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ORIGINAL ARTICLE

Pattern and Predictors of Sexual Activity among Postmenopausal Women Attending a Family Medicine Clinic in Ilorin, North-Central Nigeria

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Objectives: Sexual activity tends to decline with age and is greatly impacted in postmenopausal women. This study aimed to describe the sexual activity pattern among postmenopausal Nigerian women and also detect socio-demographic and menopause-related predictors of their sexual activity.

Methods: In this hospital-based cross-sectional study, 357 postmenopausal women between 45–60 years participated. Data was collected using the sexual activity questionnaire and a socio-demographic questionnaire developed by the authors.

Results: The prevalence of sexual inactivity among the participants was 60%. This was attributed mainly to the unavailability of male partners (50.5%) and negative menopause-related sociocultural beliefs (23.8%). Among sexually active participants, 83.2% of them reported having pleasurable experiences and 53.8% of them reported no associated sexual discomfort. Only being in a marital relationship was found to be a statistically significant predictor of sexual activity among the participants (regression coefficient = 3.125, degree of freedom = 1, $P < 0.0001$).

Conclusions: We reported a high prevalence of sexual inactivity among the participants; the most important reasons given were the unavailability of their husbands and the belief that sexual intercourse was taboo during the postmenopausal period. The study also provided positive evidence for the importance of marriage for sexual activity among the participants.

Key Words: Postmenopause, Sexual activity, Marital status, Sex, Questionnaire

INTRODUCTION

The World Health Organization (WHO) defined sexual health as a state of physical, emotional, mental, and social well-being in relation to human sexuality and not merely the absence of disease, dysfunction or infirmity [1]. Human sexuality is generally believed to be one of the basic drives behind everyone's feelings, thoughts, and behaviors [2]. It represents the means of biological reproduction. It also not only defines the psychological and sociological representations of self but also determines a person's attraction to others [2].

Sexual activity in women generally reduces after cessation of menstruation due to various physiological changes associated with the menopausal transition and aging [3]. This pattern is commonly reported among women of different countries and cultural practices [3]. Although, the pathogenesis of female sexual dysfunction (FSD) is multifactorial, the physiological changes of sex hormone insufficiency and postmenopausal symptoms are primary factors contributing to FSD at midlife [3]. It has been shown that menopause commonly predisposes women to orgasmic, lubrication, and sexual pain disorders through the development of

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symptomatic vulvovaginal atrophy [4]. This has been reported as a major reason for low sexual activity in postmenopausal women [3-5]. Shifren et al. [6] in the United States reported that the highest prevalence of women with low sexual desire and associated distress were women within the 45–65 years age-group. This age group represents women undergoing menopausal transition and those in the early to middle post-menopausal period.

Sexual-related quality of life (Qol) is an important domain of the total Qol in men and women generally. Most postmenopausal women rate sex to be an important part of their life and deeply desire to maintain an active sexual life [7]. Caruso et al. [8] were able to demonstrate that estriol vaginal gel therapy significantly improves the health of the vaginal mucosa leading to better sexual health and Qol of postmenopausal women. These findings confirm the importance of improved sexual intercourse to a better total Qol.

Beside menopause, various complex psychological, medical, socioeconomic, political, cultural, legal, historical, religious, and spiritual factors have also been identified to predict or influence the experience and expression of sexuality among postmenopausal women [1,3]. Nazarpour et al. [9] in a systematic reviews of factors affecting sexual function in menopause identified age of the woman and her spouse, hormonal changes, menopause duration, chronic medical problems, husband's sexual problems, and the severity of menopausal symptoms as significant factors. They also reported emotional issues like the woman's feelings about her sexual partner, level of her self-confidence and self-esteem, and her body image as important predictors of sexual activity [9].

Sexual activities have been previously reported in Nigeria as a taboo among postmenopausal women because of widespread superstitious beliefs that they will develop debilitating illnesses and uterine fibroids [10,11]. The objectives of this study are to describe the pattern of sexual activity among postmenopausal Nigerian women and also to detect socio-demographic, and menopause-related predictors of their sexual activity.

MATERIALS AND METHODS

Study design and participants

The study is a hospital-based cross-sectional study. The sample size was calculated using the Stat Calc function of Epi-info 7 software (Centre for Disease Control, Atlanta, GA, USA) for determining appropriate sample size for cross-sectional study at 95% confidence level, 5% confidence limit, and estimated population size of 5,000 postmenopausal women [12]. A sample size of 357 women was calculated.

