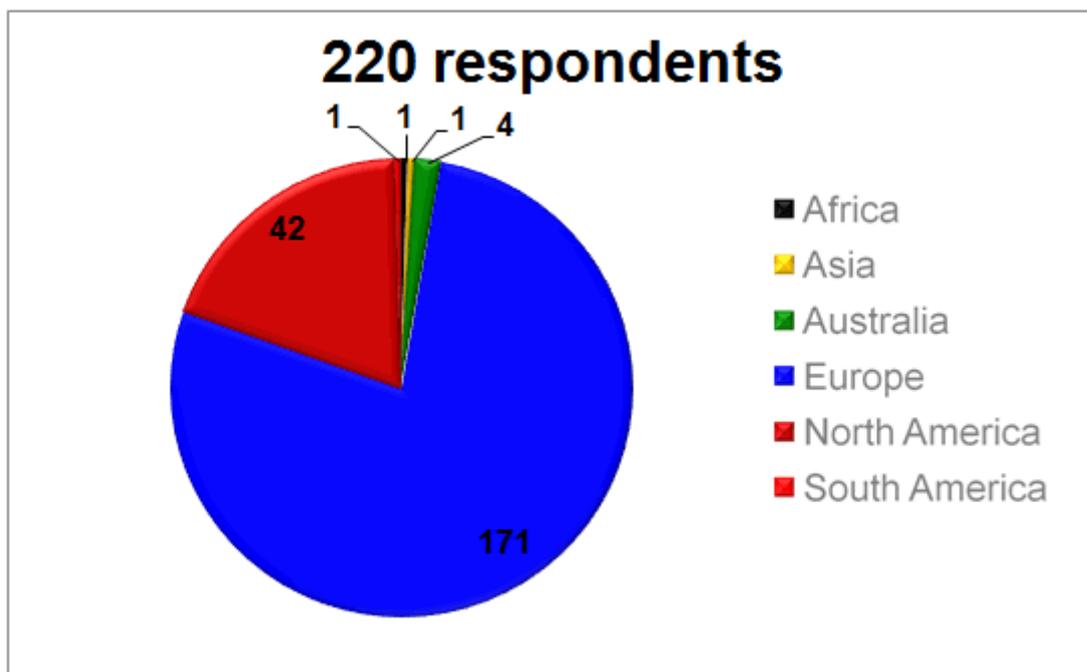


Presentation of the combined results from our questionnaire “suction time“ in German and English

This is the first time we have presented the data collection "suction time" on the website 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 people interviewed: 220

Answered total time (in hours): 1991 hours

Average suction time (in hours): 9,05 hours

Median (average): 5 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:

