Pakistan Journal of Social Sciences 9 (4): 180-187, 2012
ISSN: 1683-8831

Social Problems of Childlessness among Elderly Women in Ondo State Nigeria

[1]Adeyanju Awoniyi Babafemi, [2]Fajemilehin Boluwaji Reuben and
[2]Ayandiran Emmanuel Olufemi
[1]Department of Community Health Nursing, Faculty of Nursing,
College of Health Sciences, Niger Delta University,
Wilberforce Island, Bayelsa State, Nigeria
[2]Department of Nursing Science, Faculty of Basic Medical Sciences,
Obafemi Awolowo University, Osun State, Ile-ife, Nigeria

Abstract: The study examined the specific experiences (cultural and interactional) the feelings the coping strategies of the childless elderly women and determined roles of family members in the care of the childless elderly women with a view to understanding the challenges they faced as well as assist practicing nurses and social workers to understand special care and social support needs of the sub group. Eighty eight purposefully selected childless elderly women recruited through snow balling technique from 12 randomly selected local government areas formed the study population. A semi-structure interview schedule developed through extensive literature research and interactions with childless elderly women was the major tool used for data collection. The interview schedule was tested for validity and reliability using a test retest method. The correlation coefficient and a reliability of 0.82 were arrived at before being used for data collection. The data collected were analyzed using descriptive and inferential statistics. The study showed a general trend of sorrow, neglect, abandonment, frustration, poverty, emotional assault and stigmatization from general among the childless elderly women. The study further revealed that the level of income of childless elderly women were significantly related to their health status ($\chi^2 = 9.20$, df = 1, $p<0.01$). In addition, it was revealed that the health status of childless elderly women were significantly related to their social support ($\chi^2 = 22.17$, df = 2, $p<0.01$). The study concluded that the health status of childless elderly women was mostly affected by income, age, effects of childlessness couple with social support.

Key words: Socio-demographic condition, childless elderly women, social experience, social status, Nigeria

INTRODUCTION

Childlessness is almost as old as man himself. However, in recent times, the rate of childlessness has been on an increase. It is a global problem particularly in the developing countries. Childlessness impact involves crucial areas of global concerns such as health, population, development and status of women (Etuk, 2009). It sets the stage for health beyond the reproductive years for both men and women (Etuk, 2009). About 10-15% of marriages are childless and approximately 70-80 million couples worldwide are currently infertile (Bos *et al*., 2006; Boivin *et al*., 2007). Rapid growth in the population of the childless women has been a major concern about their emotional well-being (Dykstra and Wagner, 2007).

Childlessness women often questioned God why He created to be women if he was to deny them the fruit of the womb despite the fact that He sees the torment they go through daily in the hands of their mother in-laws and their husband's relations. Women with fertility problems may be despised, neglected and abused by the husband and her in-laws (Dyer *et al*., 2005). Stigma extends to the wider family including siblings, parents and in-laws who are deeply disappointed for the loss of continuity of their family and contribution to their community. This amplifies the guilt and shame felt by the infertile individual (Cui and Roggeveen, 2010).

In traditional African setting, childlessness is generally regarded as a tragedy; a daily childless woman finds herself ostracized in the community, deserted by her friends and relatives and unwanted by her husband's.

Corresponding Author: Adeyanju Awoniyi Babafemi, P.O. Box 45, Iwaro-Oka, Oka Akoko, Ondo State, Nigeria

She often developed the emotional manifestations of depressed behavior. Supernatural and mythical dimensions also color the etiology of infertility in Nigeria. This can be extrapolated to 3-4 million Nigeria couples suffering from infertility (Sule *et al*., 2008). The proportion of childless marriages would have been even higher if women had not had access to reproduction treatments (Elizabeth, 1991) because despite recent developments in infertility treatments around 4% of all couples who want children remain infertile in Nigeria.

Estimated levels of childlessness at the start of the 21st century a social issue for at least two reasons. Firstly, childlessness contributes to the fertility decline with ramifications for the future size and age. Structure of population, secondly, increasing level of childlessness means that in the future there will be no more older people with no children. It is widely recognized that family members in particular children, contributed to the support and well being of older people (AIHW, 2001).

