Research Article

Dreams Characteristics and their Relationship with the Psychological Status in Postmenopausal Women

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Abstract

Objectives: To analyze dreams characteristics and their relation with the psychological status in postmenopausal women.

Material and Methods: 200 non-hysterectomized women were interviewed: Group I, premenopausal and Group II, postmenopausal. The last three dreams, the prevalence of nightmares and important situations in daily life were documented. The What's My M3 test was used to evaluate the psychological status. Comparison among the groups was done with Mann Whitney U test and Chi square.

Results: After excluding those with hormonal treatment or who didn't met the inclusion criteria remained in group I, 76 and in group II 95 women. The median of age was 46 (40-50) and 61 (50-84) years for group I and II respectively. There weren't any differences among the groups in the What's My M3 score. The frequency of nightmares was greater in group II: group I, 31.8% and group II, 68.2%. In both groups, dreams were related with daily activities and also were a greater percentage of women with nightmares and What's My M3 score ≥ 33. Actual diseases were related with nightmares (p < 0.023).

Conclusions: Nightmares were more frequent in postmenopausal women and had a relationship with the psychological status in both groups.

Introduction

Sleeping is a physiologic process whose mechanisms and function aren't yet very well-known [1-3]. In older adults it has been found that dream latency and night awakenings are increased, which can exacerbate multiple medical conditions in the geriatric population [4-6].

From apsychoanalytic point of view, sigmund Freud distinguished two types of dream's content, the manifesto and the latent one. The former is just as the person lives it, while the latter is what the dream truly means [7]. The mechanisms of dream elaboration have as purpose to transform the latent's dream content in an acceptable content for the moral conscience [7].

Beyond the Freudian school, sleeping is necessary for the health as well as for the good development of individual's activities. It has been observed that sleep dysfunctions and insomnia are frequently found in perimenopausal and postmenopausal women and are associated with increased risk for coronary illnesses as well as increased mortality due to cardiac diseases [5]. During the postmenopause, sleep disturbances have different grades of intensity; they can be chronic or transitory and can also include difficulty to sleep during night, restlessness sleep, early wake up, nightmares and decrease of sleeping time [8]. Mood changes are observed at different stages of the woman's reproductive life and are related to hormonal changes, that' why during the postmenopause there is a greater predisposition to have depression [9].

The psychological status can be evaluated with the What's My M3 that is an on-line, self-evaluated test which is directed to any 18 year-old person or older and indicates the relative risk for depression, anxiety disorder, Obsessive Compulsive Disorder (OCD), Bipolar Disorder (BPD) and Post-Traumatic Stress Disorder (PTSD). The individual scores are added and if the total score is ≥ 33 indicates that psychiatric evaluation is needed. This test is useful for diagnosis, to stimulate the treatment attachment and to follow the long term progress [10,11]. It's known that there is a strong relationship between postmenopausal status and sleep disorders which are related with disturbed psychological status. For that reason, the objective of the present work was to analyze the dreams characteristics and its relationship with the psychological status in postmenopausal women.

Material and Methods

Two-hundred Mexican non-hysterectomized women who attended to the hospital were interviewed from February to June 2016. They were divided in Group I, premenopausal, between 40 and 50 years (n=100) and Group II postmenopausal (more than 12 months since menopause, n=100). In all them age (years), gestation, parturitions, cesarean sections and abortions were investigated. Weights (kg), height (m), waist perimeter (cm), hip perimeter (cm) were measured and the Body Mass Index (BMI, weight/height^2) and Waist Hip Ratio (WHR, waist perimeter/hip perimeter) were calculated. The occupation, marital status, number of sexual intercourses per week, and in the case of not having them, the time without them (years), concomitant illnesses, sport practice, smoking habit and alcoholism were documented. In group II, age at menopause (years) and time since menopause (years) were investigated.