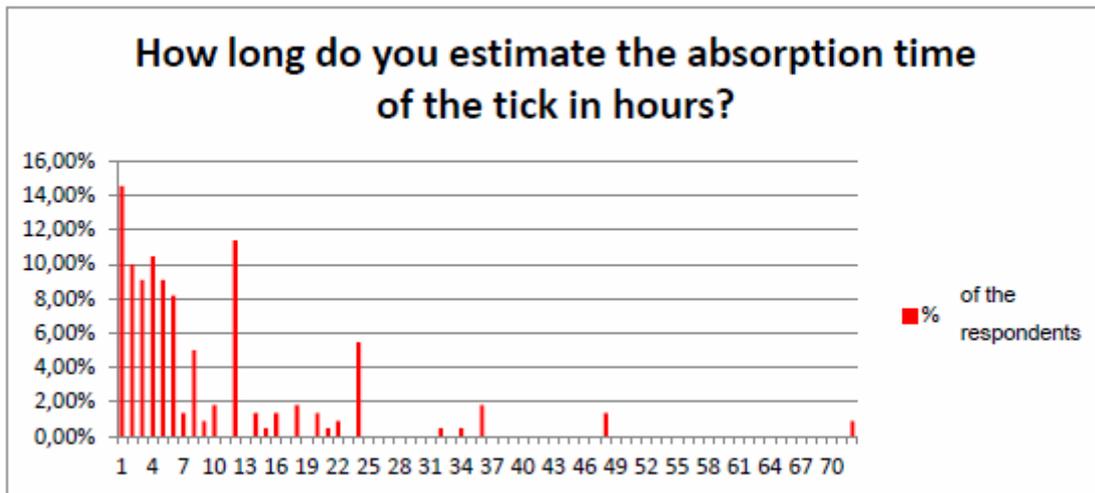
$$(x_1, x_2, \dots, x_n).$$

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 hours	32 respondents
2 hours	22 respondents
3 hours	20 respondents
4 hours	23 respondents
5 hours	20 respondents
6 hours	18 respondents
7 hours	3 respondents
8 hours	11 respondents
9 hours	2 respondents
10 hours	4 respondents
12 hours	25 respondents
14 hours	3 respondents
15 hours	1 respondents
16 hours	3 respondents
18 hours	4 respondents
20 hours	3 respondents
21 hours	1 respondents
22 hours	2 respondents
24 hours	12 respondents
32 hours	1 respondents
34 hours	1 respondents
36 hours	4 respondents
48 hours	3 respondents
72 hours	2 respondents

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.

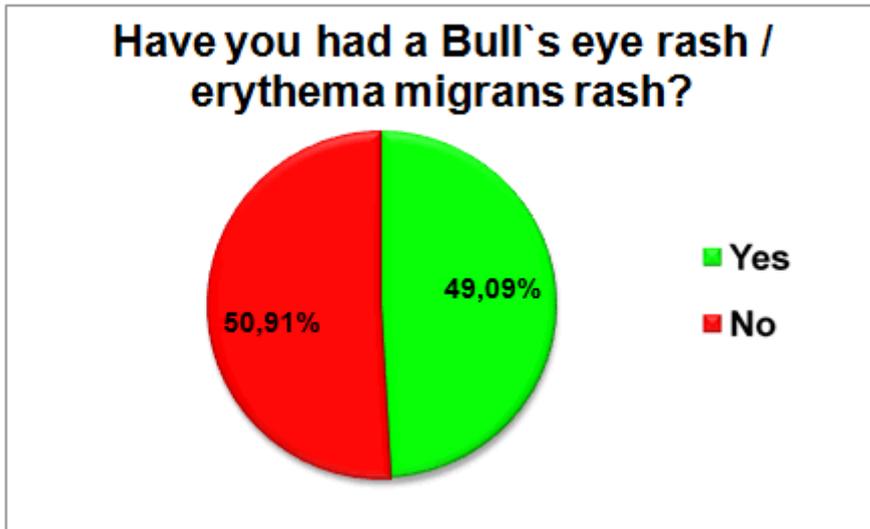
We assume that all subjects answered the questions to the best of their knowledge.

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).

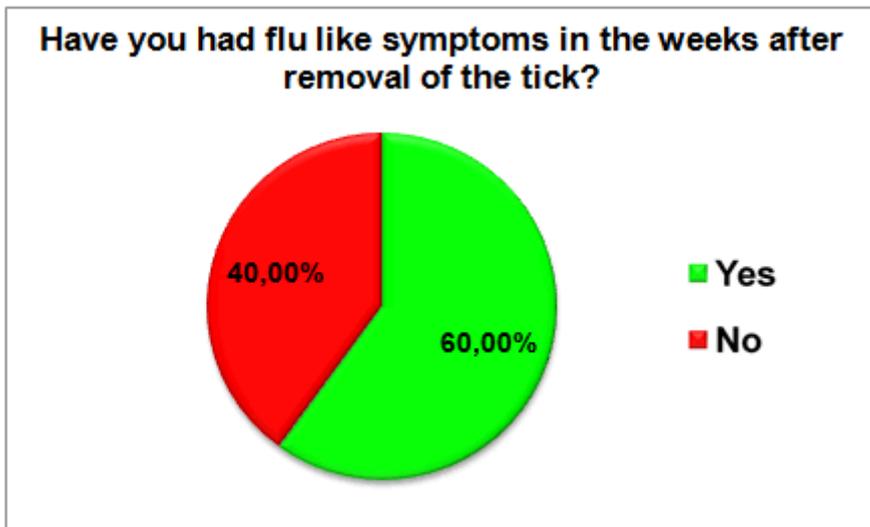
Great feature values have a strong upward effect on the arithmetic mean. The median however, is exactly in the middle of a data distribution and is robust against large feature values.

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.