Ageing tends to compound the ill feeling of childlessness with associated loss of self worth and social networks. Couples become widowed, friends are scattered, siblings and relatives die. The elderly persons are retired from the labor force which often results in a drop in income, a reduced ability to maintain financial status in the time of inflation and serious decline economy (Fajemilehin and Feyinsetan, 2000). Childlessness may lead to physical, emotional and financial burden besides, the consequences also differ and are often severe and include marital problems, divorce, stigmatization and depression (Van Balen and Bos, 2009).

A proportion of the elderly in low socio-economic status spent a higher proportion of their lives in poor health with little or no familiar support (Fajemilehin and Feyinsetan, 2000). Rapid growth in the size of the childless elderly population has promoted concerns about the negative effects of childlessness on psychological well being. Effects of childlessness on two important dimension of elderly person's psychological well-being are loneliness and depression (Hayward, 2001).

The main objective of the study was to identify the social problems and coping strategies of the childless elderly women within the selected local government, examine the cultural influences and attitudes of the society to childless elderly women, assess the health status and also examine if any the differences in the state of health and quality of life between the widowed and non-widowed childless elderly women. It is hoped that the findings of the study would serve as an instrument for enlightening the public concerning their knowledge of the experiences of childlessness; social, psychological, cultural, economical and health problems of the studied population and the study will assist nurses, social workers and health providers to understood special needs of childless elderly women.

MATERIALS AND METHODS

Study areas: The study areas comprised 12 randomly selected local governments out of the 18 local government areas of Ondo State of Nigeria which were selected for study. Stratified random sampling method was used in selecting the 12 local government s by dividing Ondo State into 6 based on dialectical groups purposely for this study and this allows for easy data collection. The 6 dialectical groups include: Akoko, Ondo, Ilaje, Ikale, Owo and Akure. Two local governments were selected from each dialectical group. The local governments selected were: Akoko North West, Akoko South East, Akure South, Akure North, Ose, Owo, Idanre, Ilaje, Odigbo, Ondo West, Ondo East and Irele local government.

Ondo State is located South Western Nigeria with population of 2,185,723 approximation. The people of the state are predominantly Yorubas and the state was selected for the study because of its numerous cultural orientation and histories of several traditional towns which defined the original culture of Yoruba and also possess a very significant numbers of the childless elderly women with outstanding and numerous wealth of experience.

The target population: The target population in this study are the childless elderly women in Ondo state with age 60 years and above irrespective of their level of education both widowed and non-widowed, both educated and illiterate among them.

Sampling and sample size: Purposive and snow balling approaches were used to select the subjects for the study through the chiefs within the community. The chiefs in the community and the childless elderly women's confidants were used to locate the childless elderly women. The chiefs were the first point of contacts in the community who later invited childless elderly women's confidants and the later introduced the researchers to the respondent this helped in enhancing high responses rate interpersonal relationship confident in the researchers and it made them to be cooperative.

A minimum of seven to eight childless elderly women per local government selected were used. The childless elderly women used were selected through random sampling by casting of lots and the same method was used to select the villages or town selected per local government where the childless elderly women were

selected. Quarters and streets were used in some of the local government like Ondo and Akure where a town is a local government.

A total of 88 childless elderly women were interviewed and this cut across all the eight randomly selected local government areas in all the 6 dialectal groups in the state. To ascertain the actual age of the respondent, calendar and dates of both a natural and accidental events were used for the computation (Table 1).

Research instrument: Data was collected with the use of a standardized self developed interview guide this consisted of Section A-D. Section A consisted of 14 questions and economic characteristics. Section B consisted of 26 questions designed to explain the health status and social problems of the respondent. Section C consisted of 19 questions designed to explore the social support sources and coping strategies of the respondents while Section D consisted of 44 questions designed to explain the social factors affecting childless elderly women.

