Impact of chronic depression and chronic anxiety on sleep disorders

The results of WOBASZ II Survey for adult Polish population aged 60-79 years

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Introduction

Sleep disorders have become common non-communicable chronic disease in recent years. The purpose of the study was to investigate impact of chronic depression and chronic anxiety on sleep disorders in Polish population aged 60-79 years.

Methods

The self-reported data on prevalence of sleep disorders (SDis), chronic depression (ChD) and chronic anxiety (ChA) were obtained in the Multicenter National Population Health Examination Survey WOBASZ II which was conducted in Poland between 2013 and 2014. There were included 706 men and 890 women divided into 2 age groups: 60-69 and 70-79 years in the analysis. Logistic regression was used to estimate the odds ratio of sleep disorders by sex depending on chronic depression and chronic anxiety as risk factors. All statistical analyses were performed using the statistical software SAS 9.2 (SAS Institute, Cary, North Carolina).

Results

The overall prevalence of sleep disorders was 22.8%: 15.4% in men and 28.7% in women (p<0.001).
Prevalence of sleep disorders changed with age: from 13.3% to 20.6% (p=0.014) in men and from 27.2% to 31.7% (p=0.159) in women, respectively in the age group 60-69 and 70-79 years.
Women have 2 times higher odds of sleep disorders than men (OR: 2.05, 95%CI: <1.57,2.69>).
For both sexes presence of chronic depression or chronic anxiety significantly increased the prevalence of sleep disorders: about 4 times in men (ChD: 4.0, ChA: 3.9) and more than 2 times in women (ChD: 2.5, ChA: 2.8) – Figure 1. From the other hand, chronic depression or chronic anxiety have been observed much more frequently in people with sleep disorders (Figure 2).
Chronic depression increased odds of sleep disorders much more in men than in women (Men OR: 4.71, Women OR: 2.48), while chronic anxiety at the similar level (Men OR: 4.29, Women OR: 4.74) – Table 3.

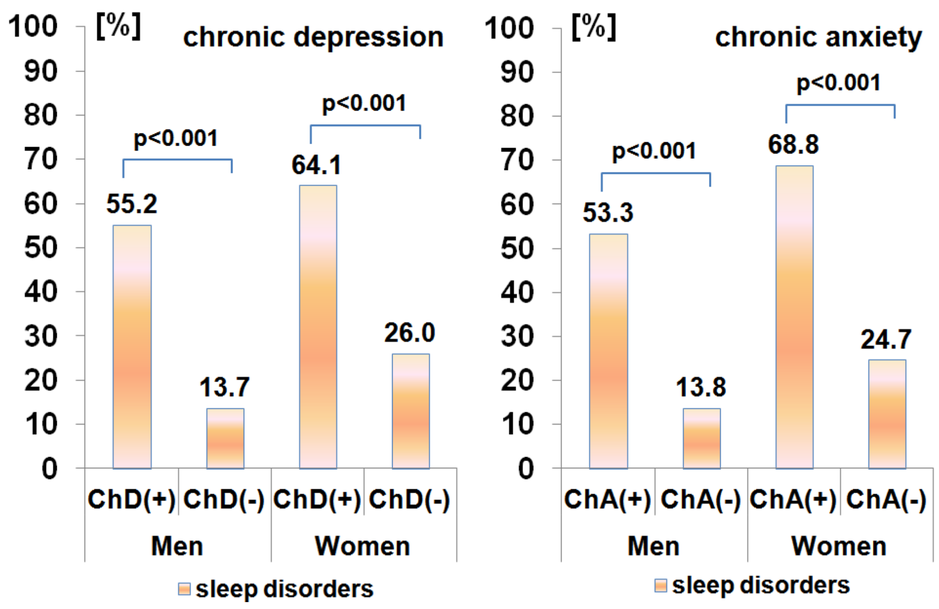


Figure 1. Crude prevalence of sleep disorders in men and women with chronic depression (ChD) or chronic anxiety (ChA).