The presence of dreams was investigated, and when they were present, the characteristics of the last three were interrogated (such as what they dream about). Also was investigated if they had nightmares in the last month, important daily life situations related with the dreams and how they defined their relationship with its relatives (grand parents, brothers, sisters, sons, daughters, couple) and work partners. All interviews were done by only one person. The psychological status (depression, anxiety, OCD, BPD, PTSD) was investigated with the What's My M3 test is considering a score ≥ 33 as abnormal [10,11]. For simple size it was considered a 90% confidence level an 80% power, assuming that 20% of those premenopausal had sleep disturbances due to abnormal psychological status and this will occur in 40% of those postmenopausal. So the simple size was 74 patients per group. For the comparison among the groups, Mann Whitney U test and Chi square were used. The project was authorized by the Local Committee of Research and Ethics in Research in Health with the number R-2016-3606-3 and the patients signed the informed consent form.

Table 1: General data in both groups.

	Group I	Group II	p
Age (years)	46 (40-50)	61 (50-84)	< 0.001
Weight (Kg)	70.7 (50-102)	67 (47-97)	< 0.005
Height (m)	1.60 (1.49-1.70)	1.59 (1.47-1.75)	NS
Body mass index (Kg/m^2)	27.6 (21.8-38.8)	26.7 (19-44.8)	< 0.037
Waist perimeter (cm)	88.5 (55-152)	78 (59-148)	< 0.017
Hip perimeter (cm)	105 (78-176)	98 (78-169)	< 0.015
Waist-hip ratio	0.80 (0.64-0.93)	0.77 (0.58-0.96)	NS
Pregnancies	3 (0-8)	4 (1-9)	< 0.004
Parturition	1 (0-5)	2 (0-8)	< 0.001
Cesarean section	1 (0-3)	0 (0-3)	< 0.053
Abortions	1 (0-4)	1 (0-4)	NS
Age at menopause (years)	-	49 (43-53)	NS
Time since menopause (years)	-	12 (2-36)	< 0.001
Sexual intercourse/week	1 (0-5)	0 (0-5)	< 0.001
Time without sexual intercourse (years)	3 (1-11)	10 (1-30)	< 0.001

Group I: Premenopausal (n=76) Group II: Postmenopausal (n=95).
Results are median (range).

Table 2: Civil status, occupation, physical activity.

		Group I	Group II
Civil status	Single	14.4 (11)	8.4 (8)
	Married	44.7 (34)	48.4 (46)
	Divorced	17.1 (13)	4.2 (4)
	Widow	2.7 (2)	29.4 (28)
Occupation	Home	35.5 (27)	58.9 (56)
	Employee	64.4 (49)	41.0 (39)
Sport		27.6 (21)	31.5 (30)

Group I: Premenopausal (n=76) Group II: Postmenopausal (n=95).
Results are percentage and number of persons.

Table 3: Concomitant diseases in both groups.

	Group I	Group II	p
Type 2 Diabetes mellitus	11.8 (9)	29.4 (28)	< 0.002
Systemic arterial hypertension	18.4 (14)	25.2 (24)	< 0.007
Rheumatoid arthritis	5.3 (4)	5.3 (5)	
Cardiac disease	1.3 (1)	2.1 (2)	
Gastritis	1.3 (1)	3.1 (3)	
Hypothyroidism	3.9 (3)	2.1 (2)	
Osteoporosis	0	2.1 (2)	
Breast cancer	1.3 (1)	1.0 (1)	
Epilepsy	1.3 (1)	1.0 (1)	
Chronic obstructive pulmonary disease	1.3 (1)	1.0 (1)	
Hypercholesterolemia	5.2 (4)	1.0 (1)	
Hyperthyroidism	0	1.0 (1)	
Venous insufficiency	0	1.0 (1)	
Antiphospholipid antibody syndrome	1.3 (1)	0	

Group I: Premenopausal (n=76) Group II: Postmenopausal (n=95) Results are percentage and number of persons.

Table 4: Smoking habit, alcoholism, cigarettes and alcohol per week in two groups.

