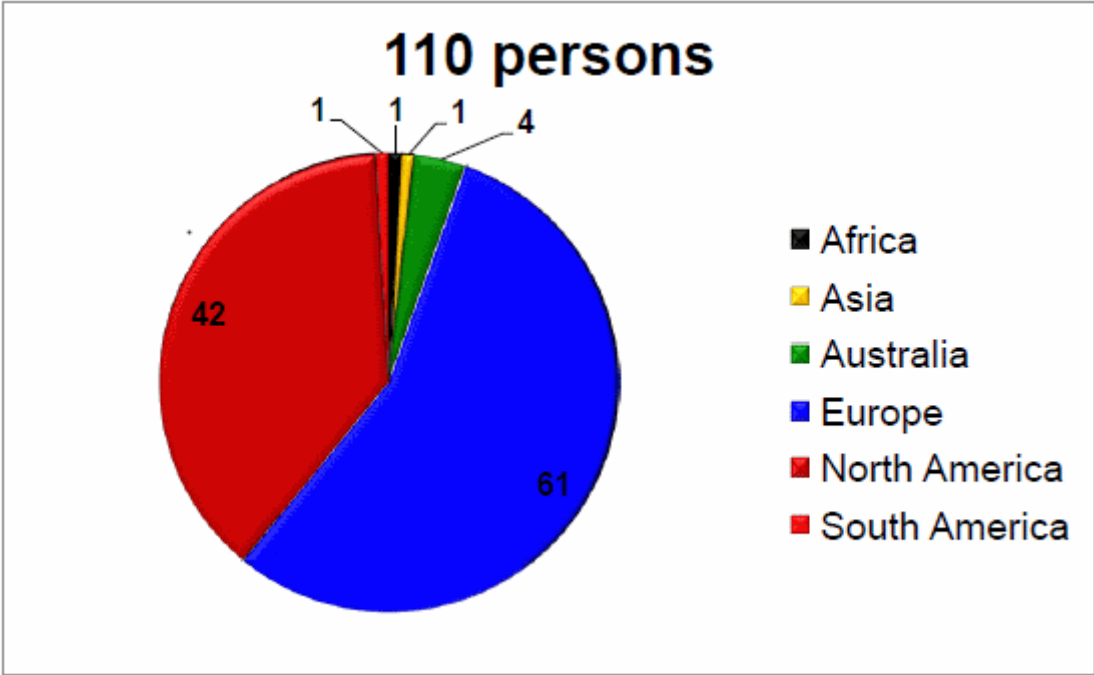


# 1. Presentation of the results from our questionnaire “suction time“

This is the first time we have presented the data collection "suction time" on the website [www.borreliose-nachrichten.de](http://www.borreliose-nachrichten.de).

We will regularly publish additional data received at this point.



## How long do you estimate the absorption time of the tick in hours?

Total interviewed people: 110

Answered total time (in hours): 1206 hours Average suction time (in hours): 10,96 hours

Median (average): 6 hours

### Median definition

The median (middle value) is the value that is exactly in the middle of a data distribution. It divides the data into two halves. 50% of the data is less than or equal to the median, 50% are greater than or equal to the median.

To calculate the median, the data is sorted according to size:

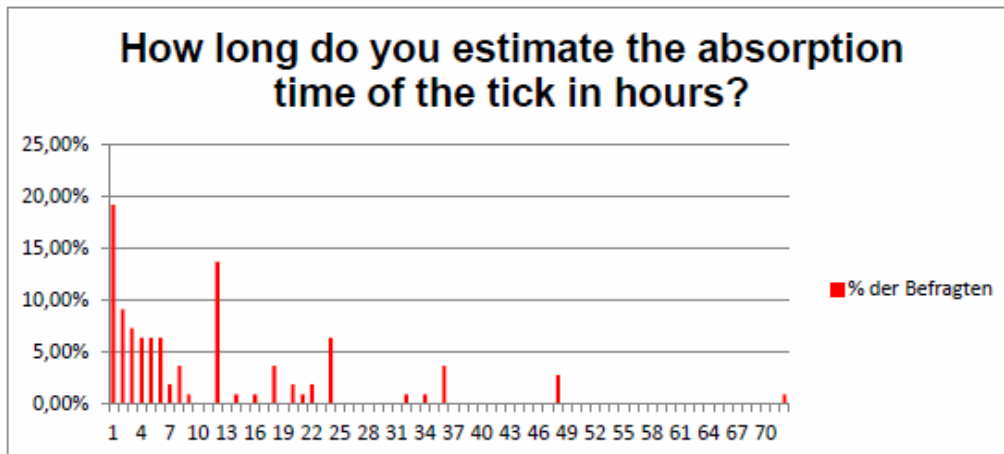
$$(x_1, x_2, \dots, x_n).$$

If the number of data is odd, it is exactly the mean values of the median

$$\tilde{x} = \frac{x_{n+1}}{2}$$

If the number of data is even, then the median ( $\tilde{x}$ ) is the arithmetic mean of the two middle values:

$$\tilde{x} = \frac{1}{2} \left( x_{\frac{n}{2}} + x_{\frac{n}{2}+1} \right)$$



1 hour	21 respondents
2 hours	10 respondents
3 hours	8 respondents
4 hours	7 respondents
5 hours	7 respondents
6 hours	7 respondents
7 hours	2 respondents
8 hours	4 respondents
9 hours	1 respondent
12 hours	15 respondents
14 hours	1 respondent
16 hours	1 respondent
18 hours	4 respondents
20 hours	2 respondents
21 hours	1 respondents
22 hours	2 respondents
24 hours	7 respondents
32 hours	1 respondent
34 hours	1 respondent
36 hours	4 respondents
48 hours	3 respondents
72 hours	1 respondent

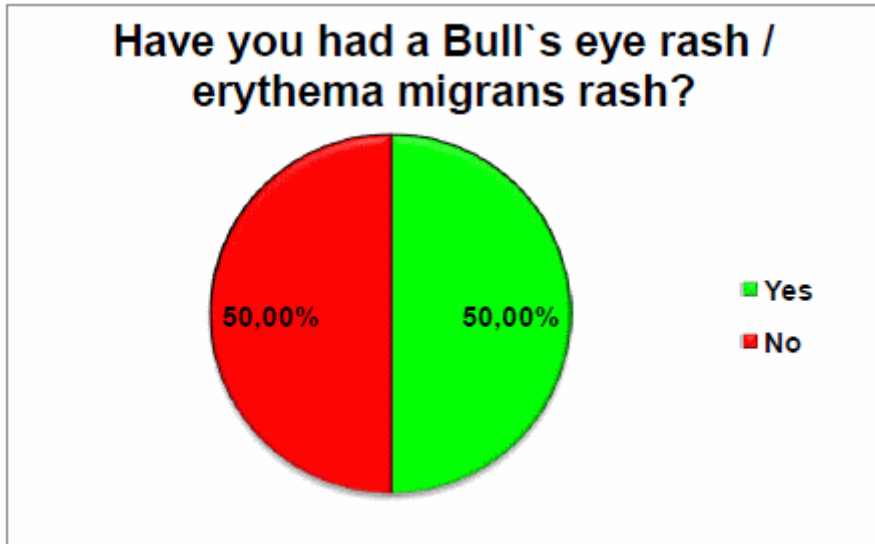
We have deliberately refrained from reading the 72 hours in our calculations, and we describe these as "outliers", because we would then remove them from the record. We use the word outlier in the statistics when a measured value does not seem to fit in line with the other measurements.