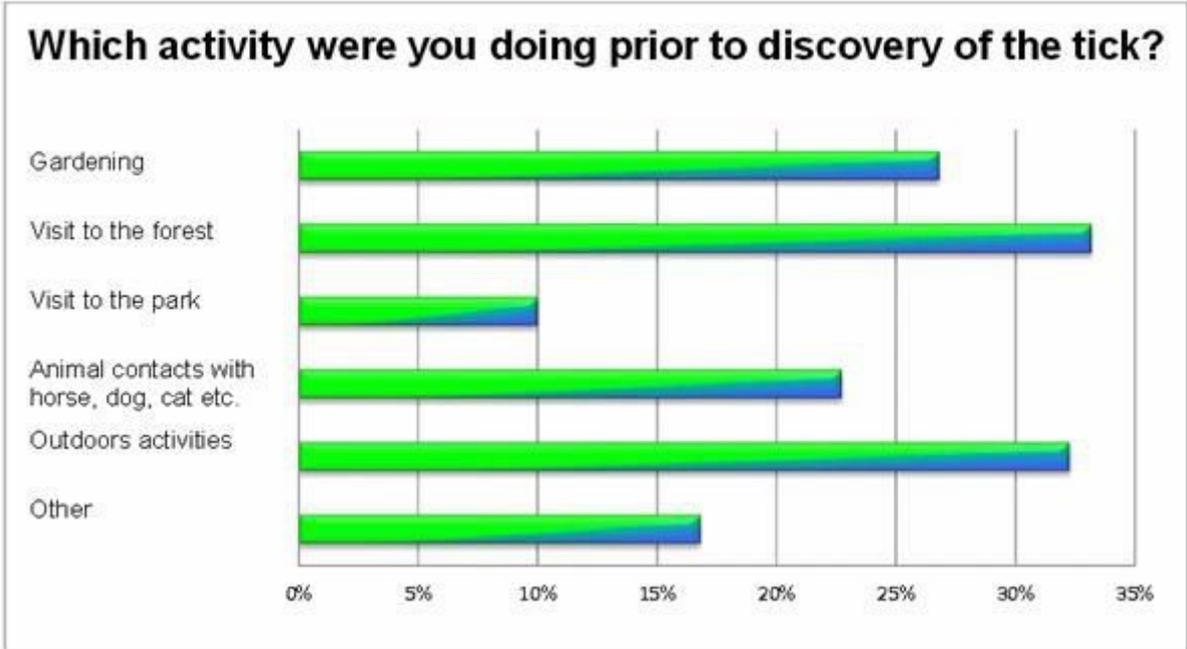
In this summary, these results are likely to be presented to a scientific audience.



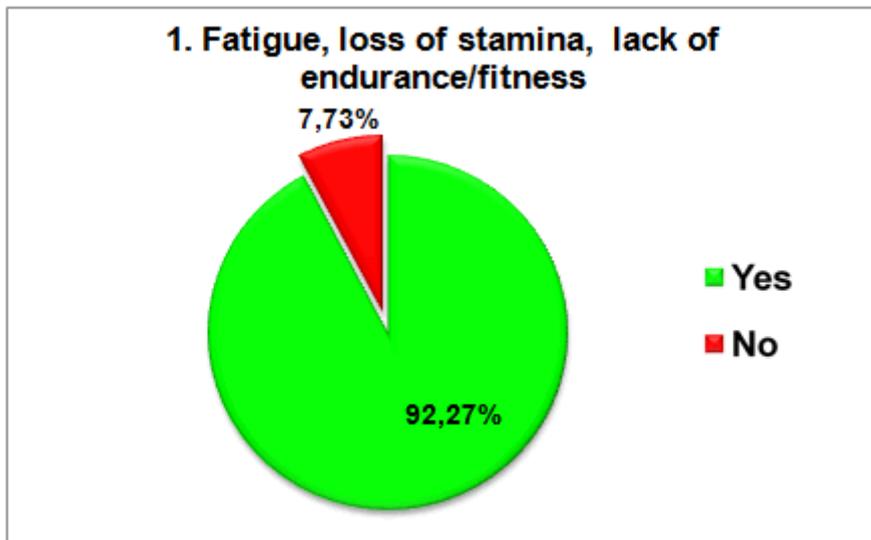
108 of the 220 respondents had **an erythema migrans**. 112 respondents didn't have a **Bull`s eye rash / erythema migrans rash**.