	Group I	Group II	p
Smoking habit	35.5 (27)	24.2 (23)	NS
Cigarettes/week	0 (0-100)	0 (0-80)	NS
Alcoholism	18.4 (14)	14.7 (14)	NS
Alcohol/week	0 (0-2)	0 (0-2)	NS

Group I: Premenopausal (n=76) Group II: Postmenopausal (n=95).
Results are median (range), percentage and number of persons.

Results

Two-hundred surveys were carried out in non-hysterectomized women. Group I, premenopausal (n=100) and Group II, postmenopausal (n=100). After excluding those with hormonal treatment or other exclusion criteria, remained 76 in group I and 95 in group II. The median of age in group I was 46 years (40-50) and in group II 61 years (50-84) (p < 0.001). Anthropometric, obstetric and civil status variables are shown in (table I). The number of sexual relationships per week was significantly greater in group I and the
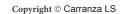
Table 5: Comparison in each group of family and work partners relationship.

	Very good		Good		Regular		Bad		Very bad		No apply	
	Group I	Group II	Group I	Group II	Group I	Group II	Group I	Group II	Group I	Group II	Group I	Group II
Maternal grandparents	5.3 (4)	0	11.8 (9)	1.0 (1)	5.3 (4)	0	0	0	0	0	77.6 (59)	98.9 (94)
Paternal grandparents	5.3 (4)	2.1 (2)	19.7 (15)	1.0 (1)	6.6 (5)	0	0	1.0 (1)	0	0	68.4 (52)	95.8 (1)
Father	17.1 (13)	7.4 (7)	42.5 (31)	14.7 (14)	15.8 (12)	6.3 (6)	0	0	0	0	26.3 (20)	71.6 (68)
Mother	44.7 (34)	25.3 (24)	34.2 (26)	13.6 (13)	5.3 (4)	1.0 (1)	1.3 (1)	0	0	0	14.5 (11)	60 (57)
Brothers	14.5 (11)	18.9 (18)	51.3 (39)	46.3 (44)	15.8 (12)	16.8 (16)	1.3 (1)	0	1.3 (1)	0	15.8 (12)	17.9 (17)
Sisters	42.1 (32)	31.6 (30)	39.5 (30)	46.3 (44)	3.9 (3)	10.5 (10)	0	1.0 (1)	1.3 (1)	0	13.2 (10)	10.5 (10)
Sons	60.5 (46)	60 (57)	13.2 (10)	21.0 (20)	5.3 (4)	2.1 (2)	0	0	0	0	21.0 (16)	16.8 (16)
Daughters	72.4 (55)	72.6 (69)	6.6 (5)	7.4 (7)	0	1.0 (1)	0	1.0 (1)	0	0	21.0 (16)	17.9 (17)
Couple	17.1 (13)	4.2 (4)	38.2 (29)	31.6 (30)	23.7 (18)	20 (19)	3.9 (3)	3.2 (3)	0	1.0 (1)	17.1 (13)	40 (38)
Work partners	6.6 (5)	1.0 (1)	35.5 (27)	25.3 (24)	21.0 (16)	14.7 (14)	1.3 (1)	1.0 (1)	0	0	35.5 (27)	57.9 (55)

Group I: Premenopausal (n=76) Group II: Postmenopausal (n=95).
Results are percentage and number of persons.

Table 6: Dreams per month, nightmares and nightmares per month in both groups.

	Group I	Group II	p
Nightmares	31.8% (n=28)	68.2% (n=60)	< 0.001
Nightmares/month	0 (0-5)	1 (0-4)	< 0.002
Dreams/month	2 (0-3)	2 (0-3)	NS

Group I: Premenopausal (n=76) Group II: Postmenopausal (n=95).
Results are median (range), percentage and number of persons.

time without a sexual relationship was significantly greater in group II. In group II, age at menopause was 49 years (43-53) and time since menopause was 12 years (2-36) (Table I). Women from group I had less concomitant illnesses than those from group II (52.6% vs 77.8%, p < 0.001) (Table II). In group II, the most frequent illnesses were type 2 diabetes mellitus and systemic arterial hypertension, being significantly more frequent than in group I (p < 0.002 and p < 0.007 respectively) (Table III). In group I, concomitant illnesses and ≥ 33 score in the What's My M3 test was (57.5% n=23, p NS) and in the group II (84.5% n=49, p < 0.047). In both groups the smoking habit and alcoholism were similar (Table IV).