Method of data collection: The respondent consent was sought before embarking on data collection. The intrerview guide (which was written in English language for the respondent who does not understand English language) was used. All the information collected was made confidential. Permission was obtained from the household where necessary and the consent of the childless elderly women and their significant others were obtained. Data collection took 10 weeks 5th May to 12th July 2011. This study generated both quantitative and qualitative data. Each interview session lasted between 40-60 min with an average of 50 min every one of them was interviewed face to face separately with a short introduction about the purpose of the interview. The interview day and time was fixed ahead as dictated by the respondent through the help of the chiefs within the community which fell within the 10 weeks that was used for the collection of data. The interview schedule was tested for validity and reliability at Ikare Akoko before being used for data collection. A retest coefficient of 0.82 was arrived at.

Table 1: Distribution of the respondents according to local government areas

Local government	Frequency	Percentage
Akoko North West	7	7.95
Akoko South East	7	7.95
Akure South	8	9.09
Akure North	7	7.95
Ose	8	9.09
Owo	7	7.05
Idanre	8	9.09
Ilaje	7	7.95
Odigbo	7	7.95
Ondo West	7	7.95
Ondo East	7	7.95
Irele	8	9.09
Total	88	100.00

Ethical consideration: Informed consent was obtained from the local government and from the subject before the study. The research approached the childless elderly women in their through the chiefs and head of the family.

Data preparation and analysis: Two forms of statistical analysis were employed in analyzing the data. Descriptive Method and Inferential Statistical Methods. The descriptive involves the use of frequency distribution and percentages. Mean statistics were employed in interpreting the data distribution of the respondents parameters. Inferential analysis utilized Chi-square statistics protest for the hypothesis.

RESULTS AND DISCUSSION

Table 2 showed the socio demographic characteristics of the respondent. The table showed even distribution of the respondent across the twelve selected local government areas. There were 88 respondents on the hole. The age distribution of the respondent shoe that over two-third of the study population were within 60-69 years age bracket (70.5%) only a few 6 (6.8%) were well advanced in age 75-79 years. The marital profile of the respondents reveal that majority 54 (61.4%) of the childless elderly women were married, 8 (9.1%) remarried after the death of their first husband while about one-third 26 (29.5%) were widowed out of the 88 respondents 34 (38.6%) were from monogamous family while 54 (61.4%) were from polygamous family. Religion of all the childless elderly women reviewed are 66 (75%) were Christians, 4 (2.3%) were Muslims about 16 (18.2%) were in traditional religion while 4 (2.3%) belongs to other unspecified religion. Thus, more of the Christians are childless when compared to Muslims and those in traditional religion.

Distribution of respondents by education reviewed that more than half of the respondents 52 (59.1%) had primary, secondary, post secondary education and others while 34 (38.6%) of the respondents did not have any formal education. From Table 3, only about 13.6% of the respondents enjoyed favorable relationship with their husbands and family members and a small proportion of

Table 2: Socio-demographic characteristics of the respondents

Characteristics	Frequency	Percentage
Age in (years)		
60-64	28	31.8
65-69	34	38.6
70-74	20	22.8
75-79	6	6.8
Total	88	100.0
Marital status		
Married	54	61.4
Remarried	8	9.7
Widowed	26	29.5
Total	88	100.0
Education level		
No formal education	34	38.6
Primary	14	15.9
Secondary	10	11.4
Post secondary	20	22.7
Others	8	9.1
Total	87	97.7
Missing system	2	2.3
Type of marriage		
Monogamy	34	38.6
Polygamy	54	61.4
Total	88	100.0
Type of family		
Nuclear	36	40.9
Extended	52	59.1
Total	88	100.0
Religion		
Christianity	66	75.0
Islam (Muslim)	2	2.3
Traditional	16	18.2
Others	2	2.3
Total	86	97.7
Missing system	2	2.3
Sources of income		
Employer	8	9.1
Self employment	10	11.4
Family	24	27.3
Friends	4	4.5
Charity	36	40.9
Others	6	6.8
Total	88	100.0

Table 3: Family member's disposition to childless elderly women predicaments

Items	Frequency	Percentage
Very favorable	06	6.8
Favorable	12	13.6
Not too bad	22	25.0
Indifferent	20	22.7
Non favorable	28	31.8
Total	88	100.0

about 6.8% claimed they were very favorable with the attitude of their family members. Moreover, the percentage for not too bad indifferent and non favorable 25, 22.7 and 31.8%, respectively.