**We assume that all subjects answered the questions to the best of their knowledge.**

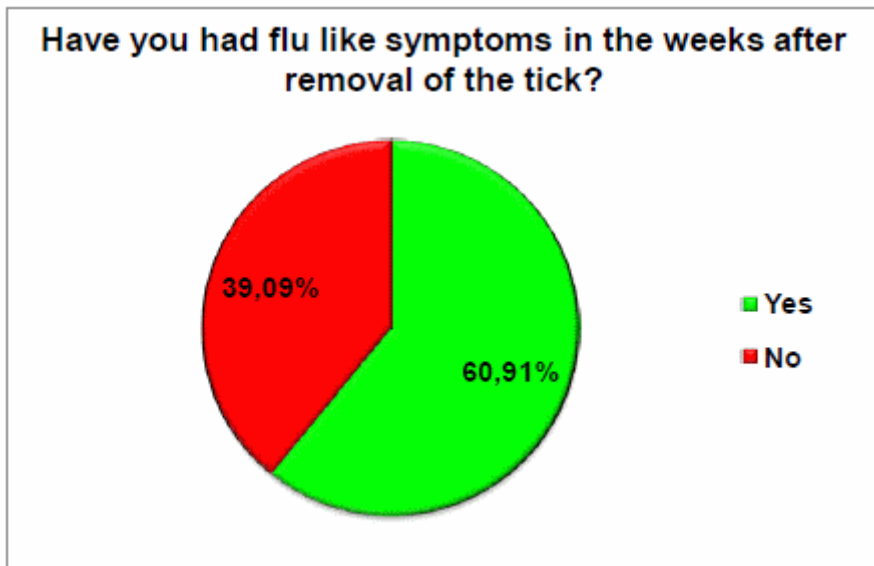
It is quite possible that the tick was discovered only three days after a forest walk and there have been no further stays outdoors, the respondent only discovered the tick after 72 hours (3 days)

Great feature values have a strong upward effect on the arithmetic mean. The median however, is exactly in the middle of a data distribution and is robust against large feature values.

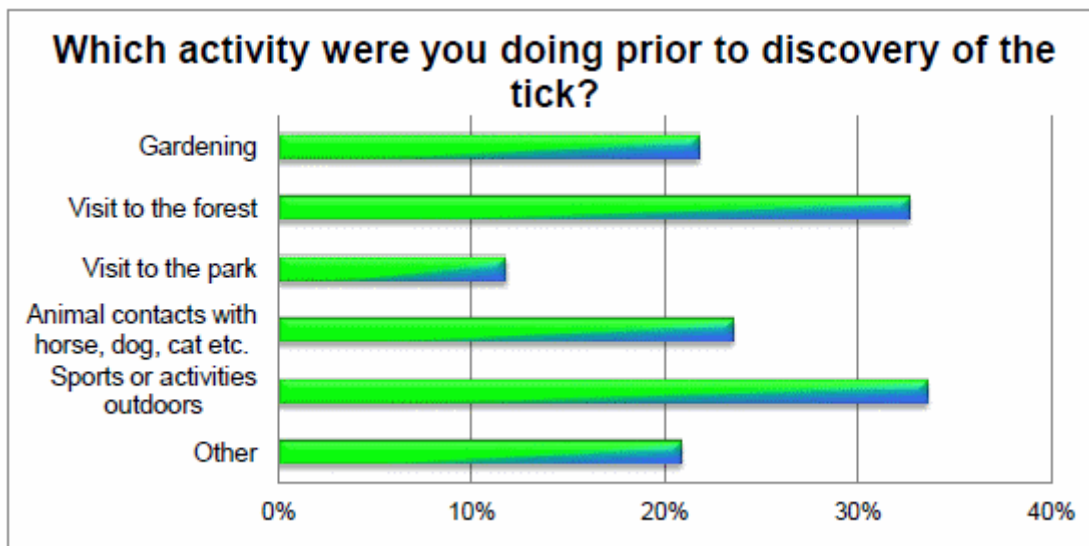
**We have maximum transparency in the statistical analysis.** Therefore, all evaluable records were included. We explain this part of the statistic so precisely because having our understanding on par with our readers is important. We all reach safety in dealing with data only if we understand the content. **In this summary, these results are likely to be presented to a scientific audience.**



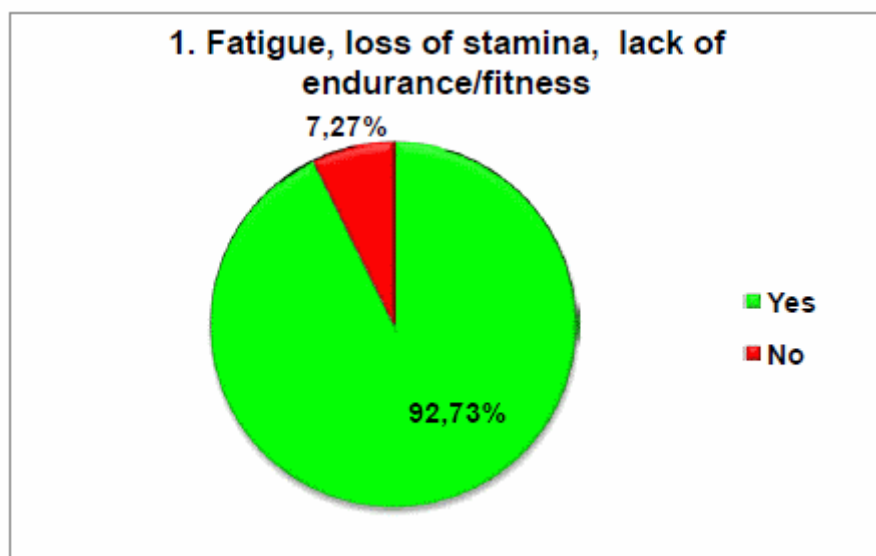
55 of the 110 respondents had an erythema migrans. 55 respondents didn't have a Bull`s eye rash / erythema migrans rash.



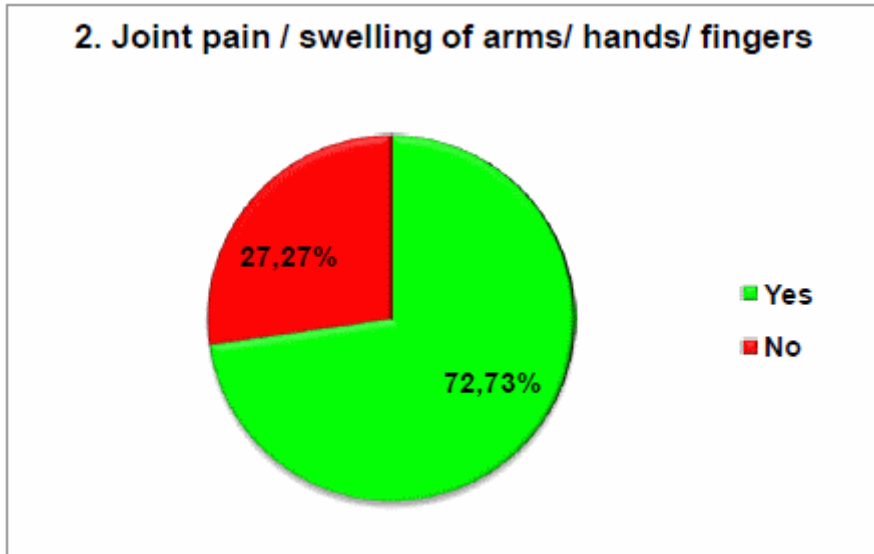
67 of the 110 respondents have had flu-like symptoms in temporal association after removal of the tick, 43 respondents didn't have flu-like symptoms.