Therefore, a total of 357 postmenopausal women were recruited using systematic random sampling while attending the general outpatient clinic of the Family Medicine Department of the General Hospital Ilorin (GHI), Ilorin, Kwara State, Nigeria for routine primary medical care. The inclusion criteria for the study were: Nigerian postmenopausal women between 45 to 60 years of age who gave a written informed consent to participate; who were presenting for routine medical care in a stable health condition; and who were married at least once in their lives. This age range was selected to include most postmenopausal women in Nigeria where the mean age at menopause was around 48 years, and also to exclude elderly women [13]. The other exclusion criteria were; women receiving menopausal hormone therapy because it is not readily available and accessible in Nigeria, those who had undergone bilateral oophorectomy, those who were receiving chemotherapy, and those who were receiving treatment for sexual dysfunction.

Ethical approval was received from the Institutional Ethical Review Committee of GHI (GHI/ADM/134/VOLII/394) before the commencement of the study. The study was conducted in compliance with the Declaration of Helsinki guiding human research.

Instruments

Study questionnaire

This is a semi-structured questionnaire developed by the authors to collect relevant socio-demographic and menopause related information. The following data was collected with the tool; present age, age at menopause, menopause duration, highest education level, occupation, ethnicity, and marital status of all the participants.

Sexual Activity Questionnaire (SAQ)

The SAQ was created by Thirlaway et al. [14] to study sexual functioning of women receiving tamoxifen for breast cancer prophylaxis. The SAQ consists of 3 sections; a 6-item screening questions, reasons for sexual inactivity for those not sexually active, and finally the sexual functioning assessment section (SAQ-F) respectively [15]. The SAQ-F has been shown to be a valid

and reliable tool with good psychometric properties in patients with gynecological disorders and in the general population [15,16].

The SAQ-F is a 10-item questionnaire with 3 subscales: sexual pleasure (6 items), sexual discomfort (3 items), and sexual habit (1-item: frequency of sexual activity last month compared with what was usual for the last several months) [15]. It is used in assessing sexual functioning in sexually active women over 1-month period [16]. Nine of the ten SAQ-F items are rated on a 4- point Likert scale (0 not at all, and 3 very much) [15,16].

Pilot testing of the questionnaire among postmenopausal women attending another hospital in Ilorin revealed some of the respondents' reasons for sexual inactivity were not captured in section-2 of SAQ and that some of them had multiple reasons for abstaining from sex. In addition, the need to modify the sexual habit assessment to reflect changes due to menopause was also noticed. The following modifications were made to the original SAQ: 1) Reasons for sexual inactivity was modified to "Most important reason for sexual inactivity"; 2) Addition of menopause associated socio-cultural factors as one of the reasons for sexual inactivity; 3) The assessment question for the sexual habit has been changed to "Any change in sexual frequency in the last one month compared to before menopause?".

The approval to use and modify the original SAQ to suit the objectives of the present study was sought and received from Dr. Thirlaway [14].

Data collection and analysis

The researchers administered the questionnaires to all eligible postmenopausal women after systematic random sampling on each clinic day during the study period. The collected data were analyzed by IBM SPSS™ version 21 software (IBM Co., Armonk, NY, USA). Descriptive statistics were used to describe the participants' socio-demographic characteristics, their age at menopause, duration of menopause, most important reasons for sexual inactivity, and their sexual activity pattern. A multiple logistic regression analysis for socio-demographic and menopause-related predictors of sexual activity among the participants was also done.

RESULTS

Socio-demographic and menopause-related characteristics of the participants

A total of 357 postmenopausal women between the ages of 45–60 years participated in the study. The mean age of the participants was 51 ± 4.8 years. A large majority of the women (74.8%) belonged to the Yoruba ethnic group and most of them were traders (59.9%). Also, the majority of the women were married to living husbands during the study (72.5%). The mean age at menopause among the participants was 47 ± 3.2 years and the majority of them had only experienced meno-

Table 1. Socio-demographic and menopause-related characteristics of the participants (n = 357)

Variables	Frequency
Age groups (y)	
45–50	197 (55.2)
51–55	112 (31.4)
56–60	48 (13.4)
Education	
Lower than secondary	264 (73.9)
Secondary and higher	93 (26.1)
Ethnicity	
Yoruba	267 (74.8)
Others	90 (25.2)
Occupation	
Civil servants	36 (10.1)
Professionals	46 (12.9)
Artisans	32 (9.0)
Traders	214 (59.9)
Unemployed	29 (8.1)
Marital status	
Married	259 (72.5)
Others	98 (27.5)
Age at menopause (y)	
≤ 40	0
41–45	157 (44.0)
46–50	164 (45.9)
> 51	36 (10.1)
Duration of menopause (y)	
≤ 4	265 (74.2)
5–9	62 (17.4)
> 10	30 (8.4)

Data are presented as number (%).

pause for less than or equal to 4 years duration (74.2%). The results are presented in Table 1.

