20 is large (p>0.05).

There is a significant association between income and health status, this is because the probability (p value) associated with chi square statistics of 9.20 is small (P<0.01).

This study revealed that the higher the income the healthier barren elderly women become. Chi square statistics showed that there is no significant association between the health status of widowed and non widowed barren elderly women.

Implication for nursing practices

Poor household condition indicated needs for having programme for the barren elderly women. If provision of walking aids and infrastructures and skilled nursing personnel to train the barren elderly women in the use of this aids. It was also deduced that barren elderly women are more physically helpless, economically independent or less capable of adjusting to new roles hence their likelihood of her enjoying high health status is very remote, hence nurses should liaise with government the release of funds (special fund) to barren elderly women. Nurses should also focus more on the provision of free health care that will be accessible and acceptable to these group and they should specialize on geriatrics nursing and should be willing to work in old people's home for abandon barren elderly women or people that preferred it willingly in an attempt to avoid been labeled. More attention should also be given by the nurse to the barren elderly women on health education in the area of health maintenance and health promotion.

We therefore recommended that:

Most of the common ailments being experienced by the barren elderly women could best be solved through medical care and spiritualists.

Adoption or the principle of step mothering of children of blood relations (brother or sister of the barren women) should also be encouraged because this could be a source of joy to the barren women and could promote her mental health.

Government and non-governmental organizations should pay adequate attention to the welfare particularly social condition of barren elderly women. This will go a long way in improving their level of health status; improvement should be started through the adoption of

appropriate intervention strategies and adequate incorporation of positive conditional concept of the people into health and social development policies. Finally, improvement in the health education given to the barren elderly women and the general populace will both help the formal to reduce the frustration and psychological imbalance they normally got as a result of various kinds of names they called them and later improves how people especially family members will be relating to them concerning barrenness.

CONCLUSION

It was discovered that among many problems that plaque barren elderly women are problems of sources of finance negligence/abandonment on the family members, assaults from general public, the type of home to which she was married, lack of access to medical attention, bad neighbor and several other mind troubling development form the environment.

To these numerous problems, many suggestions have been proffered to bring down the extent of this plaque to bearest minimum. Among these are provisions of financial aids by government, assistance from neighborhood, borrowing and charity donation and at times through hard working.

REFERENCES

- Adetoro OO, Ebomoyi EW (1991). The prevalence of infertility in a rural Nigerian community. Afri. J. Med. Med. Sci.; 20:23–27.
- Aina OF (2007). An overview of the socio-cultural and psychiatric aspects of women's reproductive health in West Africa. Niger. Postgrad. Med. J.; 14(3):231-237.
- Anamika B, Rajni D (2004). Community's perception of childlessness in Three Different Ecological settings of Jammu, Jammu and Kashumir. Anthropologist, 6(1):29-35.
- Araoye MO (2003). Epidemiology of infertility: social problems of the infertile couples. West Afri. J. Med. 22(2):190-6.
- Bove R, Valeggia C (2009). Polygyny and women's health in sub-Saharan Africa. Soc. Sci. Med. 68:21–9.
- Dhont N, Muvunyi C, Luchters S, Vyankandondera J, Naeyer L, Temmerman M, Vande Wijgert J (2011). Hiv infection and sexual behavior in primary and secondary infertile relationships: a case-control study in Kigali, Rwanda. Sexually transmitted infections, 87:28-34.
- Dyer SI (2008). Infertility n African countries: Challenges created by the Hiv epidemic.Oxford J.; 1:48-53.
- Fajemilehin BR (2003). Experiences and health behaviors of barren elderly widows in rural Yoruba communities. W. Afri. J. Nurs.; 14(2):99-103.

- Fajemilehin BR, Feyinsetan BJ (2000). The widowhood experience of the elderly in rural communities of south western Nigerian school Health J.; 12:11-16.
- Hayward ZZ (2001). Childlessness and the psychological well being of older persons, J. Gerontol.; 56 (5):11-20.
- Ikechebelu JI, Ikegwuonu SC, Joe-Ikechebelu NN (2003). HIV Infection and sexual behavior among infertile women in Southeastern Nigeria. J. Obstetr. Gynaecol.; 22(3):306-307.
- Kaye D (2001). A cross cultural and historical overview of the roles of childless people.
- Kurewa NE, Mapingure MP, Munjoma MW, Chirenje MZ, Rusakaniko S, Stray-Pedersen B (2010). The burden and risk factors of sexually transmitted infections and reproductive tract infections among pregnant women in Zimbabwe. BMC Infect Dis;10:127.
- Makanjuola AB, Elegbede AO, Abiodun OA (2010). Predictive factors for psychiatric
- morbidity among women with infertility attending a gynaecology clinic in Nigeria.. Afri. J. Psychiatr.; 13:36-42.
- Obi SN (2006). Extramarital sexual activity among infertile women in southeast Niger. J. Obstetr. Gynaecol. Ind.; 56(1): January/February.
- Okonofua FE (2003). Infertility in Sub-Saharan Africa. In: *Contemporary Obstetrics and Gynaecology for Developing Countries* in Okonofua F and Odunsi L (eds) Women's Health and Action Res. Centre, 128-156.
- Okonofua FE (2005). Female and Male infertility in Nigeria. Studies on the epidemiology of infertility in Nigeria with special reference to the role of genital tract infections and sexual and reproductive risk factors. Division of International Health (IHCAR) Karolinska Institute, Stockholm Sweden.
- Ola TM, Aladekomo FO, Oludare BA (2010). Knowledge and beliefs of the general public about infertility in Osun State, Southwest Nigeria. J. Reproduct. Infertil.;1(2):26-32.
- Oladokun A, Arulogun O, Oladokun R, Morhason-Bello IO, Bamgboye EA, Adewole IF, Ojengbede OA (2009). Acceptability of Child Adoption as ManagementOption for Infertility in Nigeria: Evidence from FocusGroup Discussions Afri. J. Reproduct. Health 13(1):79-91.
- Oni JB (1996). Qualitative exploration of intra-household variations in treatment of childlessness in polygamous Yoruba families; the use of local expressions. Health Transit. Rev.; 6:57-69
- Orji EO, Kuti O, Fasubaa OB (2002) Impact of infertility on marital life in Nigeria. Int. J. Gynecol. Obst.; 79:61-62.
- Stanley M, Blair KA, Beare PG (2005). Gerontological nursing: promoting successful aging with older Adults (3rd ed.) Philadephia: FA, Davis.
- Umeora OU, Igberaso GO, Okogbenin SA, Obu ID (2009). Cultural misconceptions and Emotional Burden of infertility in Southern Nigeria. The Intern. J. Gynaecol. Obstetr. 10(2).
- Upkong D, Orji EO (2006). Mental health of infertile women in Nigeria.Turk. J. Psychiatr.;17(4).
- Van Balen F, Bos Henny MW (2010). The social and cultural consequences of being childless in poor resource areas. F,V and V in obstetr. and Gynaecol.; 1:106–21.
- Van Balen VF, Inhorn M (2002). "Interpreting infertility: a view from the social sciences". In: Inhorn. M. and V.F. Balen (eds). Infertility around the globe: new thinking on childlessness, gender and reproductive technologies. London: University of California Press; 30–32.
- WHO Bulleting (2010). Maasai couples seek safer solutions to infertility.