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## Comparative study of coitus and non - coitus in the treatment of menopausal symptoms

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### Summary

Eighty-five consecutive female patients aged 50 – 55 years with amenorrhea of six consecutive months at least, sudden onset of sweating and/or feeling hot (hot flushes) that occurred day or night associated with at least one other menopausal symptom such as insomnia, painful coitus were randomized into two groups to evaluate the effect of sexual activity in the treatment of hot flushes of menopause. They were referred from Jericho Nursing Home, Ibadan. Only 76 patients completed the study and this was the number analyzed. The study, which lasted two years took place at the Epidemiological Clinic of the same hospital. Each patient was followed up for six months. The first group of 43 females received instructions to have coitus at least once weekly throughout the study period with their spouse while a group of 42 females were instructed not to have coitus. There was informed consent from each patient. Both treatment and control groups had similar socio biological characteristics. The patients in both groups recorded occurrence of hot flushes daily in the health diary given to them. The result showed that the total number of hot flushes experienced by the treatment and control groups was 41440 and 141125 respectively giving an average per week of 37 (22.70%) and 140 (77.30%) hot flushes respectively. The result was analyzed by Fisher's Exact Test in view of small number of subject involved. There is a statistically significant difference between the treatment group (coitus) and control group (no coitus)  $P < 0.05$ . Coitus at least once weekly lessens the frequency of hot flushes of menopause  $P < 0.05$ .

**Keywords:** *Randomized clinical study, coitus, no-coitus, treatment, menopausal, symptoms*

### Résumé

Quatre vingt-cinq patientes femelle consécutives âgées de 50 à 55 ans ayant les manques des menstrues d'au moins six mois de suite, sueur subite,

sentiment de chaleur pendant le jour ou la nuit associé au moins un symptôme de la ménopause tels que l'insomnie, rapports sexuels douloureux étaient repartis au hasards en deux groupes pour évaluer les effets de l'activité sexuelle sur le traitement des rides de la ménopause. Elles étaient transférées de la maison d'infirmier de Jéricho à Ibadan. Seulement 76 patients complétaient cette étude durant 2 ans. Chaque patient était suivi pour six mois. Le premier groupe de 43 femelles recevaient les instructions d'avoir le rapport sexuel au moins une fois par semaine durant la durée de cette étude ; alors que l'autre groupe de 42 femelles devaient éviter tout contact sexuel. Ceci se faisait avec le consentement de chaque patient. Les deux groupes avaient les caractéristiques sociobiologiques semblables et enregistraient journalièrement les rides dans un carnet de santé. Les résultats démontraient que le nombre total des rides étaient 41440 et 141125 Aux groupes de traitement et contrôle soit une moyenne de 37(22.7%) et 140(77.3%) respectivement. Il y avait une différence statistiquement significative entre le groupe traité (rapport sexuel) et le contrôle (sans contact sexuel)  $P < 0.05$ . Le rapport sexuel au moins une fois par semaine réduit la fréquence des rides à la ménopause ( $P < 0.05$ ).

### Introduction

The cessation of menstruation occurs at a median age of 50.8 years. In the 5 years before, there is a gradual increase in the number of anovulatory cycles. This period is referred to as the climacteric. Although hot flushes typically last for 0.5 to 5.0 years after natural menopause they may persist for as long as 15 years in a small percentage of post menopausal women [1,2,3]. The most common menopausal symptoms include vasomotor instability (hot flushes), sweating and sleep disturbance. Most but not all women suffer from vasomotor symptoms around menopause [4,5]. The vasomotor symptoms are multi-factorial in origin but result primarily from loss of estrogen as ovarian function ceases. One disturbing

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complaint is hot flushes and/or sweating which occurs with dramatic suddenness any where day or night and can be socially embarrassing if it occurs in public and at work where the patient has to stop work, mop dry the sweat before continuing. Conventional hormone replacement therapy is effective in controlling post menopausal symptoms including hot flushes and sweating [6,7] but fear of endometrial cancer arising from continued use of hormone replacement therapy makes hormone replacement therapy unpopular [6,7,8,9,10].

The purpose of this study is to find effect of sexual activity on menopausal symptoms notably sweating and hot flushes.

### Material and methods

The clinical study took place at Jericho Nursing Home, Ibadan between January 2003 to December 2004. It was a randomized subject – control, clinical study with a parallel design. The patients were randomized and assigned to treatment group (coitus) and control group (no coitus) from a table of random numbers: The patients in both groups were educated, mainly civil servants who have access to the hospital. They all live in Ibadan.