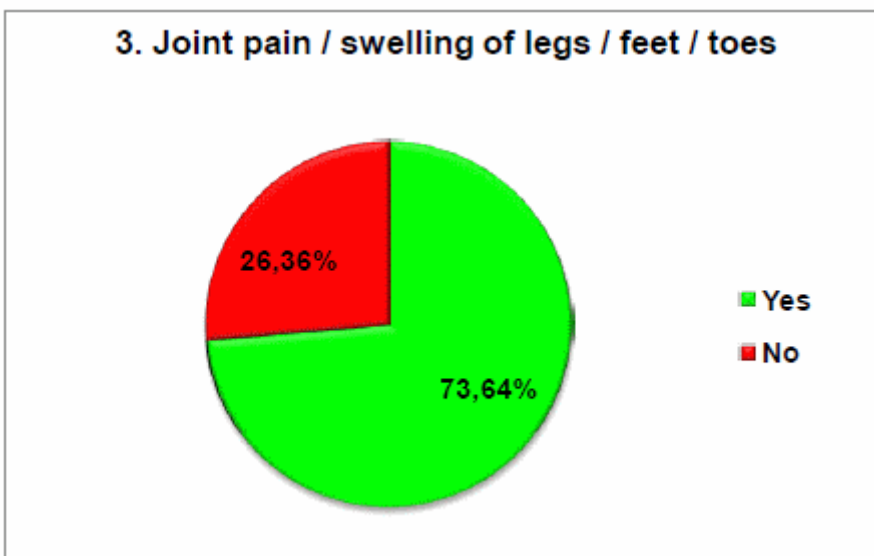
Gardening	24 respondents
Visit to the forest	36 respondents
Visit to the park	13 respondents
Animal contacts with horse, dog, cat etc.	26 respondents
Outdoors activities	37 respondents
Other	23 respondents



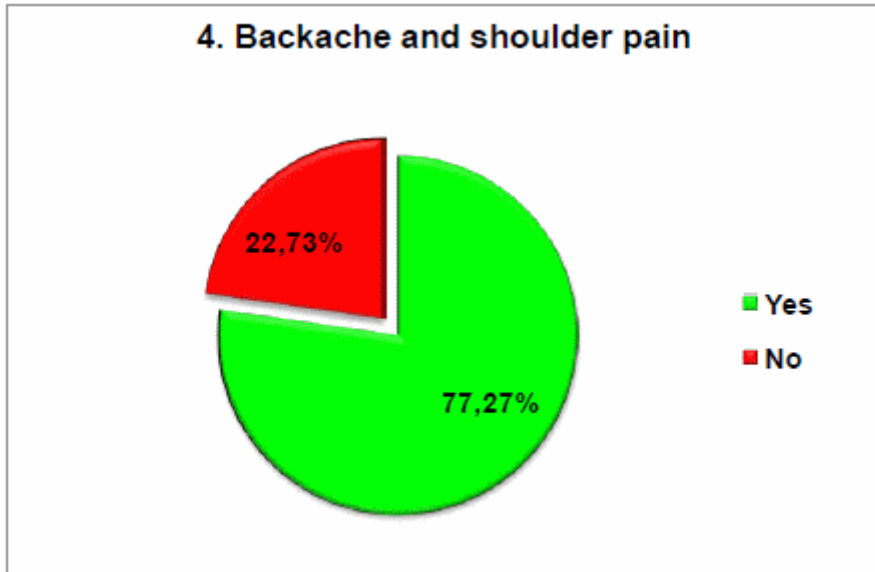
102 of 110 respondents noted **fatigue, loss of stamina, lack of endurance/fitness**, 8 of the respondents didn't remember those symptoms.



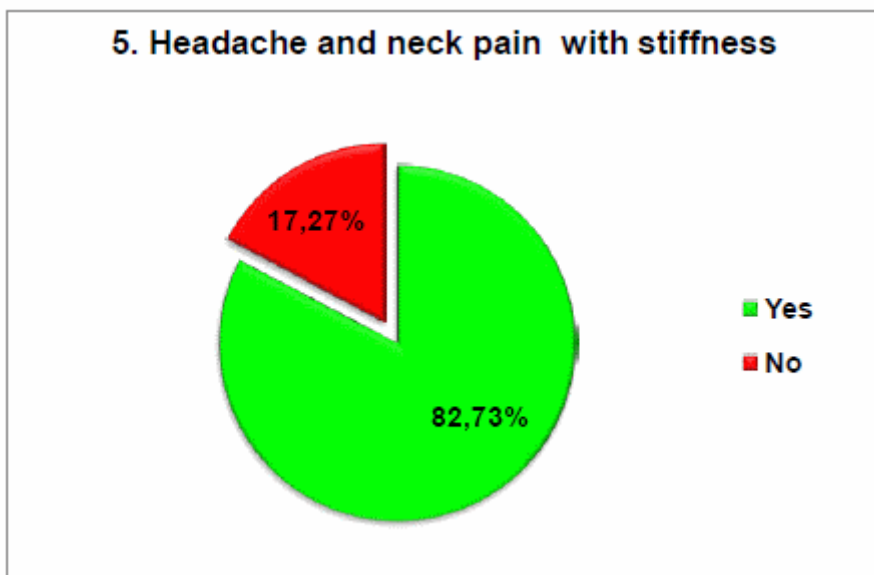
80 of 110 respondents noted **joint pain / swelling of arms/ hands/ fingers**. 30 of the 110 respondents didn't note these symptoms.



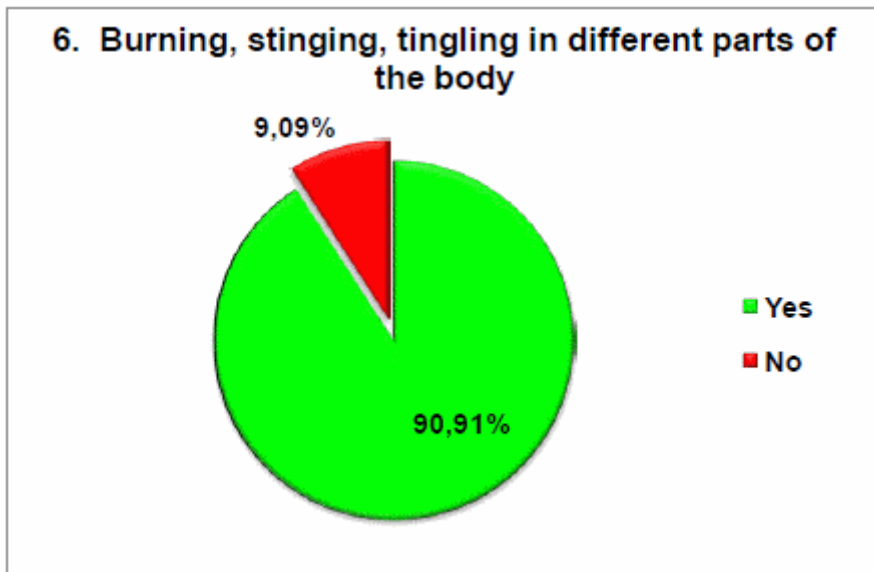
81 of 110 respondents noted **joint pain / swelling of legs / feet / toes**. 29 of the 110 respondents didn't note these symptoms.



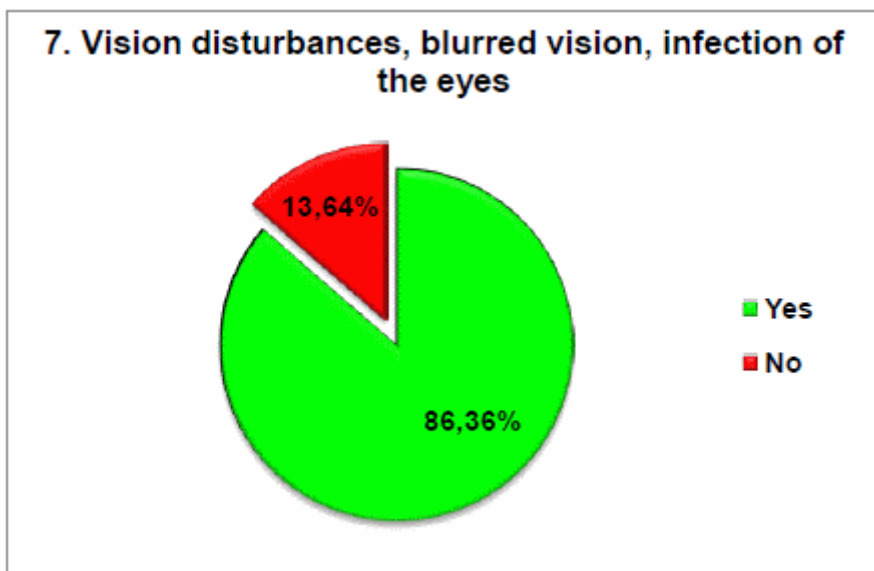
85 of 110 respondents had **backache and shoulder pain**. 25 of them didn't have those symptoms.



