

Smoking and menopause

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Summary

A retrospective study on 293 women who attended the Physiopathology of Human Reproduction menopausal out-patient clinic at Bari University Hospital throughout 1995, has been carried out to evaluate correlations between smoking and climacteric syndrome.

From the data we have discovered an earlier onset of menopause in the smokers. Fewer smokers were married and they worked more, drank more, and were more educated.

The incidence of climacteric syndrome did not differ between smokers and non-smokers.

Key words: Smoking; Menopause.

Introduction

Menopause is a physiological state accompanied by many urogenital, psychological and vasomotor symptoms, as well as skin changes directly connected with the endocrine upheaval characteristic of this period [1]; it reacts favourably to substitutive therapy [2, 3].

Smoking has been identified as a cause of earlier menopause [4, 5, 6], and interrelations between smoking and several features of menopause have been emphasized by some Authors [7, 8, 9, 10].

In addition, an interrelation between smoking and a greater incidence of hot flushes has been emphasized [11].

Lower levels of estrogens and a greater tendency for osteoporosis, with consequential therapeutic problems, have been verified by some Authors on smoking women [12].

We wanted to ascertain if smoking women, in their socio-cultural context, had a different incidence of climacteric syndrome. To this end we carried out a retrospective study on 293 women who attended the Physiopathology of Human Reproduction menopausal out-patient clinic at Bari University Hospital throughout 1995.

Methods

The 293 women who attended the menopausal out-patient clinic were constituted by two typologies, one of smokers and one of non-smokers.

The following variables were taken into consideration: age, parity, civil status, profession, schooling, coffee and alcohol consumption, climacteric status, spontaneous menopause (the presence of amenorrhea for at least six months and with FSH >30 IU/ml and estradiol <20 pg/ml), and climacteric syndrome.

All patients under treatment with drugs that might have had any effect on climacteric syndrome were excluded from the study.

For the analysis of statistical data we used the chi-square test (and when necessary the Fischer's exact test) and Student's test (two-tailed).

The data were processed by statistical software EPISTAT.

Results

The patients examined were divided into two groups; the first (group I) of 93 smoking women, and the second (group II) of 200 non-smoking women. The mean age of patients was 49.77 years (SD 7.79) for the group I, and 51.51 years (SD 5.66) for group II (Table 1).

Most non-smokers were housewives (82.79% vs 93% $p = 0.01$); whereas, office workers/teachers were more numerous among the smokers (39.78% vs 15.5% $p = 0.000009$), smokers were more separated than non-smokers (5.37% vs 0.5% $p = 0.01$).

The smokers were found to have a higher level of education (Table 2).

Most patients had one or more children, and were normal consumers of coffee and alcohol, but the moderate drinkers resulted in being more numerous in group I (29.03% vs 15% $p = 0.007$) (Table 3).

Analysing the age of the onset of spontaneous menopause, we found an earlier onset among smokers (48.29 years vs 49.79 years $p = 0.02$).

No statistically significant difference was noticed in the incidence of climacteric syndrome (Table 4).

Discussion

From our study results smoking lowers the age of the onset of menopause in accordance with what has been asserted by other Authors [13].

The sample of smokers was found to be different from that of non-smokers in socio-cultural aspects. More of the former group were unmarried, employed, had a higher degree of education, and were moderate drinkers.

However all these factors, obviously when combined with the smoking do not impinge on the climacteric syndrome, which, although present with greater frequency in the smoking women, never reached a statistical difference.

Table 1. — *Smoking, climacteric state and age*

Climacteric state	Smokers		Non-smokers		
	n°	%	n°	%	
Premenopause	36	38.70	52	26	p = 0.03
Spontaneous menopause	39	41.93	98	49	
Surgical menopause	18	19.35	50	25	
Mean age	Smokers		Non-smokers		
Mean	49.77 years		51.51 years		p = 0.10
S.D.	7.79		5.56		

Table 2. — *Smoking and civil status, schooling, profession*

Civil status	Smokers		Non-smokers		
	n°	%	n°	%	
Married	77	82.79	186	93	p = 0.01
Single	6	6.45	7	3.5	p = 0.40
Widow	5	5.37	6	3	p = 0.50
Separated	5	5.37	1	0.5	p = 0.01
Schooling	Smokers		Non-smokers		
	n°	%	n°	%	
None	2	2.15	8	4	p = 0.33
Up to age 11	17	18.27	92	46	p = 0.000008
Up to age 14	19	20.43	37	18.5	p = 0.81
Diploma	40	43.01	48	24	p = 0.001
University degree	15	16.12	15	7.5	p = 0.03
Profession	Smokers		Non-smokers		
	n°	%	n°	%	
Housewife	46	49.46	134	67	p = 0.006
Factory/farm w.	1	1.07	7	3.5	p = 0.42
Teacher/office w.	37	39.78	31	15.5	p = 0.000009
Artisan	1	1.07	10	5	p = 0.08
Professional	4	4.30	2	1	p = 0.08
Manager	2	2.15	7	3.5	p = 0.41
Pensioner	2	2.15	9	4.5	p = 0.26

Table 3. — *Smoking and parity, coffee and alcohol*

Parity	Smokers		Non-smokers		
	n°	%	n°	%	
Nullipara	10	10.75	15	7.5	
One or more child.	83	89.24	185	92.5	
Coffee	Smokers		Non-smokers		
	n°	%	n°	%	
0-3 day	87	93.54	192	96	p = 0.26
≥ 4 day	6	6.45	8	4	
Alcohol	Smokers		Non-smokers		
	n°	%	n°	%	
Non-drinker	66	70.96	170	85	p = 0.007
Moderate drinker	27	29.03	30	15	
Heavy drinker	0		0		

Table 4. — *Smoking, spontaneous menopause and climacteric syndrome*

Spontaneous menopause	Smokers		Non-smokers		
	n°	%	n°	%	
Mean	48.29	49.79			p = 0.02
S.D.	4.32	3.89			
Climacteric syndrome	Smokers		Non-smokers		
	n°	%	n°	%	
Hot flushes	49	52.68	119	59.5	p = 0.33
Sweating	51	54.83	111	55.5	p = 0.98
Sleeplessness	36	38.70	94	47	p = 0.22
Headaches	19	20.43	57	28.5	p = 0.18
Precordial pain	22	23.65	54	27	p = 0.62
Arthralgia	50	53.76	106	53	p = 0.99
Palpitations	34	36.55	89	44.5	p = 0.24
Paresthesia	35	37.63	91	45.5	p = 0.25
Depression	32	34.40	92	46	p = 0.08
Anxiety	46	49.46	114	57	p = 0.28
Asthenia	36	38.70	91	45.5	p = 0.33
Dizziness	30	32.25	71	35.5	p = 0.68

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