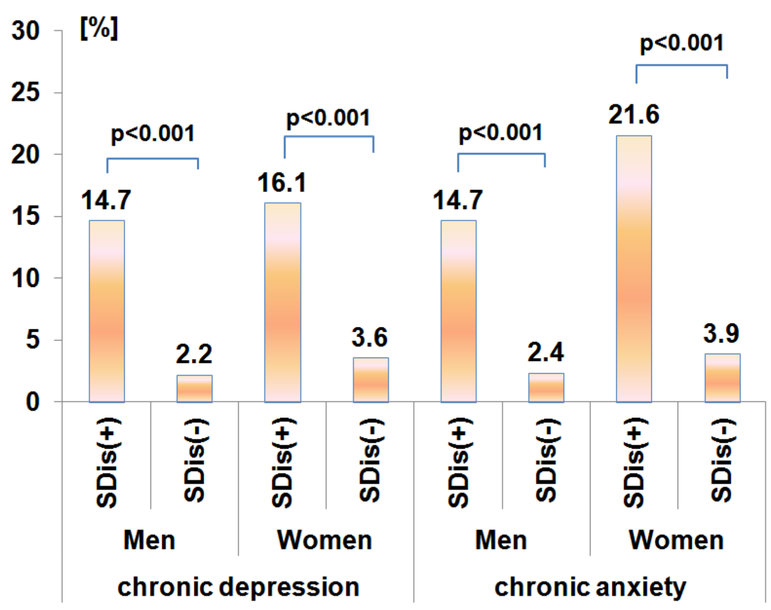


Figure 2. Distribution of chronic depression or chronic anxiety in men and women aged 60-79 years with or without sleep disorders (SDis).

Table 1. Baseline characteristics of respondents aged 60-79 years (N=1596)

	Men	Women	p
N (%)	706 (44.2)	890 (55.8)	<0.001
Age [years], m +/- SD	67.0 +/- 5.5	67.5 +/- 5.6	0.094
Age group [years], n (%)			
60-69	497 (70.4)	600 (67.4)	0.202
70-79	209 (29.6)	290 (32.6)	0.202
Marital status, n (%)			
married	566 (80.3)	483 (54.3)	<0.001
unmarried	139 (19.7)	407 (45.7)	<0.001
Education, n (%)			
primary/basic vocational	451 (64.0)	521 (58.5)	0.027
secondary/higher	254 (36.0)	369 (41.5)	0.027
Chronic disease, n (%)			
sleep disorders	109 (15.4)	255 (287)	<0.001
chronic depression	29 (4.1)	64 (7.2)	0.009
chronic anxiety	30 (4.3)	80 (9.0)	<0.001

Table 2. Characteristics of respondents with sleep disorders (N=364)

	Men	Women	p
N (%)	109 (15.4)	255 (28.7)	<0.001
Age [years], m +/- SD	67.7 +/- 5.7	67.9 +/- 5.7	0.659
Age group [years], n (%)			
60-69	66 (13.3)	163 (27.2)	<0.001
70-79	43 (20.6)	92 (31.7)	0.006
Marital status, n (%)			
married	84 (14.8)	139 (28.8)	<0.001
unmarried	25 (18.0)	116 (28.5)	0.015
Education, n (%)			
primary/basic vocational	61 (13.5)	149 (28.6)	<0.001
secondary/higher	48 (18.9)	106 (28.7)	0.005

Table 3. Odds ratio (OR) with 95% confident intervals (CI) for chronic depression and chronic anxiety by sex.

Risk factor		Men		Women	
		OR (+/- 95% CI)	p	OR (+/- 95% CI)	p
chronic depression					
Ref.	No	1	-	1	-
M1	Yes	4.41 (1.84; 10.56)	0.001	2.47 (1.34; 4.55)	0.004
M2	Yes	4.71 (1.94; 11.45)	0.001	2.48 (1.34; 4.59)	0.004
chronic anxiety					
Ref.	No	1	-	1	-
M1	Yes	3.65 (1.54; 8.66)	0.003	4.68 (2.71; 8.10)	<0.001
M2	Yes	4.29 (1.78; 10.33)	0.001	4.74 (2.74; 8.22)	<0.001

Models:
M1 – model adjusted for age group
M2 – model adjusted for age group, marital status and education

Conclusions

- Sleep disorders are significantly more common in people with chronic depression or chronic anxiety.
- There is interdependence between sleep disorders and chronic depression or chronic anxiety.

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