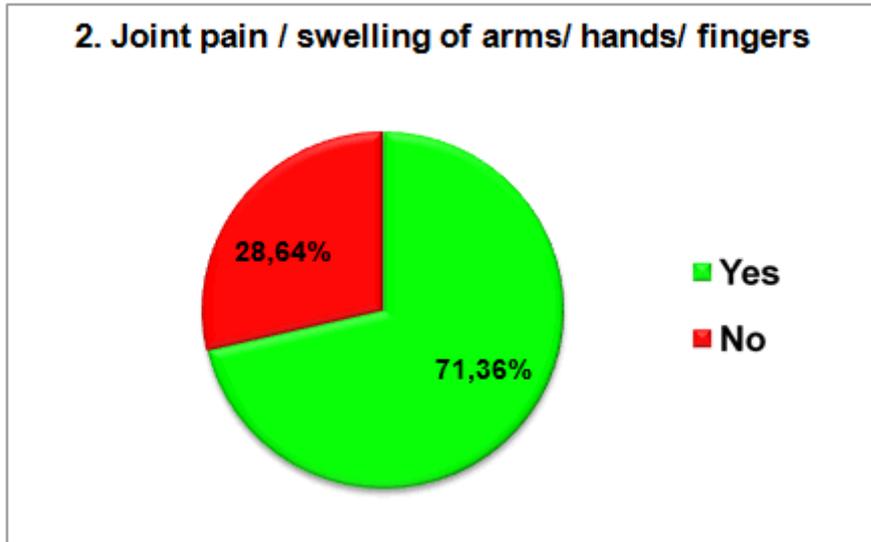
132 of the 220 respondents have had **flu-like symptoms in temporal association after removal of the tick**, 88 respondents didn't have flu-like symptoms.



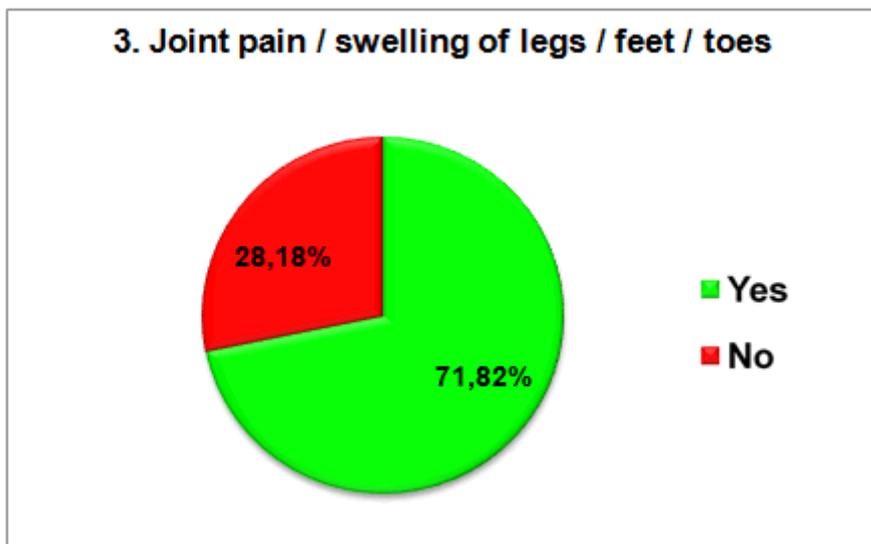
Gardening	59 respondents
Visit to the forest	73 respondents
Visit to the park	22 respondents
Animal contacts with horse, dog, cat etc.	50 respondents
Outdoors activities	71 respondents
Other	37 respondents