Most important reasons for sexual inactivity among the participants

The two most important reasons given by the majority of the participants for their sexual inactivity in the preceding month were partner-related problems (unavailability, physical health problems, and lack of interest) and menopause-associated negative sociocultural beliefs (that postmenopausal sex is a taboo, and that it may lead to illness) in 50.5% and 23.8% respectively. The results are shown in Table 2.

Table 2. Most important reasons for sexual inactivity among the participants (n = 214)

Variables	Frequency
Lack of interest or motivation	40 (18.7)
Psychological factors	0
Personal physical problems	9 (4.2)
Vaginal discomfort	6 (2.8)
Partner-related problems	108 (50.5)
Menopause socio-cultural factors	51 (23.8)

Data are presented as number (%).

Sexual activity pattern among the participants

The majority of the postmenopausal women studied were not sexually active with no history of coitus in the preceding month (60%). Among the 143 participants that were sexually active, majority of them had pleasurable sexual experience (83.2%) though close to half of them (46.2%) had some level of sex-related discomforts (tiredness, dryness of vagina, and dyspareunia). In addition, a slightly higher percentage of them had no change in sexual frequency post-menopause (51.7%), and only 35% of the total population studied rated having sexual intercourse as not important to their present Qol. The results are presented in Table 3.

Table 3. Sexual activity pattern among the participants (n^a = 357)

Variables	Frequency
Frequency of coitus (per mo)	
0	214 (60)
1–2	88 (24.6)
3–5	31 (8.7)
> 5	24 (6.7)
Sexual pleasure (n^b = 143)	
Yes	119 (83.2)
No	24 (16.8)
Sexual frequency change postmenopause (n^b = 143)	
No	74 (51.7)
Yes	69 (48.3)
Sexual discomfort (n^b = 143)	
No	77 (53.8)
Yes	66 (46.2)
Importance of coitus to Sexual-related quality of life (n^a = 357)	
No importance	125 (35)
Unsure	24 (6.7)
Mild	29 (8.1)
Moderate	42 (11.8)
Very	137 (38.4)

Data are presented as number (%).
[a]Total number of participants. [b]Total number of participants that were sexually active.

Multiple logistic regression analysis for predictors of sexual activity among the participants

Marital status of being married had the highest regression coefficient and was the only predictor of sexual activity among the participants found to have statistical significance (regression coefficient [r] = 3.125, degree of freedom = 1, $P < 0.0001$). The results are shown in Table 4.

Table 4. Multiple logistic regression analysis for predictors of sexual activity among the participants

Predictors	Regression coefficient (r)	Degree of freedom	*P* value
Age (45–60 y)	0.337	1	0.086
Age at menopause	–0.09	1	0.683
Duration of menopause	–0.215	1	0.332
Being married	3.125	1	< 0.0001
Higher level of education	1.435	1	0.132
Occupation types			
Civil servant	0.18	1	0.799
Professional	0.215	1	0.746
Artisan	0.339	1	0.650
Trading	1.035	1	0.074
Unemployed	0[a]		

[a]The parameter was set to 0 because it was used as the reference to compare the other groups.

DISCUSSION

The mean age of the respondents and the mean age at menopause in this study are comparable with findings from similar studies done among postmenopausal women in Nigeria and some African and Asian countries [17-19]. The mean age at natural menopause of 47 ± 3.2 years reported in this study is lower but comparable to 48 years reported in Ghana, 49.3 years reported in Korea, and 51 years reported in Canada [18-20]. Also, all of the respondents have been married at a particular time in their lives and the majority of them were currently married at the time of the study. This indicates the importance of marriage among the study population and this finding is consistent with most other Nigerian studies [21,22]. The majority of the post-menopausal women studied in this work were not sexually active with no reported coitus in the preceding month in 60% of the participants. This is not unexpected given that most postmenopausal women in Nigeria had been shown to have low interest in sex and that they experienced varying levels of difficulties in having satisfactory sexual intercourse [10]. The high prevalence of postmenopausal sexual inactivity found in this study is similar to 64.2% reported by Ebirim et al. [22] among Igbo women in Oweri, South-eastern Nigeria and 64.9% reported by Ande et al. [23] in Benin City, South-southern Nigeria. However, the major reasons for abstaining from sexual intercourse among postmenopausal women appeared to be different across ethnic groups in Nigeria.