91 of 110 respondents had **headache and neck pain with stiffness**. 19 of them didn't have these symptoms.

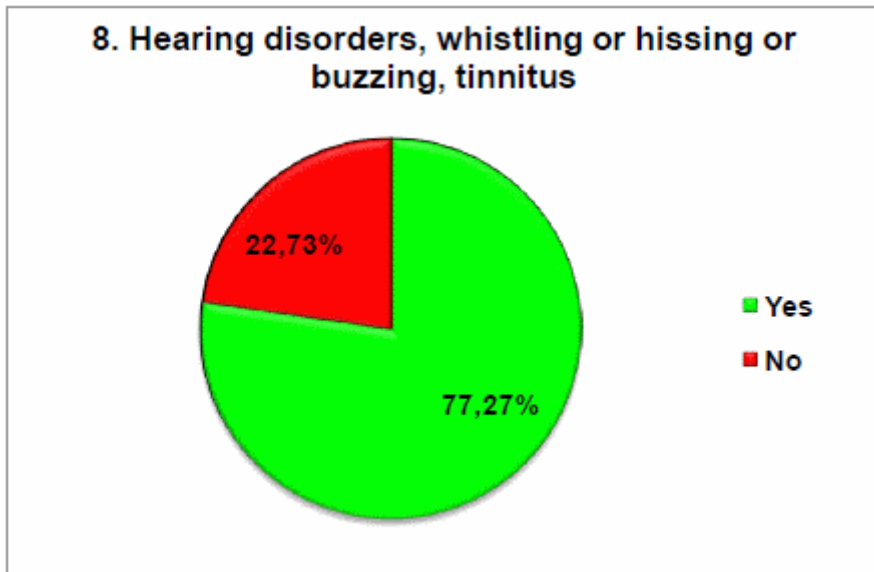


100 of 110 respondents had **burning, stinging, tingling in different parts of the body**.  
10 of them didn't have these symptoms.

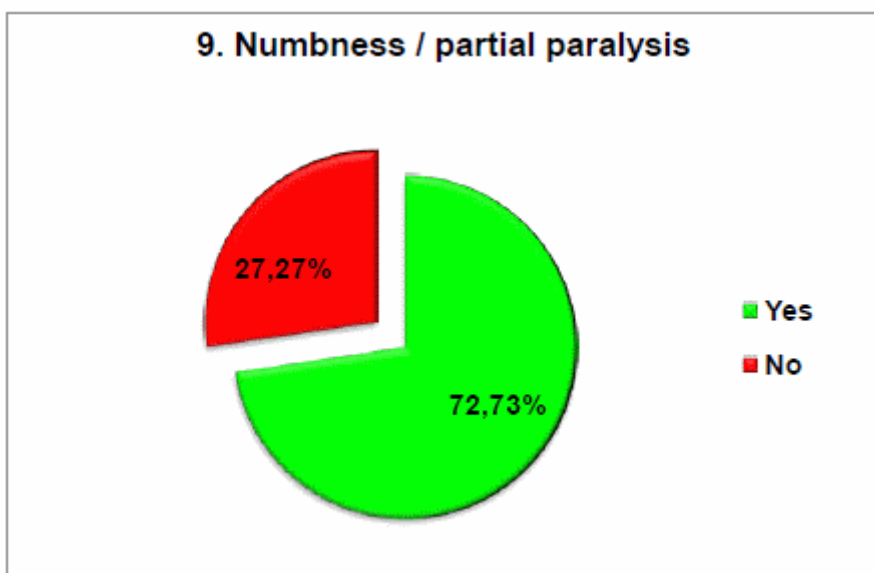


95 of 110 respondents had **vision disturbances, blurred vision, infection of the eyes**.  
15 of them didn't have these symptoms.

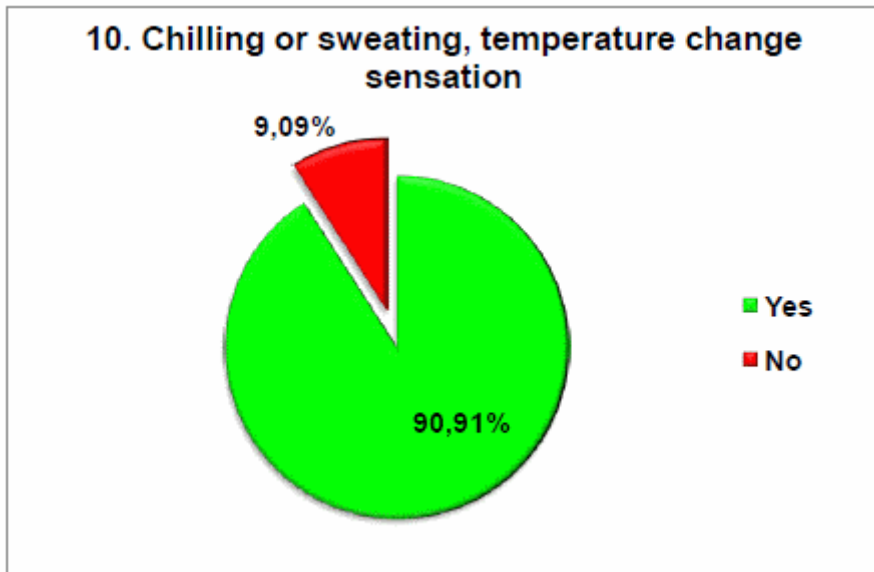




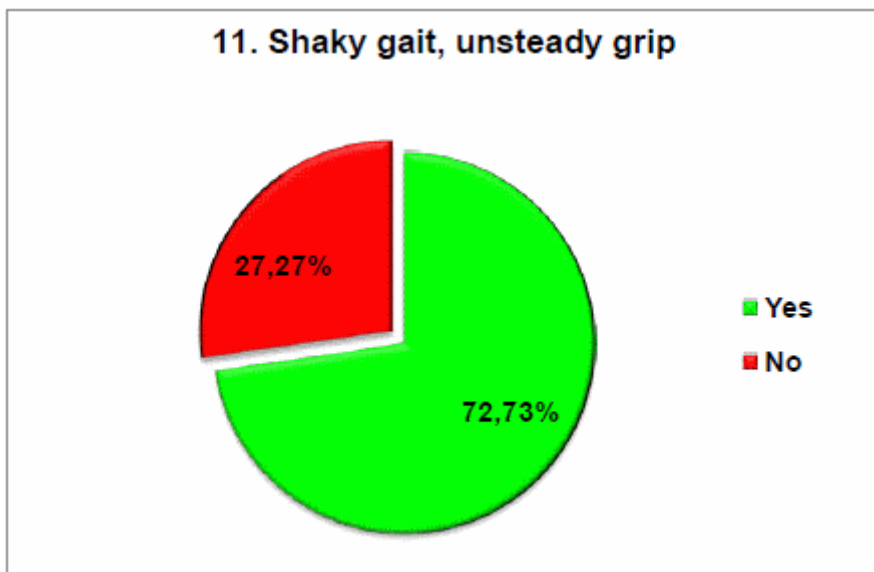
85 of 110 respondents noted **hearing disorders, whistling or hissing or buzzing, tinnitus**, 25 of this group didn't remember those symptoms.