Criteria for inclusion in the study comprised women aged 50 years and above with at least a high school certificate qualification [13] amenorrhea for at least consecutive 6 months confirmed with uterine ultrasound, sweating and/or hot flushes, raised blood follicle stimulating hormone (FSH) (>30U/L) and luteinizing hormone (LH) (>30U/L) i.e. both values in menopausal range. Informed consent was obtained from each patient in both groups. Patients were instructed to bring urine voided on the 1<sup>st</sup> visit (the start of the study) end of 1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup>, 4<sup>th</sup>, 5<sup>th</sup>, 6<sup>th</sup> month; they were sent to University College Hospital laboratory to have their blood sample tested for FSH, L.H., on the 1<sup>st</sup> visit end of 1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup>, 4<sup>th</sup>, 5<sup>th</sup>, 6<sup>th</sup> month. Also, their urine sample was tested for urinary oestradiol [11]. Each patient had uterine ultrasound to exclude pregnancy at the start of the study. Each patient was asked what drugs they were on prior to enrolment. They were instructed not to use cyclical oestrogen therapy but record any drugs or injections used. The treatment group was instructed to have coitus at least once weekly with their spouses. The control group was instructed not to have coitus. Record of number of wives belonging to a spouse and number of children was obtained. Both groups

were each supplied with health diary to record frequency of coitus, episodes of sudden onset of sweating and/or feeling hot, any of other associated symptoms listed in the foregoing. Frequency of hot flushes before the study started was not however recorded in this study because they did not record them. They and their spouses were counselled on the importance of the study, and correct recording of the indices. The results of blood and urine tests and their dairies were presented at subsequent visits. They were followed up weekly for 2 months and fortnightly for 4 months. Each patient was followed up for six months as she entered the study. On each follow-up clinic, each patient had blood pressure, body weight height and body mass index were recorded and was advised the need for regular exercises. Neither doctors, patients, nor nursing staff had access to biochemistry result until the end of study period. Each patient in the treatment and control group had a spouse. Each patient in both groups was asked for history of last menstrual period before entering the study and at each visit.

The data were analyzed manually, the difference in the proportion of observed hot flushes in the two groups was tested for statistical significance at the 5% level. In view of small number involved significance of the difference was tested with Fisher's Exact Test.

### Results

There were 85 consecutive patients originally recruited for the study. However, 76 patients completed the study giving a drop-out rate of 10.65%.

There were 9 drop-outs comprising 3 patients in the treatment and six in the control group. One of the drop-outs was pregnant, three husbands openly refused to be without coitus, one was on I.U.D (intra-uterine contraceptive device), one was barren and still looking for a baby, 3 women in the treatment group found coitus too painful to continue with the study. Therefore there were 40 patients in the treatment (coitus group) and 36 patients in the control (no coitus) group.

None of the patient in the treatment and control groups menstruated throughout period of study. Only 4 and 7 patients in the coitus and no coitus groups respectively used chloroquine and paracetamol. This occurred during their first episode of hot flushes only. No patient in either group used cigarette or alcohol (Table 1). No patient used cyclical hormone replacement therapy before enrolment.



**Table 1:** Average socio-biological characteristics of coitus and no coitus group.

Characteristics	Treatment group (coitus) n = 40	Control group (no coitus) n = 36	P-value
Average duration of menopause before enrolment (months) ± S.D.	21 21 ± 3.2	18.5	>0.05
Age range (yrs)	50 - 55	50 - 55	>0.05
Average age (months) ± S.D.	633 ± 13.15 13.15	649 12.8	>0.05
Monogamy	36	30	>0.05
Polygamy	4	6	>0.05
Average no. children ± S.D.	3.2 ± 0.05	3.4 0.11	>0.05
Smoking	Zero	Zero	
No smoking	40	36	>0.05
Weight range (kg)	63 - 81	57-84	
Average weight kg ± S.D	70.4 ± 5.1	68.4 5.15	>0.05
Height range (m)	1.58 - 1.76	1.54-1.74	
Average height (m) ± S.D	1.62 ± 0.13	1.60 0.015	>0.05
Body mass index	26.87	26.72	>0.05
Sedentary work	34	31	>0.05
Alcohol use	Zero	Zero	

\*S.D. = Standard Deviation

**Table 2:** Total number of coitus experienced in treatment and control groups.

Patient	Coitus	Average coitus per patient (28 weeks)	Average coitus per week (28 weeks)	Percentage	P value
1. Treatment (coitus) N = 40	2253	56.33	2.01	85	<0.05
2. Control (No coitus) N = 36	374	10.34	0.37	15	

Coital frequency was significantly higher in the treatment group (Table 2).