Data shown above in respect of hobbies for childless elderly women indicated among other things that approximately 41% of women engaged in one stressful research on the other hand. About 6.8% engage in domestic activities as hobbies same goes for hobbies such as gaming relaxation through entertainment by music

Table 4: Data of childless elderly hobbies

Items	Frequency	Percentage
Stressful work	36	40.9
Domestic engagement	06	6.8
Home rest	22	25.0
Exercise (game)	06	6.8
Entertainment	06	6.8
Others	6	6.8
Total	88	100.0

Table 5: Data on ailment often suffer by childless elderly women

Items	Frequency	Percentage
Ache	08	9.1
Fever	18	20.5
Body problem	34	43.2
Fatal ailment	04	4.5
Intestinal/Abdominal pain	08	9.1
Pain/Other related trouble	16	18.2
Total	88	100.0

Table 6: Data on possible sources of income to childless elderly women.

Items	Frequency	Percentage
Employer	08	9.1
Self employment	10	11.4
Family	22	25.0
Friends	04	4.5
Charity	36	40.9
Others	06	6.8
Total	88	100.0

Table 7: Social complaint of childless elderly women

Items	Frequency	Percentage
Death of husband	22	25.0
Death of close relation/Friend	06	6.8
Harassment from people/Nickname	02	2.3
Homelessness	10	11.4
Being barren/Childlessness	20	22.7
The fear of being labeled	14	15.9
Boredom/Loneliness/Isolation	12	13.6
Financial incapability	02	2.3
Total	88	100.0

as well as other forms of engagement (Table 4). The Table 5 shows that 9% of the childless elderly women suffer from different forms of ache such as headache, toothache, stomachache, backache, etc.

About 20.5% often experienced mild ailment such as typhoid, dizziness, malaria, insomnia, etc. while as much as 43.2% exhibit symptoms of body problems, etc. Meanwhile, a very negligible percentage 4.5% represented the proportion of childless elderly women with fatal ailment. From Table 6 the most significant source of good health for childless elderly women were good care of oneself, medical checkup and good diet with treatment of oneself with traditional medicine with respective percentage 31.8, 22.7 and 20.5%, other sources of good health include prayer with about 13.6%, adequate rest with 6.8% and exercise with just 4.5%.

Table 7 shows that the most important source of income to childless elderly women were through employer, self-employment, family and charity with 9.1, 11.4, 25 and 40.9%, respectively. The social complaint of

Table 8: Relationship between health status and social support

	Social support			
Health status	Poor	Fair	Good	Total
Poor	16 (66.7%)	6 (25%)	2 (8.3%)	24
Good	2 (3.1%)	30 (46.8%)	32 (50%)	64
Total	18	36	34	88

$\chi^2 = 22.17$, p = 0.000, df = 2, S = Significant

childless elderly women revealed that about 25% of them had one time or other suffered due to the category of those that had suffered the death of their close relation/friends. About 15.9% of them were in a terrible fear of being labeled while 13.6% were in a state of loneliness, boredom and isolation.

Test of hypothesis

Hypothesis 1: The health status of the childless elderly women will tend to vary as her social support varies. From the Table 8 about 66% of the childless elderly women with poor social support had poor health status. About three-quarter (25%) of the respondents with fair social support had poor health status while 8.3% or the childless elderly women with good social support had poor health status.

Hypothesis 2: Social demographic characteristics (e.g., level of finance and age) of childless elderly women will affect their health status. Table 9 about 52.2% of the childless elderly women that end 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. From the Table 10 childless elderly women that are <70 years with poor health status were 4 (5.1%) while about 8 (80% 0 of the respondents that had poor health status 70 years and above. Also 94.9% of the respondents with good health status were <70 years in age while 20% of the childless elderly women that are 70 years had good health status, therefore p = 0.000 and is significant.