Table 7: More common dreams in which only had one dream.

Aggrupation code	Dream Aggrupation	Group I	Group II
1	No dreams/no remember dreams	17.1 (13)	8.4 (8)
2	Company or visit of known person or relative	2.6 (2)	1.0 (1)
3	Aggression of somebody (known, relative/discussionwith somebody)	3.9 (3)	1.0 (1)
4	Feeling alone, away, uncommunicated, nude	1.3 (1)	0
5	Coexistence with animals	1.3 (1)	1.0 (1)
6	Aggression from animals to her	1.3 (1)	1.0 (1)
8	Natural disasters (earthquake, floods, etc.)	1.3 (1)	2.1 (2)
9	Related to dead personsor cadavers	7.9 (6)	4.2 (4)
10	She is sick or dies	2.6 (2)	4.2 (4)
11	Somebody attack her or kill her	1.3 (1)	1.0 (1)
12	She has injures (fractures, hair fall, skin fall, bleed out, dismember)	2.6 (2)	9.5 (9)
13	Dream with something bad-overnatural-the beyond (with the devil, malignant shadow, dark places and tenebrous, "the death went up")	2.6 (2)	4.2 (4)
14	Fantasies (fly, jump from very high, strech, fall in the vacuum, unknown and strange places, can't move their limbs)	6.6 (5)	9.5 (9)
15	Daily activities	21.0 (16)	15.8 (15)
16	Nature contact/travels (gardens, rivers, camp)	13.1 (10)	12.6 (12)
17	Disease or lesion of a known person or family	5.3 (4)	13.7 (13)
18	Accident of her or her family	5.3 (4)	8.4 (8)
19	Dream with money, jewels, jewelry.	2.6 (2)	2.1 (2)

Group I: Premenopausal (n=76) Group II: Postmenopausal (n=95).
Results are percentage and number of persons.

Table 8: More common dreams in which had two dreams.

Aggression code	Dream Aggrupation	Group I	Group II
2	Company or visit of known person or relative	3.9 (3)	4.2 (4)
3	Aggression of somebody (known, relative/discussion with somebody)	3.9 (3)	3.2 (3)
4	Feeling alone, away, uncommunicated, nude	1.3 (1)	1.0 (1)
5	Coexistence with animals	2.6 (2)	0
6	Aggression from animals to her	5.3 (4)	7.4 (7)
7	Contact with something (someone) extraordinary (famous, artists, important people)	1.3 (1)	0
8	Natural disasters (earthquake, floods, etc.)	5.3 (4)	4.2 (4)
9	Related to dead persons or cadavers	2.6 (2)	9.5 (9)
10	She is sick or dies	1.3 (1)	1.0 (1)
12	She has injures (fractures, hair fall, skin fall, bleed out, dismember)	0	2.1 (2)
13	Dream with something bad-overnatural-the beyond (with the devil, malignant shadow, dark places and tenebrous, "the death went up")	2.6 (2)	6.3 (6)
14	Fantasies (fly, jump from very high, stretch, fall in the vacuum, unknown and strange places, can't move their limbs)	5.3 (4)	2.1 (2)
15	Daily activities	1.3 (1)	4.2 (4)
16	Nature contact/travels (gardens, rivers, camp)	1.3 (1)	0

Group I: Premenopausal (n=76) Group II: Postmenopausal (n=95).
Results are percentage and number of persons.

Table 9: More common dreams in which had three dreams.

Aggression code	Dream Aggrupation	Group I	Group II
2	Company or visit of known person or relative	0	1.0 (1)
3	Aggression of somebody (known, relative/ discussion with somebody)	1.3 (1)	2.1 (2)
6	Aggression from animals to her	1.3 (1)	1.0 (1)
8	Natural disasters (earthquake, floods, etc.)	1.3 (1)	1.0 (1)
9	Related to dead persons or cadavers	1.3 (1)	1.0 (1)
10	She is sick or dies	0	1.0 (1)

Group I: Premenopausal (n=76) Group II: Postmenopausal (n=95).
Results are percentage and number of persons.