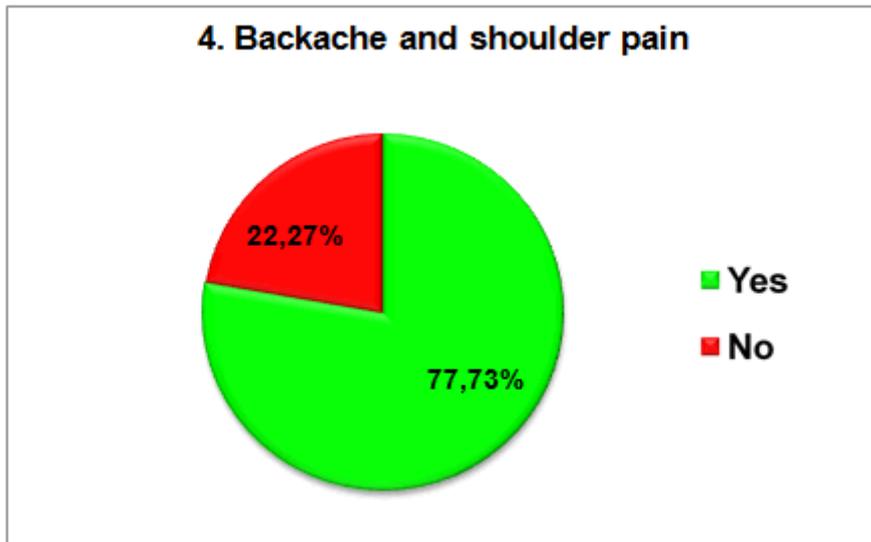
203 of 220 respondents noted **fatigue, loss of stamina, lack of endurance/fitness**, 17 of the respondents didn't remember those symptoms.



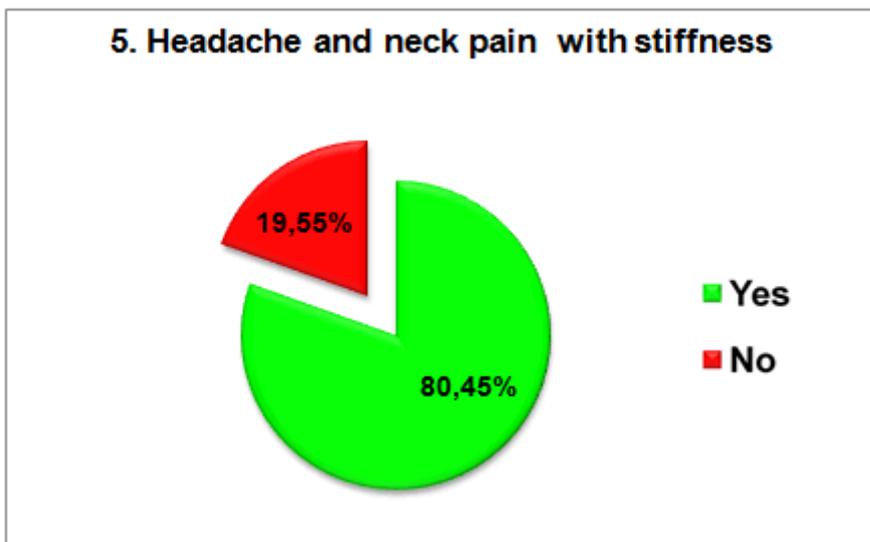
157 of 220 respondents noted **joint pain / swelling of arms/ hands/ fingers**. 63 of the respondents didn't note these symptoms.



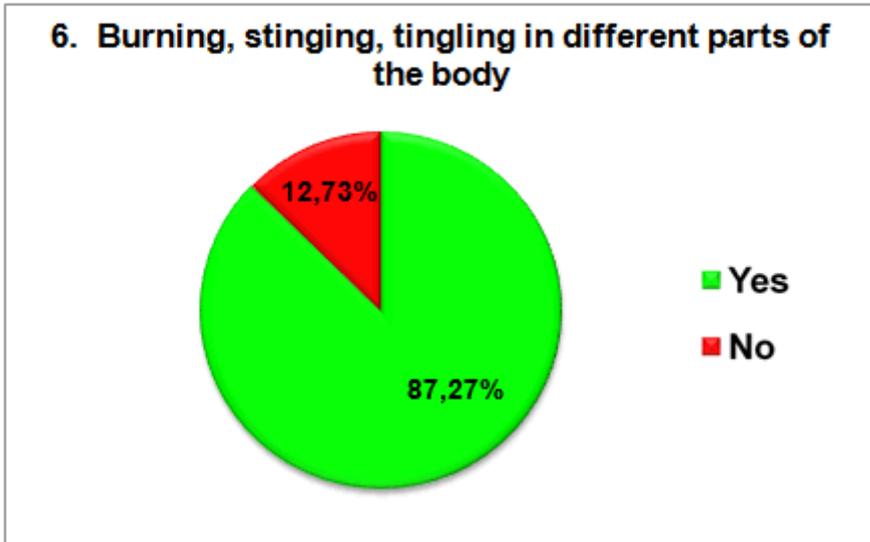
158 of 220 respondents noted **joint pain / swelling of legs / feet / toes**. 62 of the respondents didn't note these symptoms.