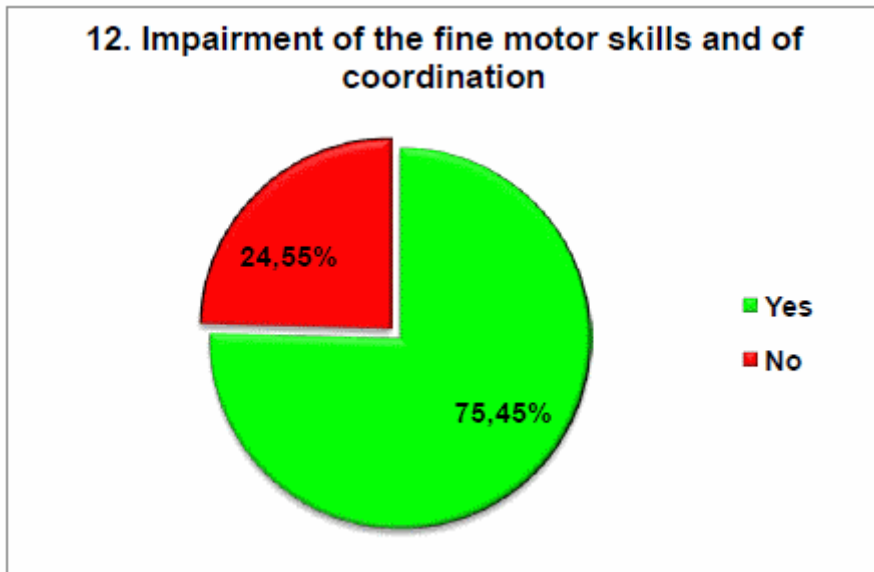
80 of 110 respondents noted **numbness / partial paralysis**, 30 respondents didn't note those symptoms.



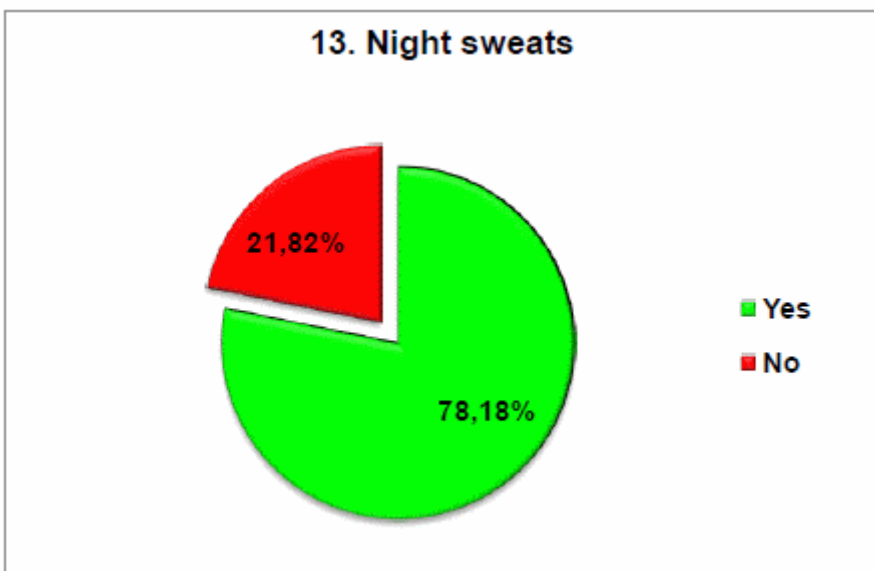
100 of the 110 respondents had **chilling or sweating, temperature change sensation**. 10 of them didn't have these symptoms.



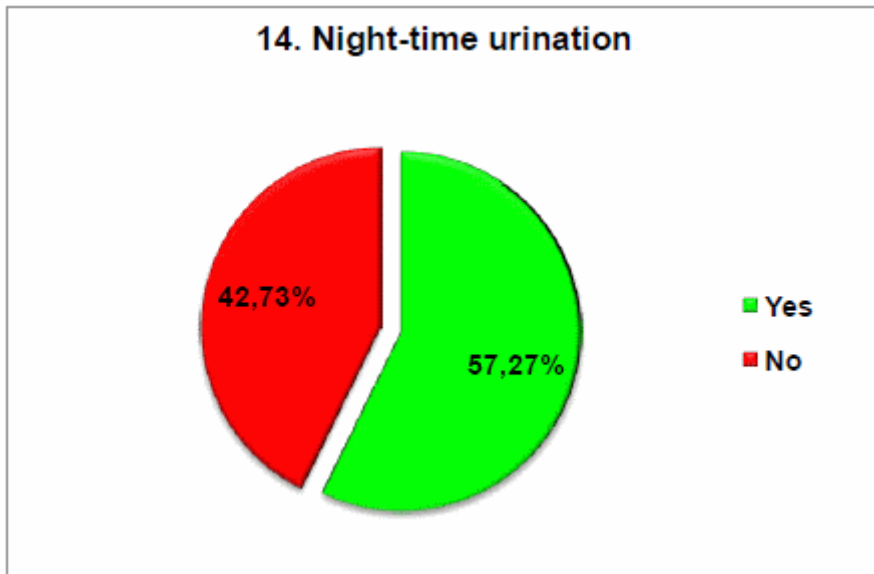
80 of 110 respondents had **shaky gait, unsteady grip**. 30 of them didn't have these symptoms.



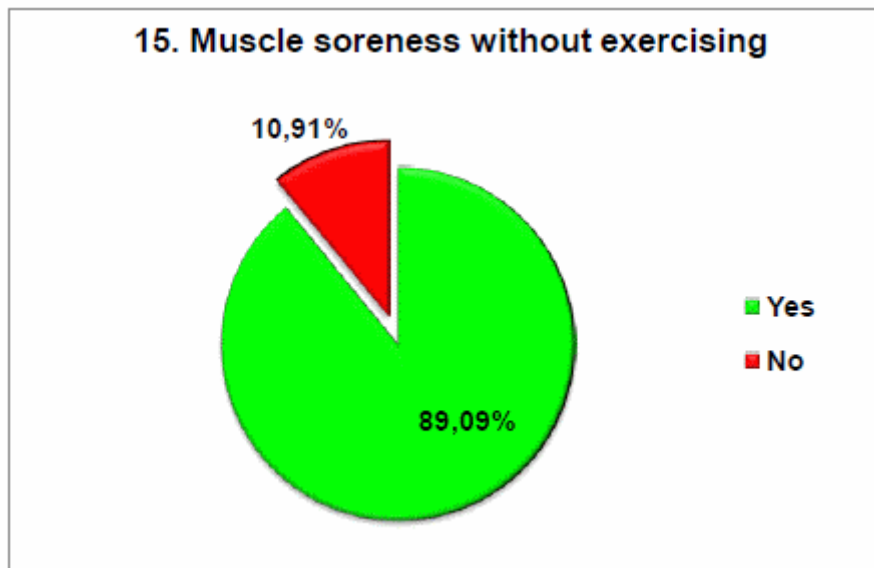
83 of the 110 respondents had **impairment of the fine motor skills and of coordination**. 27 of them didn't have these symptoms.



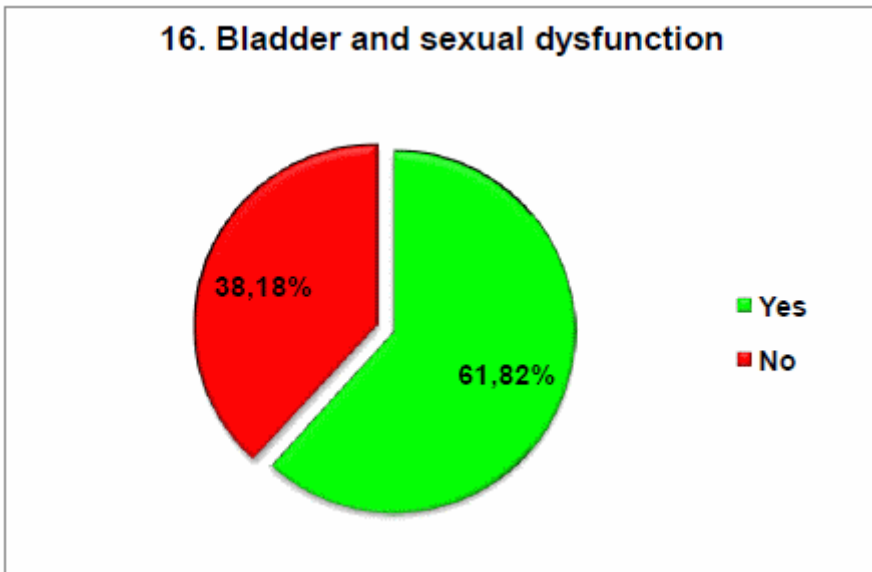
86 of 110 respondents had **night sweats**. 24 of them didn't have this symptom.