Respondents in this study reported that the consequence of their childlessness together with labels and name being called by people normally leads to withdrawal and distress. Some of the distress profile of childlessness includes crying, sadness, anxiety, isolation, rejection, loneliness, divorce, remarrying and loss of self-esteem and fear of being labeled. Among the labels and names that people normally called childless elderly women are:

- Woman from the sea (yeye omi)
- Mummy hope (iya ireti)
- Witch (iya aje)
- Male dog (ako aja)
- Empty barrel (agba ofo)

Table 9: Relationship between income (finance) and health status

	Health status		
Level of income	Poor	Good	Total
Low income	24 (52.2%)	22 (47.8%)	46
High income	4 (9.5%)	38 (90.5%)	42
Total	28	60	88

$\chi^2 = 0.20$; df = 1; p>0.05; NS = Not Significant

Table 10: Relationship between age and health status

	Health status		
Age	Poor	Good	Total
<0 years	4 (5.1%)	74 (94.9%)	78
70 years and above	8 (80%)	2 (20%)	10
Total	12	76	88

$\chi^2 = 15.22$; df = 1; p = 0.000

This study also revealed that childless elderly women do engaged in some things to keep life on. This include: they indulged in various religion activities also engaged in daily prayer with absolute faith in the lord for support needs.

Financially those that are rich among the participants share out their wealth among their family members and other relation as a way of freedom from the features of stigma; since individual childless elderly widow's contribution to the individual families and communities in this study determined her joy in the husband's households. This also agreed with the observations of Okonofua *et al.* (1997) that an infertile woman can be considered privileged and supported if she behaved well and contributed positively to others progress.

Most of the childless elderly women leave unfixed income and rising medical costs can create a serious financial burden when in good health, people with no children have more contacts with friends and neighbors than people with children but has health problems mounts the likelihood of social isolation and increase health care services status of the childless elderly women revealed that most of the respondents (54.5%) source of health services is from the hospital and this have to do with their income.

These activities were found to be detrimental to the health of the aged and living conditions. Ill health in old age is endemic which if not properly manage could result to untimely death. About 22.7% used concoction while 2.3% used incision (gbere) as their prophylaxes. This testified to their claims that they preferred traditional healer/traditional prophylaxes because of their effectiveness. Others believed in the fast action of traditional medicine, they also claimed that traditional medicine are very cheap, no time wastage that they are easily accessible may not involve the use of drugs and because of its cultural since it had been their old method of treatment. There is a need for improving the poor and

unwholesome environmental conditions of the childless elderly women. Water supply, fecal disposal and refuse disposal are all value in causation of illness, most especially in vulnerable groups as a result of neglects and being childless, no one to help.

Many respondents claimed that they preferred spiritual care to illness, childlessness and effectiveness of prayer made them to prefer faith healers. And that their spiritual healers normally visited them at home and that they have never been visited by orthodox health officials. This showed lack of domiciliary health care services, even follow up visit to discharged childless elderly women were unforeseen. This was supported by Dyer *et al.* (2009) that there is high rates of treatment drop-out of childless women and it is a concern as they perpetuate reproductive ill-health and may waste health resources and this was further supported by Lechner *et al.* (2007) that professional help is currently mostly concentrated on people during their infertility treatments in hospitals or infertility clinics. It is commended to continue this professional help after infertility treatments have stopped in order to help people learn to accept their involuntary childlessness.

Building of old people home for abandoned childless elderly women or people that preferred it willingly is important because a large number of the childless elderly women in an attempt to avoid the hostile response of stigmas of childless state of childlessness are found occupying acute hospital beds or are institutionalized, many of whom may remain in the hospital sometime after their acute conditions had passed because other various home situation which do not allow for adequate follow up care of social support. Just like Oni (1996)'s findings that women 75 years and over with no children are more likely to be in hospital or residential care than those with children. The diminishing extended family ties and increasing social distance between the aged women and their extended family members was the major factor responsible for the decline in their care and support in the study area.

It was found that risky sexual behaviour has been used to solve fertility problems for a long time in this community. This was supported by Obi (2006) that childless women engaged in extramarital sex for procreation and continuity of the family name. It was also documented in Dhont *et al.* (2011a, b) that polygamous men, instead of divorcing their infertile wife might opt to marry a second wife with whom they hope to produce offspring and this was supported by Dhont *et al.* (2010) findings that this might expose them to infection, HIV was consistently associated with all types of infertility in both men and women.