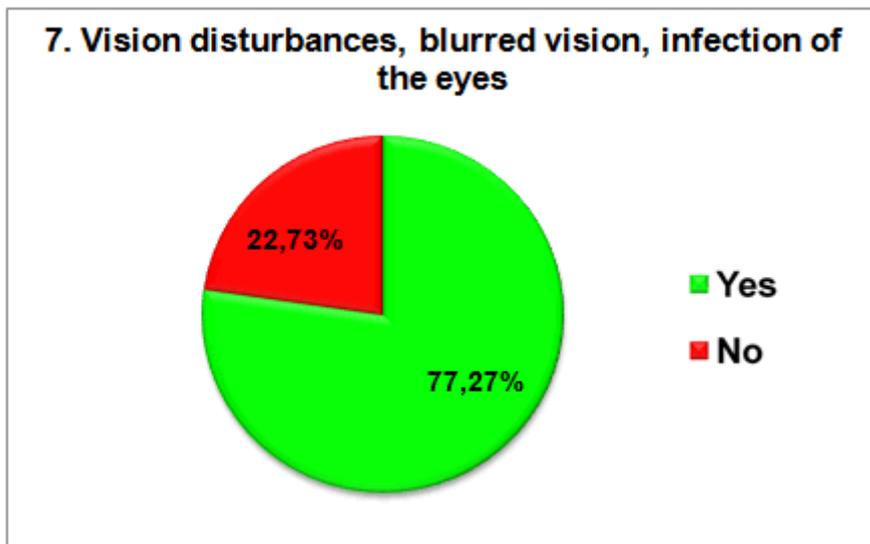
171 of 220 respondents had **backache and shoulder pain**. 49 of them didn't have those symptoms.



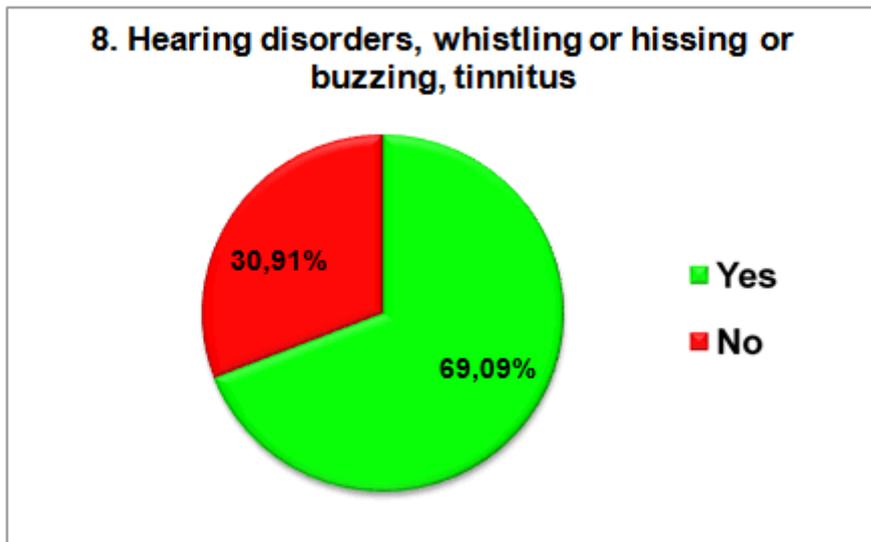
177 of 220 respondents had **headache and neck pain with stiffness**. 43 of them didn't have these symptoms.