Average urinary oestradiol excretion in the treatment (coitus) group was 355p mol/liter, and less than 150p mol/L in the control (no coitus) group.

Average basal blood FSH and LH in treatment (coitus group) was >30 U/L and > 30 U/L respectively and in the control (no coitus group) was >30 and >30

U/L respectively. These results were within normal post menopausal range in both groups.

Thereafter, average blood level of FSH and LH in the treatment and control groups at each visit for six subsequent visits is shown in Table 3. The results of FSH/LH in the treatment group was statistically significantly lower than FSH/LH level in the control group. The levels in the control groups were within post menopausal range.

Also, urinary oestradiol, which is a good reflection of oestrogen secretion, was statistically significantly higher in the coitus group than in the non-coitus group.

The result showed that the total number of hot flushes experienced by the treatment and control groups was 41440 (22.70%) and 141125 (77.30%) respectively giving an average per week of 37, and 140 hot flushes respectively. The result was analyzed by Fisher's Exact Test in view of small number of patients involved. There is a statistically significant difference between treatment group and the control group. Coitus lessens frequency of hot flushes ( $P < 0.05$ ).

### Discussion

Oestrogen increases sex drive and activity but its production wanes after menopause [11]. Also, oestrogen ameliorates symptoms of menopause including hot flushes and sweating. In this study, hot flush means sensation of warmth spreading from trunk to face [11] sudden hot feeling especially one which women have during their menopause [14], not

preceded by alcohol use [15]. It is conceivable that if oestrogen production could be increased naturally, symptoms of menopause might decrease. This is very crucial in the group of patients who refuse to take hormone replacement therapy for fear of having endometrial cancer after prolonged use. The patients were each observed for 28 weeks. It was not longer in order to minimize errors of recording.



**Table 3:** Average secretion of FSH/LH in coitus and no coitus groups

Treatment Month	Treatment group (coitus) N = 40		Control group (No coitus) N = 36	
	FSH(U/L)	LH(U/L)	FSH(U/L)	LH(U/L)
1st visit (Basal)	>30	>30	>30	>30
Month 1st	26.0	21.5	30.5	28.5
2nd	21.5	20.0	34.0	31.5
3rd	20.0	22.5	35.0	33.0
4th	15.0	23.5	33.0	35.0
5th	19.5	18.0	35.0	33.0
6th	18.5	15.5	33.0	32.5

In the treatment group (coitus) there may be underreporting of episodes of coitus because of forgetfulness. Under-reporting could be deliberate so that the patients does not appear to be promiscuous, but this is unlikely because sexual activity in marriage in our culture does not carry any social stigma. Episodes of coitus that are initiated but abruptly stopped may or may not be counted but this is unlikely because they were instructed to omit it. Coitus could be stopped abruptly because of pain associated with virginities of menopause. However this is likely to cancel out because it could occur in any subject in both groups.

In the control (No coitus) group, there may be episodes of coitus that are not reported because they are not expected to do so in this study. Indeed, coitus occurred as shown in table 2. However, coitus episodes that occurred were few and did not appear to have affected overall result.

Core temperature of the patients was not assessed in this study because of practical difficulties.

There could be under-reporting of episodes of hot flushes especially if they occurred at night or at work where the subjects were busy but effect of this is likely to cancel out. There could be over reporting of episodes of coitus in the coitus group since they are expected to have coitus but feel shy to confess that they did not have coitus. Also, any patients could lose interest along the line but refuse to admit it.

Each patients in both groups had a spouse and none of them throughout the study reported loss of his spouse. Absence of a spouse could introduce bias into the study. The effect of polygamy was not addressed but it is unlikely to affect overall result because the number was small. Only educated patients were recruited because this is known to affect

the result and recording [13]. Alcohol could cause flushing of face [14] but none of the patients used alcohol. None of the patients in both groups used cyclical oestrogen therapy before or throughout the period of study. Some used panadol and chloroquine. Although history of nicotine products use was obtained, no patients used it and it does cause flushing of face [14].

In this study, hot flushes/sweating decreased significantly in the treatment group and there appears to be no other reason to explain it than coitus in the treatment group. However, more studies are needed to elucidate effect of variables like use of anti-malarias, paracetamol, polygamy, number of children, influence of alcohol, which were not addressed in this study. Also patients did not record the number of flushes they had before enrolment into the study yet, hot flushes vary from patient to patient.

### Conclusion

Coitus would appear to lessen frequency of hot flushes in menopause.

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