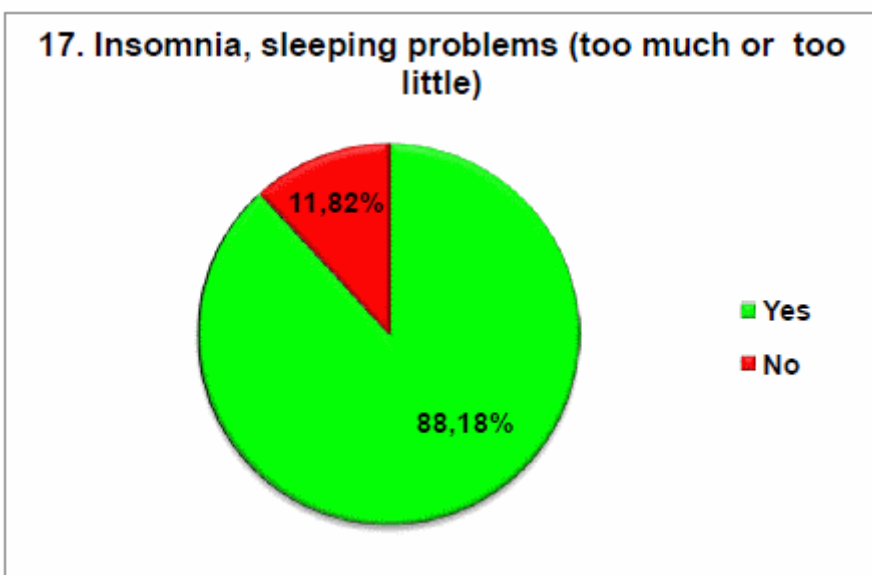
63 of 110 respondents had **night-time urination**. 47 of them didn't have this symptom.



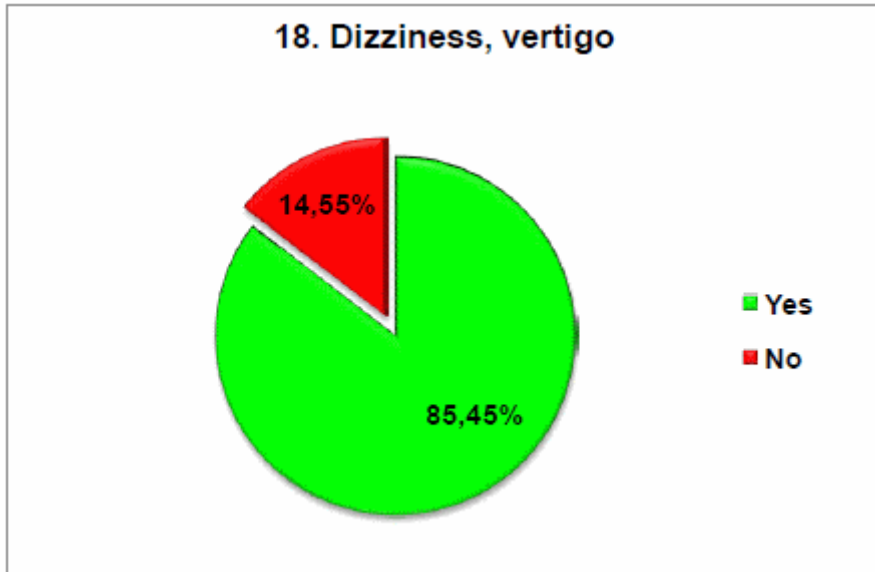
98 of 110 respondents had **Muscle soreness without exercising**. 12 of them didn't have this symptom.



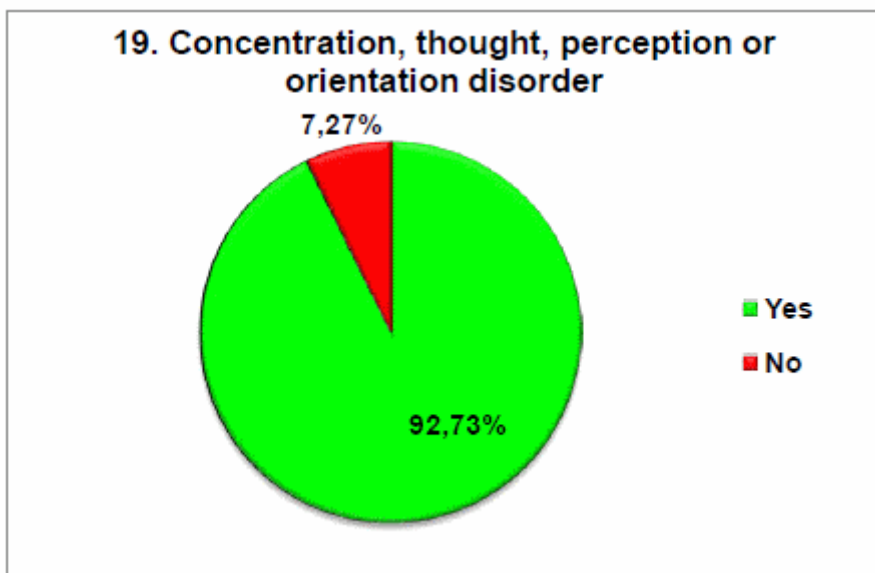
68 of 110 respondents had **bladder and sexual dysfunction**. 42 of them didn't have these symptoms.



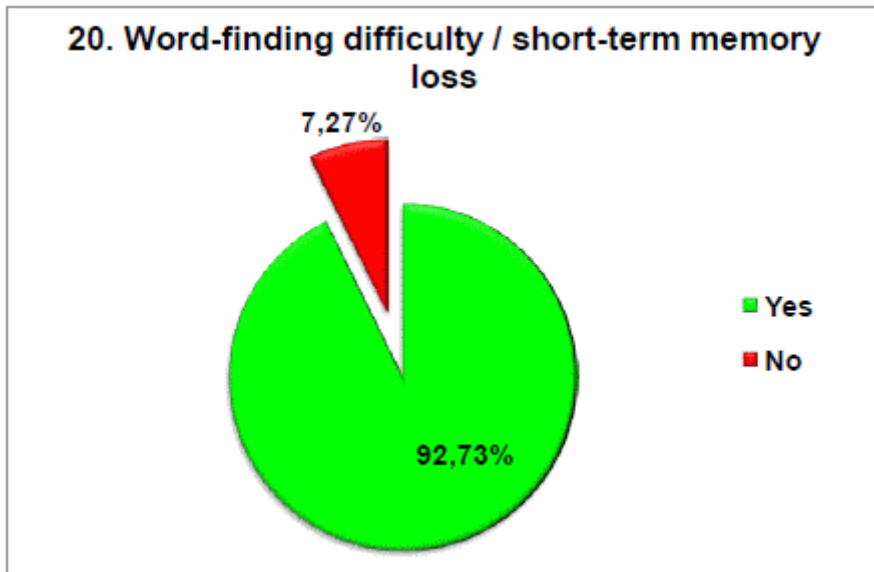
97 of 110 respondents had **insomnia, sleeping problems (too much or too little)**. 13 of them didn't have these symptoms.