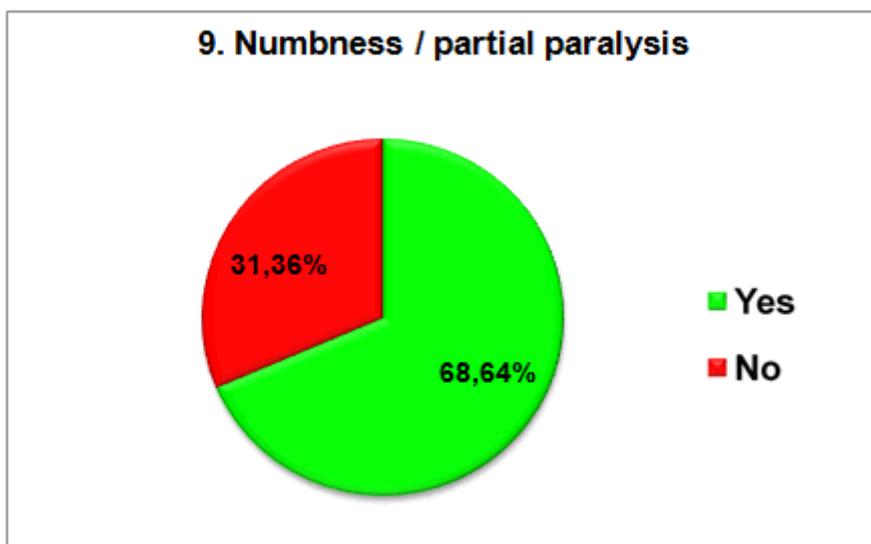
192 of 220 respondents had **burning, stinging, tingling in different parts of the body**. 28 of them didn't have these symptoms.



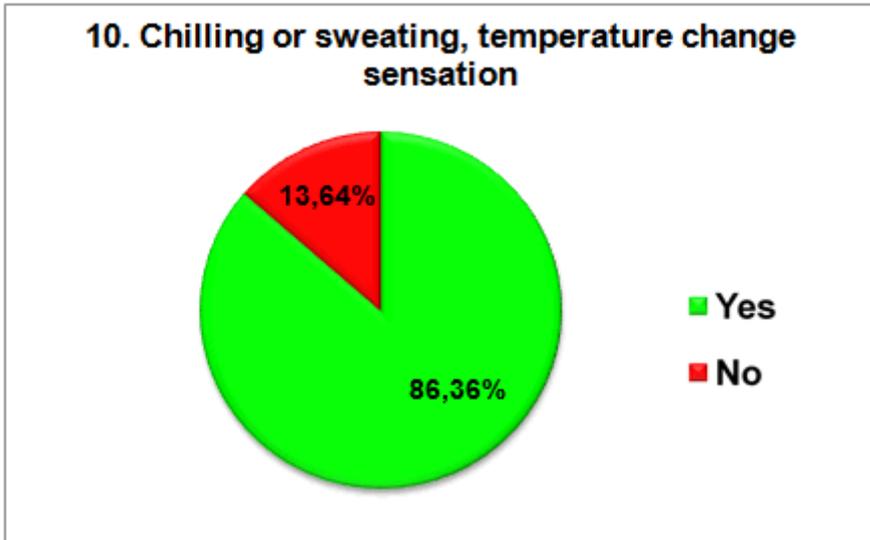
170 of 220 respondents had **vision disturbances, blurred vision, infection of the eyes**. 50 of them didn't have these symptoms.



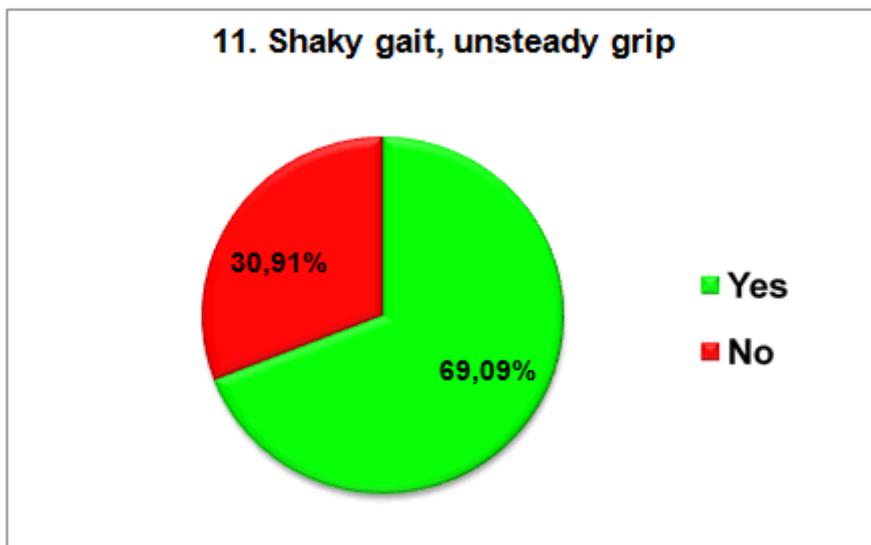
152 of 220 respondents noted **hearing disorders, whistling or hissing or buzzing, tinnitus**. 68 of this group didn't remember those symptoms.