Table 10: Previous to dream activities in which reported only one activity.

Aggression code	Dream Aggrupation	Group I	Group II
1	Nothing out of common	42.0 (32)	44.0 (42)
2	Stressed in work or home	9.2 (7)	9.4 (9)
3	Bad relation or fight with somebody	10.5 (8)	9.5 (9)
4	Fear to something or somebody	3.9 (3)	3.1 (3)
5	She Felt sick	2.6 (2)	10.5 (10)
6	Some known person or relative is sick or died	7.9 (6)	9.5 (9)
7	Traveling, playing, singing, dancing, cooking, running	10.5 (8)	3.1 (3)
8	Some notice or agreeable surprise	3.9 (3)	2.1 (2)
9	Felt sad, depressed or worried	6.6 (5)	7.4 (7)
10	Natural events	2.6 (2)	1.0 (1)

Group I: Premenopausal (n=76) Group II: Postmenopausal (n=95).
Results are percentage and number of persons.

The women's relationship with their grandparent's wasn't possible to establish in both groups because they were deceased and similar happened with parents in group II. In both groups they referred good relationship with brothers and very good with their sons and daughters, good relationship with the couple and work partners, although in group II many hadn't any couple and they stayed at home (Table V).

Nightmares and their monthly number were significantly greater in group II (Table VI). In both groups, women that only referred a dream in the month mostly had dreams related with daily activities, group I, 21.0% (n=16) and group II, 15.8% (n=15), followed in group I by those related with contact with nature or trips 13.1% (n=10) and something related with dead people or cadavers 7.9% (n=6) and in group II with something related with illness or some lesion of a known person or family 13.7% (n=13) and contact with nature 12.6% (n=12) (Table VII). In women that had two dreams, in Group I 5.3% (n=4) were related with aggressions of animals toward her, natural disasters, fantasies like flying, to stretch out exaggeratedly and to fall in the vacuity. In group II, the greater percentage were dreams related with dead people or cadavers in 9.5% (n=9), followed by aggression of animals toward her 7.4% (n=7) and dreams related with the death, the devil, evil 6.3% (n=6) (Table VIII). In women that had three dreams, in group I, the most frequent were related with aggression or discussion with some person, aggression of animals toward her, natural disasters and relationship with dead people or cadavers, while in group II were the aggression or discussion with some person (Table IX). Women with irrelevant activities in previous days and without dreams were in Group I 17.1% p < 0.001 and in group II 8.4% p < 0.001 when compared with those with that had other activities and have dreams Group I 60.5% and Group II 69.5%. Previous activities to dreams, were referred as anything out of common in both groups (Group I 42%, n=32 and Group II 44%, n=42) followed in group I by bad relationship or fights with somebody and doing activities like traveling, running, dancing, cooking, singing (10.5%, n=8, for both types) and in group II feeling sick (10.5%, n=10) (Table X). In women that referred two activities previous to the dreams, in group I were

Table 11: Previous to dream activities in which reported two activities.

Aggression code	Dream Aggrupation	Group I	Group II
1	Nothing out of common	0	4.2 (4)
2	Stressed in work or home	0	8.4 (8)
3	Bad relation or fight with somebody	1.3 (1)	2.1 (2)
4	Fear to something or somebody	1.3 (1)	0
6	Some known person or relative is sick or died	0	2.1 (2)

Group I: Premenopausal (n=76) Group II: Postmenopausal (n=95).
Results are percentage and number of persons.

Table 12: Nightmare association with bad relationships with family and work partners in both groups.