In this study, which was done among predominantly Yoruba women of North-central Nigeria, the three most important reasons for their sexual inactivity were partner-related problems such as unavailability, physical health problems, and lack of interest of their male partners (50.5%), menopause-related socio-cultural beliefs and myths that considered having sex in the postmenopausal period culturally unacceptable or that it could cause diseases (23.8%), and thirdly because of their lack of interest or motivation (18.7%). In a similar study done among middle-aged Yoruba women of South-western Nigeria by Bello et al. [21] menopause-related negative socio-cultural beliefs were also reported as a significant predictor of cessation of sexual activity among them. However, in the study by Ebirim et al. [22] despite comparable prevalence of sexual inactivity with this present study, the major reason for their abstinence could be attributed mainly to vaginal symptoms (86.7%) and not negative menopausal beliefs. Also in the study by Ande et al. [23], negative socio-cultural beliefs were also not among the important reasons for abstaining from sex reported by the postmenopausal women who were not sexually active in the study. The variation in the reasons for sexual inactivity in these studies might be because of differences in the study populations or methodology or both. Therefore, a large cross-sectional comparative national study where each ethnic group will be equally represented might be needed to investigate if there is a significant difference in the reasons for sexual inactivity in postmenopausal Nigerian women across the different geo-political zones in the country.

It is pertinent to note that the majority of the participants who were sexually active had sexual frequency of only 1–2 per month (n = 88) which is lower than 1–2 per week reported among premenopausal married women in Nigeria, and is also lower than the mean sexual frequency reported among postmenopausal European and American women.[24,25] However, a large majority of the participants reported having pleasurable sexual experience (83.2%), and more than half reporting no sexual discomfort during intercourse (53.8%). These findings have provided evidence that postmenopausal Nigerian women can have safe and pleasurable sexual intercourse. Although, a small percentage of the women rated having sexual activity as unimportant to their Qol (35%), for majority of them it was important in varying levels (58.3%). Therefore, clinicians attending to postmenopausal women should screen for sexual activity and reasons for sexual inactivity among them regularly so as to provide appropriate counselling and support for them to have safe and pleasurable sexual experience.

The importance of marriage and being in a marital relationship among the study population became evident in the result of the multiple logistic regression in the determinant of their significant predictors for sexual activity. Out of all the socio-demographic and menopause-related characteristics analyzed, only being in a marital relationship was found to have the highest coefficient of regression and reached statistical significance ($r = 3.125$, $P < 0.0001$). This can be explained by strong religious and societal criticisms and objections against extra-marital sexual relationships in the study population. It also provides some explanation why some of the women were sexually inactive when their partners were unavailable. The importance of marital relationship in predicting sexual activity among post-

menopausal women has been reported in Nigeria and other countries of the world [26-28]. Age at menopause and duration of menopause could not significantly predict sexual activity among the participants in this study. Although age at menopause had been reported as a significant predictor of sexual activity among postmenopausal Nigerian women in the past, we could not confirm the finding in this study [10]. This could be explained by the relatively lower impact of menopause in this study with only about half of the participants reporting changes in their usual sexual frequency postmenopause (51.7%).

One of the greatest challenges we had to overcome to carry out this study was to find culturally acceptable, simple, and appropriate research tools to assess the sexual activity pattern in the study population. Some of the research tools we considered like the Sexual Interaction Inventory, and the Sexuality Scale were originally designed to measure female sexual dysfunction [14]. We chose the SAQ because it is designed primarily to assess sexual functioning of women, it is simple to administer, it is culturally acceptable, and it has been validated for use in women generally [14,16]. The modifications made to SAQ for this study are necessary to ensure the objectives of the study are met.

In addition, postmenopausal sexual activity history was a very sensitive issue for most of the participants and we had to provide adequate privacy and ensure confidentiality to limit responder bias in their responses. Also, the timeline cut-off of 1 month was used to define sexual activity rather than the 6 months cut-off used in some other studies to reduce recall bias and ensure prompt intervention when necessary. Another limitation of the study is its hospital-based cross-sectional design; therefore, findings may not truly and consistently reflect what is obtainable in the general population.

We reported a high prevalence of sexual inactivity among the participants of which the most important reasons given were the unavailability of their husbands and the belief that sexual intercourse was a taboo during the postmenopausal period. We also reported that majority of the participants who were sexually active had pleasurable experience and more than half had no sexual related discomfort. Marital relationship was the only statistically significant predictor of sexual activity among the participants. Our findings identified the need for more menopause-related health education to prepare women for post-menopausal sexual life and to debunk baseless myths surrounding sexual activity during the post-menopausal period in the study area.

CONFLICT OF INTEREST

No potential conflict of interest relevant to this article was reported.

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