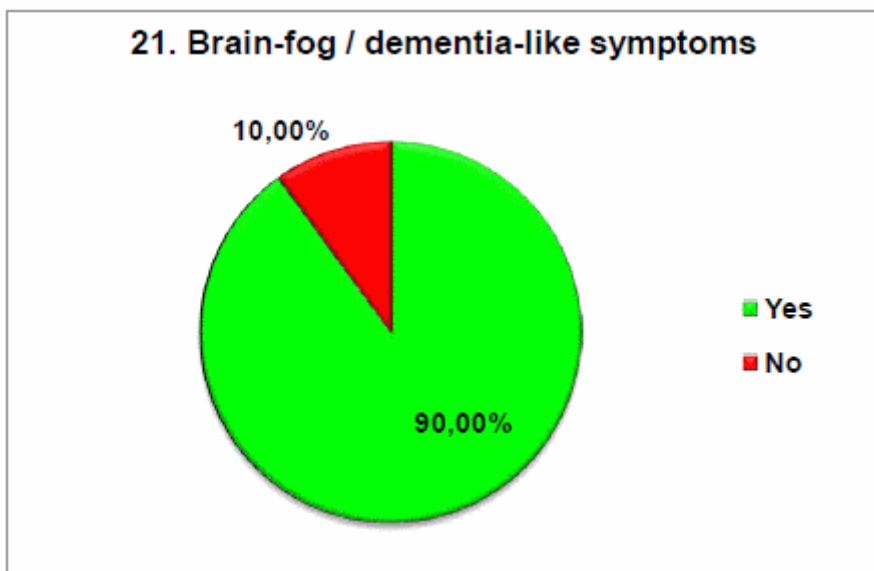
94 of 110 respondents had **dizziness and vertigo**. 16 of them didn't have these symptoms.



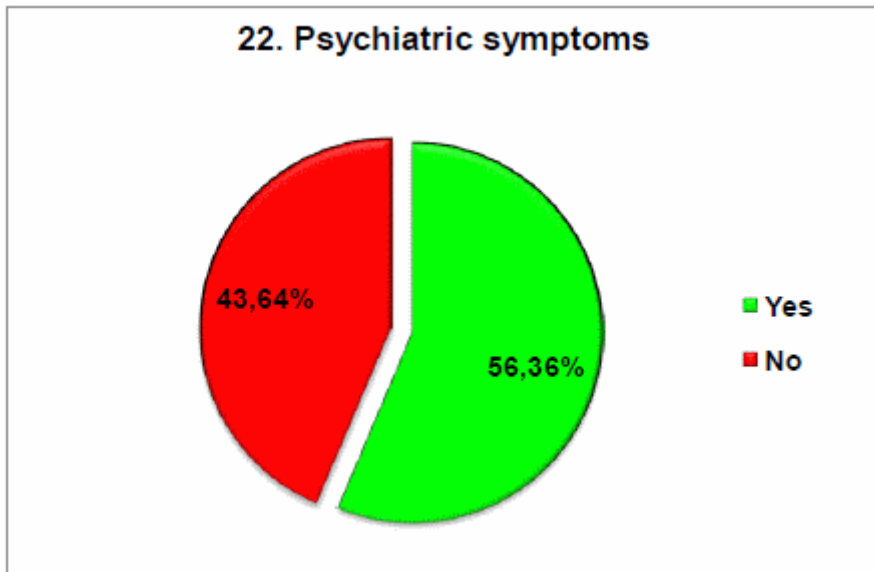
102 of 110 respondents had **concentration, thought, perception or orientation disorder**. 8 of them didn't have these symptoms.



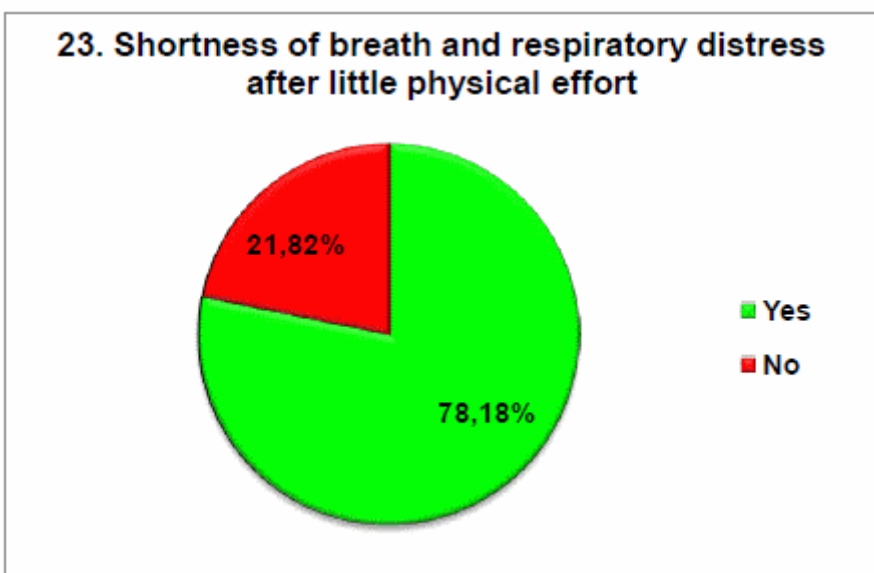
102 of 110 respondents had **word-finding difficulty / short-term memory loss**. 8 of them didn't have these symptoms.



99 of 110 respondents had **brain-fog / dementia-like symptoms**. 11 of them didn't have these symptoms.

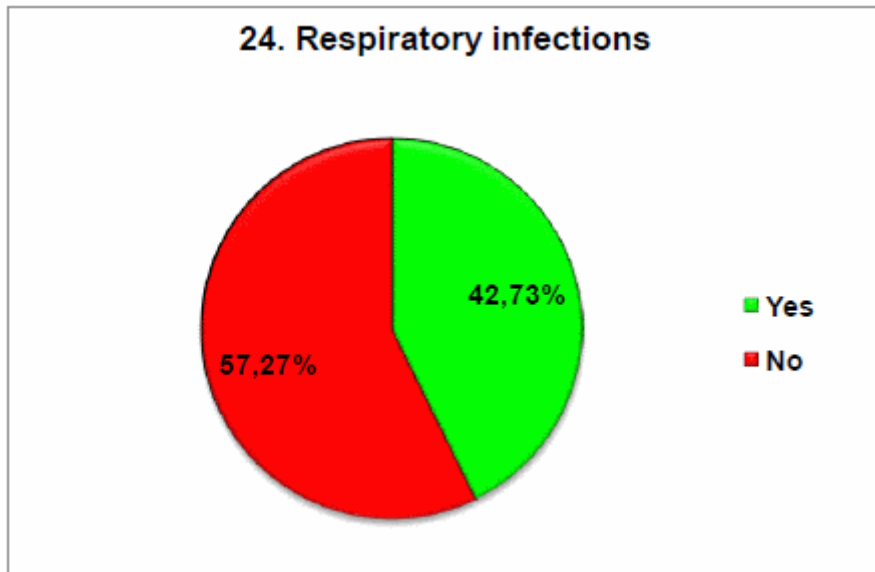


62 of 110 respondents had **psychiatric symptoms**. 48 of them didn't have those symptoms.

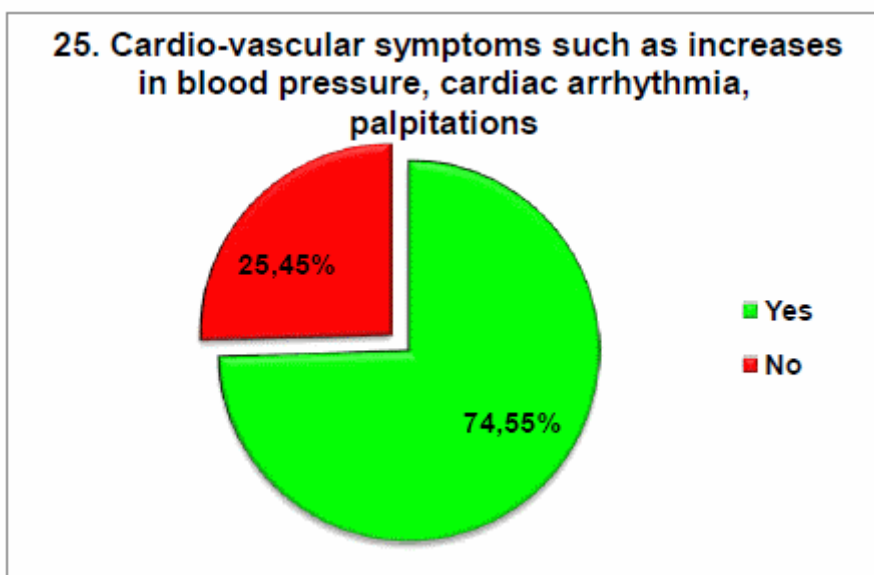


86 of 110 respondents had **shortness of breath and respiratory distress after little physical effort**. 24 of them didn't have these symptoms.