	Group I	Group II
Maternal grandparents	5.8 (1)	0
Paternal grandparents	8.3 (2)	0
Father	5.3 (3)	14.8 (4)
Mother	4.6 (3)	2.6 (1)
Brothers	14.5 (9)	13.5 (10)
Sisters	1.5 (1)	7.0 (6)
Sons	3.3 (2)	0
Daughters	0	1.3 (1)
Couple	20.6 (13)	24.5 (14)
Work partners	14.2 (7)	27.5 (11)

Group I: Premenopausal (n=76) Group II: Postmenopausal (n=95).
Results are percentage and number of persons.

Table 13: What's My M3 item and total score by group.

	Group I	Group II	p
Depression	12 (0-23)	13 (4-24)	NS
Anxiety	9 (2-25)	11 (2-25)	NS
Obsessive compulsive disorder	5 (0-10)	5 (0- 9)	NS
Bipolar disorder	5 (0-13)	5 (1-10)	NS
Post-traumatic stress disorder	3 (0- 7)	2 (0-7)	< 0.010
Total score	33.5 (6-69)	35 (17-69)	NS

Group I: Premenopausal (n=76) Group II: Postmenopausal (n=95).
Results are median (range).

bad relationship or fights with somebody and fear to something or somebody (1.3%, n=1 for each type) and in group II were stressed in the work or house (8.4%, n=8) (Table XI). In group I, the association of nightmares with bad family relationship was with the couple (20.6% n=13, p < 0002) and brothers (14.5% n=9, p < 0.039), in group II the results weren't statistically significant (Table XII) of all women with nightmares, 31.8% (n=28) were from group I and 68.2% (n=60) from group II, (p < 0.001). In group I, the presence of nightmares was related with previous activities in 85.7% (n=24, p < 0.001) and in the group II in 85.0% (n=51, p < 0.001). In the whole group, there were 38.5% (n=66) with nightmares and concomant illnesses (p < 0.023). In group I those who had nightmares and were sick were 23.6% (n=18) and in group II 50.5% (n=48) (p < 0.001 between them). In relation to the psychological status measured with the What's My M3 test, there was a non-significant difference among the groups in the total score,

only the PTSD score was greater in group I, (p < 0.01) (Table XIII). In the whole group, those with What's My M3 ≥ 33, were in group I, 23.4% (n=40) and in group II, 33.9% (n=58) without significant differences among them. In group I, the percentage of those who had nightmares and What's My M3 test score ≥ 33 was greater than those with score< 33 (82.1%, n=23 and 17.9%, n=5 respectively p < 0.001), and similar happened in group II (68.3%, n=41 and 31.7%, n=19 respectively p < 0.05).

Discussion

In postmenopausal women, several factors increase the possibility to have mood dysfunctions (depression, anxiety, etc.) such as marital relationship, marital status, social isolation or concomitant illnesses [9]. In this study, there weren't statistically significant results when comparing these items between premenopausal and postmenopausal women.

In this study, premenopausal women had a greater PTSD score, which can be explained by the fact of having a bad couple relationship which agrees with has already been reported [12-14]. In premenopausal women nightmares were associated with bad couple and brothers relationship. All this open the possibility to give family therapy to try to decrease this problem, and probably avoid the presentation of the PTSD. In both groups, the presence of nightmares was related to previous nightmare activities, as has already been described [7]. In those postmenopausal there was a greater frequency of nightmares and an important percentage had a score ≥ 33 in the What's My M3 test. In both groups, there were a significant number of women who had nightmares and punctuation ≥ 33 in the What's My M3 test as has already been described for those postmenopausal [15]. All this can be related to estrogen deficiency, but this study had the limitation of no measuring estrogen levels and correlated with the number and kind of nightmare. Other study need be designed so the effect of estrogen therapy in nightmares can be assessed. The relationship between nightmares and previous activities was significant in both groups, what agrees with that described by Freud [7]. It has been described that postmenopausal women have a greater frequency of chronic degenerative illnesses and greater cardiac morbidity and mortality [16], which was corroborated in this study, being the most frequent the type 2 diabetes mellitus and the arterial systemic hypertension; also, nightmares were more frequent in sick postmenopausal women.

Conclusion

Nightmares are more frequent in postmenopausal women and are related with psychological status in both premenopausal and postmenopausal women.

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