The study found that the level of income of childless elderly women is strongly related to their health status and that the higher the income the healthier childless elderly women become. Also that there is significant association between the health status and social support of childless elderly women. This was supported by Asiazobor (2009) that in an attempt to survive in a harsh Nigerian socioeconomic environment, some of them solicit for alms while others depend on all kinds of odd jobs in spite of advanced age with minimal support from neighbours for their daily needs. Also from the study, it was revealed that some of the respondents had changed their husbands in one time or the other because:

- Of the death of the first (previous) husbands
- Just to prove their fertility
- In search of child (ren)
- To have rest of mind/change of environment

As a result of the problems posed by their husband's relations (sisters and brothers in-law). Majority of the respondents preferred to live with their spouse despite the harassment they received from their husband's relations because of:

- Physiological support and care being received from their husbands
- Physical support/social support
- Moral support/emotional support
- Fulfillment of being married
- Good comfort and for them not to be lonely

A need for psychological care as a result of childlessness and as a result of being a widow for those that are widow is of paramount importance. A need for domestic cares or home care for the childless elderly women by trained personnel; hence health workers, especially nurses and midwives can make a significant contribution by educating the community about infertility and alternative of adoption. Therefore, the relationship between the health status and social support of childless elderly women using a non-parametric measure based on Chi-square statistics showed that there is a significant association. This is because the observed probability (p-value) associated with Chi-square statistics of 22.17 is small ($p<0.01$). This means the health status of the childless elderly women increase as their social support increases.

It was also found that 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 ($p<0.1$). Therefore, the

level of income of childless elderly women is strongly related to their health status and the higher the income the healthier childless elderly women become. The health status of the childless elderly women are related to age that is as the childless elderly women get older their health get deteriorated and worsen.

Finally, there is an indication for specially designed health services and the drugs to the childless elderly women. A community health care incorporated in the primary health care programme would be of immense value to help meet the needs of the childless elderly women. Need for assistance and infrastructural and in order to meet activities of physical functioning. Teaching the childless elderly women how to live a life without much psychological problems and how to absorbed the harassment and strange things noticed in their neighbors behaviors that is not bearable. Also health educating childless elderly women how to forget about the labeling and names being called by the people.

CONCLUSION

Social problems of childless among elderly women as shown by this research work an important issue. It was discovered among other things that the level of social support received usually affect the health status of childless elderly women. Also ages of childless elderly women are related to health status and it goes for level of income. In plain terms, it can be concluded that the older a barren elderly woman becomes the weaker their status in health. According to the findings of the study, the level of education has nothing to do with the health status. Finally, the higher the income of a childless elderly women, the stronger in health she becomes and vice-versa.

In terms of medical complaint, most of the ailments that often affect childless elderly women includes: varying degrees of insomnia, lassitude, regular joint pains and some other bodily related problems. Moreover, the analysis in respect of widowed and non-widowed childless women shows no significant different in the health status of the two categories. This category prefers exercise and prayers to other forms of approach in solving problem relating to their health. All the same, it can be concluded among other things that income and age affect health status and same tends to vary as the level of social support. Conclusively, there is no significant difference between the level of widowed and non-widowed health status.

IMPLICATIONS

Since, childless elderly women are faced with many challenges, it is the responsibility of nurses especially community health nurses to make an assessment of the childless elderly women by taking into account both the individual and the settings in which the childless lives. Also the rapid growth in the size of the childless elderly population has prompted concerns about the negative effects of childlessness and the psychological effects that these passed on the childless population. More attentions should be given by the health care practitioners especially the nurses to the problems of the childless elderly women by given priorities on health educating the people (masses) and family members on the needs for maximum support for the childless and how to make them live a fulfilled life.

RECOMMENDATIONS

Sequel to the outcome of the analysis herein, the following is recommended for children elderly women (widowed inclusive). Exercise and eating of food rich in adequate nutrients (adequate diet) for the improvement of their health status. There must be improvement in the health education given to people to reduce frustration and psychological in balance of the childless women as a result of various kinds of names they called them. To prevent loneliness, families, relatives and as well as communities in which these childless elderly women lives should always act in pretence of love towards them and by so doing, the childless elderly women will benefit till death from continuous care and social support. Government should pay adequate attention to the welfare particularly social conditions of childless elderly women this will further improve their level of health status.