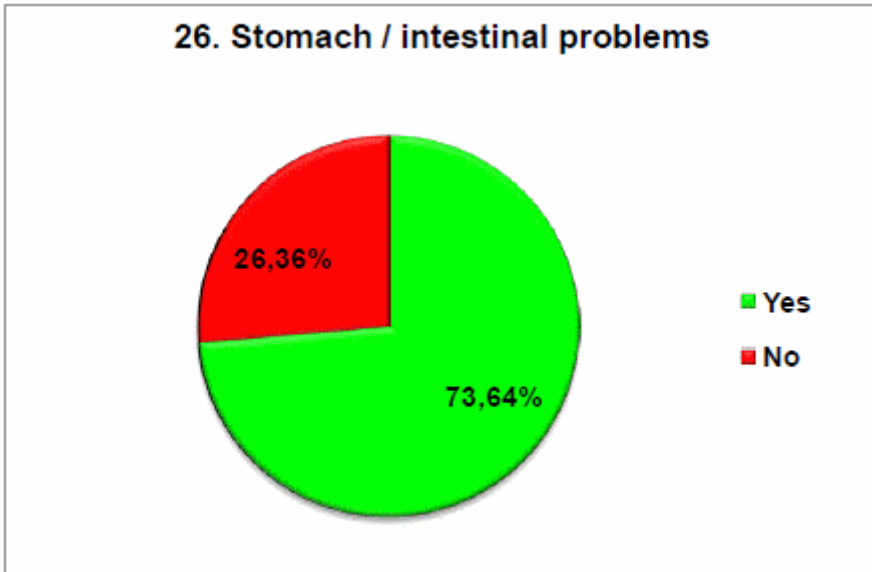




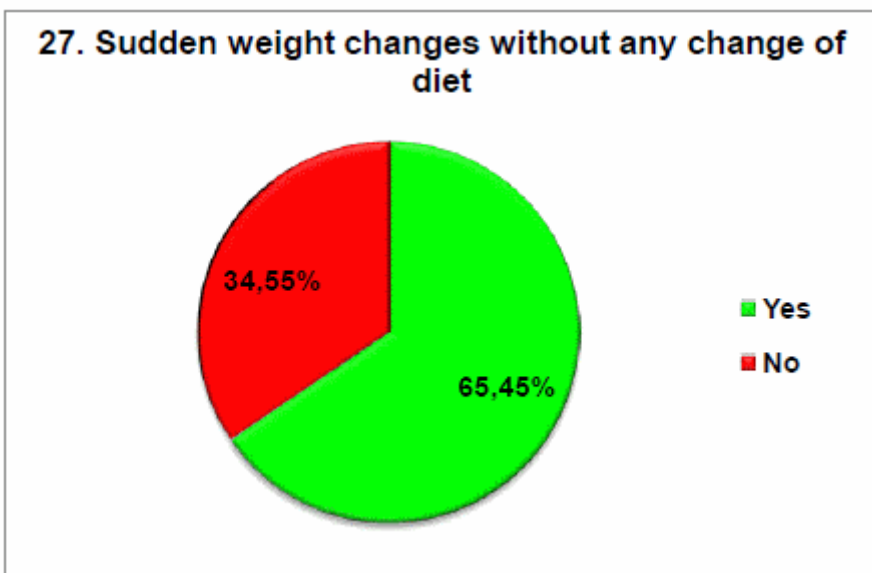
47 of 110 respondents had **respiratory infections**. 63 of them didn't have these symptoms.



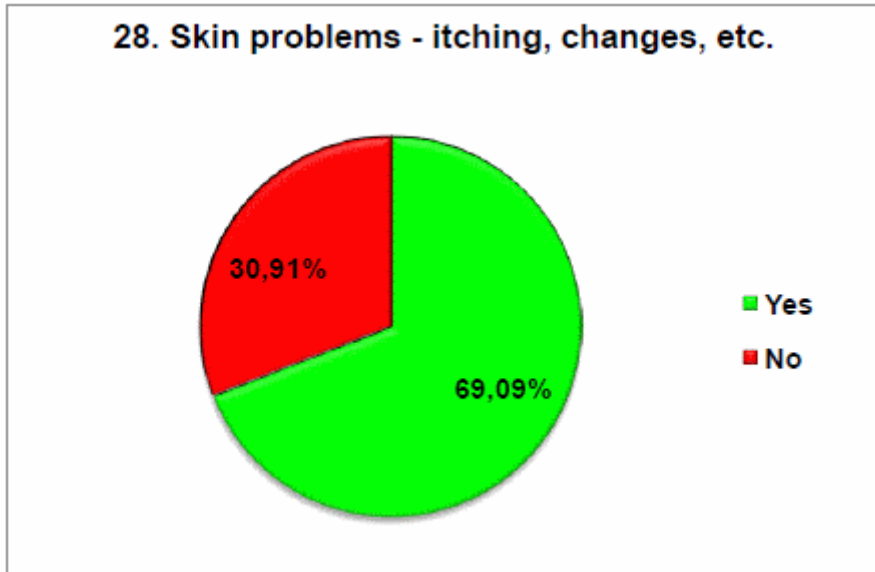
82 of 110 respondents had **cardio-vascular symptoms such as increases in blood pressure, cardiac arrhythmia, palpitations**. 28 of them didn't have these symptoms.



81 of 110 respondents had **stomach / intestinal problems**. 29 of them didn't have these symptoms.



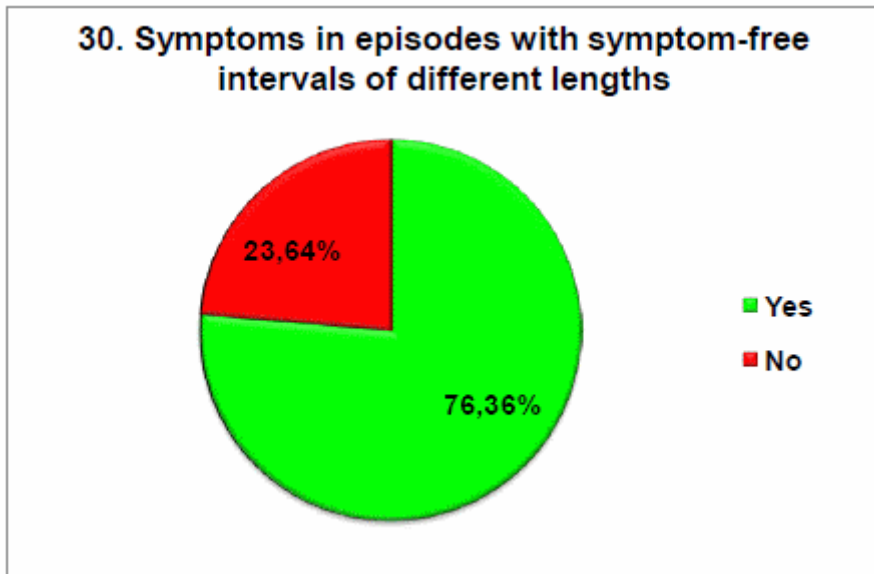
72 of 110 respondents had **sudden weight changes without any change of diet**. 38 of them didn't have these symptoms.



76 of 110 respondents had **skin problems - itching, changes, etc.** 34 of them didn't have these symptoms.



55 of 110 respondents had **hair loss.** 55 of them didn't have this symptom.



84 of 110 respondents had symptoms in episodes with symptom-free intervals of different lengths. 26 of them didn't have these symptoms.

[Click here to see only the 110 records of the English-speaking countries as PDF](#)