REFERENCES

AIHW, 2001. Australia's Welfare. Australian Institute of Health and Welfare (AIHW), Camberra, Australia, pp: 72-75.

Asiazobor, E.F., 2009. Surviving without children: Life histories of childless aged women in Esan. Nig. Bold, 19: 14-32.

Boivin, J., L. Bunting, J.A. Collins and K.G. Nygren, 2007. International estimates of infertility prevalence and treatment-seeking: Potential need and demand for infertility medical care. Hum. Reprod., 22: 1506-1512.

Bos, H.M.W., F. van Balen and A. Visser, 2006. Social and cultural factors in infertility and Childlessness. Patient Educ. Counseling, 59: 223-225.

Cui, W. and Y. Roggeveen, 2010. Maasai couples seek safer solutions to infertility. Bull. World Health Organiz., 88: 885-886.

Dhont, N., C. Muvunyi, S. Luchters, J. Vyankandondera, L. Naeyer, M. Temmerman and J. van de Wijgert, 2011a. Hiv infection and sexual behavior in primary and secondary infertile relationships: A case-control study in Kigali, Rwanda. Sex. Transm. Infect., 87: 28-34.

Dhont, N., J. Wijgert, J. Vyankandondera, R. Busasa, A. Gasarabwe and M. Temmerma, 2011b. Results of infertility investigations and follow up among 312 infertile women and their partners in Kigali, Rwanda. Trop. Doct., 41: 96-101.

Dhont, N., J. van de Wijgert, S. Luchters, M. Claude, J. Vyankandondera and M. Temmerman, 2010. Sexual violence, HSV-2 and HIV are important predictors for infertility in Rwanda. Hum. Reprod., 10: 2507-2515.

Dyer, S., C. Lombard and Z. van de Spur, 2009. Psychological distress among men suffering fromcoupleinfertility in South Africa: A qualitative assessement. Hum. Reprod., 24: 2821-2826.

Dyer, S.J., N. Abrahams, N.E. Mokoena, C.J.L. Lombard and Z.M. van der Spuy, 2005. Psychological distress among women suffering from couple infertility in South Africa: A quantitative assessment. Hum. Reprod., 20: 1938-1943.

Dykstra, P.A. and M. Wagner, 2007. Pathways to childlessness and late-life outcomes. J. Family Issues, 28: 1487-1517.

Elizabeth, B.G., 1991. Technik, Markt und Moral: Uber Reproduktionsmedizin und Gentechnologie. Fischer Taschenbuch, Verlag, USA., Pages: 140.

Etuk, S.J., 2009. Reproductive health: Global infertility trend. Niger. J. Physiol. Sci., 24: 85-90.

Fajemilehin, B.R. and B.J. Feyinsetan, 2000. The widowhood experience of the elderly in rural communities of south western Nigerian school. Health J., 12: 11-17.

Hayward, Z.Z., 2001. Childlessness and the psychological well being of older persons. J. Gerontol., 56: 11-20.

Lechner, L., C. Bolman and A. Van Dalen, 2007. Definite involuntary childlessness: Associations between coping, social support and psychological distress. Hum. Reprod., 22: 288-294.

Obi, S.N., 2006. Extramarital sexual activity among infertile women in southeast Nigeria. J. Obstetrics Gynaecol. India, 56: 72-75.

Okonofua, F.E., D. Harris, A. Odebiyi, T. Kane and R.C. Snow, 1997. The social meaning of infertility in Southwest Nigeria. Health Transit. Rev., 7: 205-220.

Oni, J.B., 1996. Qualitative exploration of intra-household variations in treatment of childlessness in polygamous Yoruba families: The use of local expressions. Health Tran. Rev., 6: 57-69.

Sule, J.O., P. Erigbali and L. Eruom, 2008. Prevalence of infertility in women in a Southwestern Nigerian community. Afr. J. Biomed. Res., 11: 225-227.

Van Balen, F. and H.M. Bos, 2009. The social and cultural consequences of being childless in poor-resource areas. Facts, vies and vision. The low countries. J. Obstetr. Gynaecol. Reprod. Health, 1: 106-121.