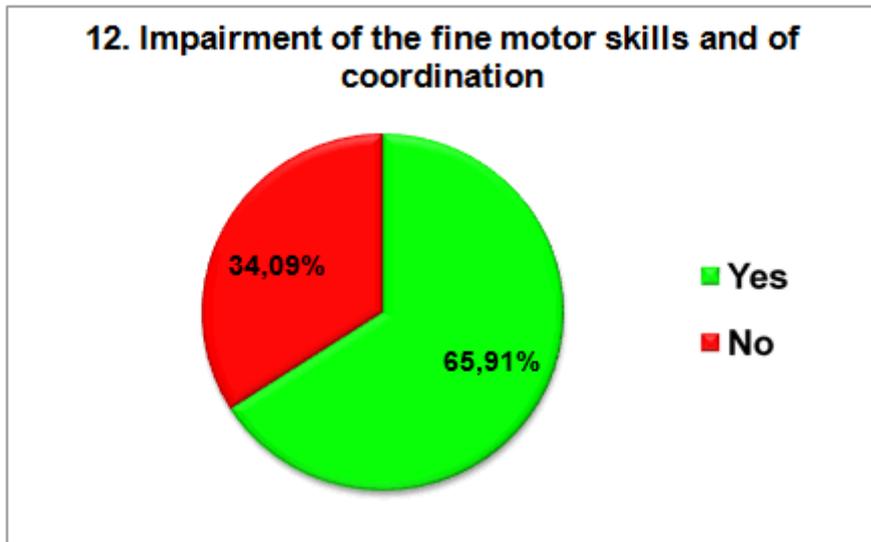
151 of 220 respondents noted **numbness / partial paralysis**, 69 respondents didn't note those symptoms.



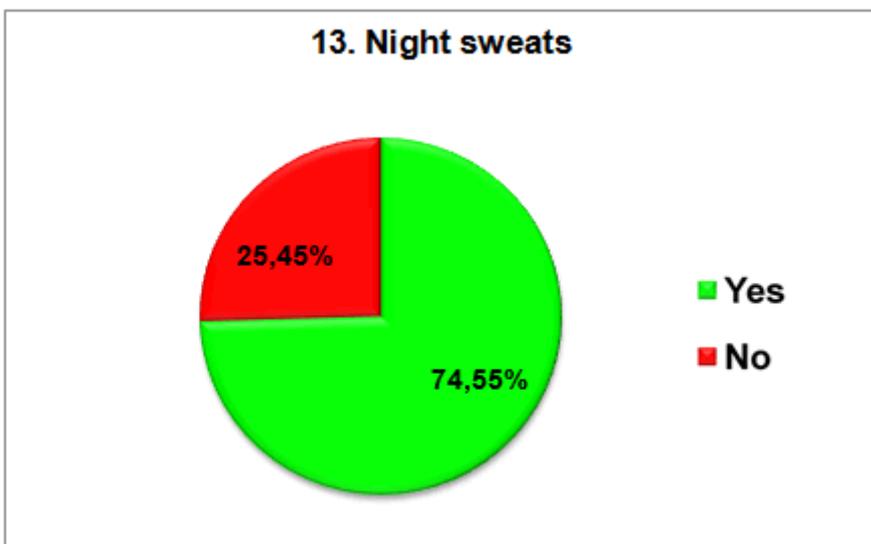
190 of the 220 respondents had **chilling or sweating, temperature change sensation**. 30 of them didn't have these symptoms.



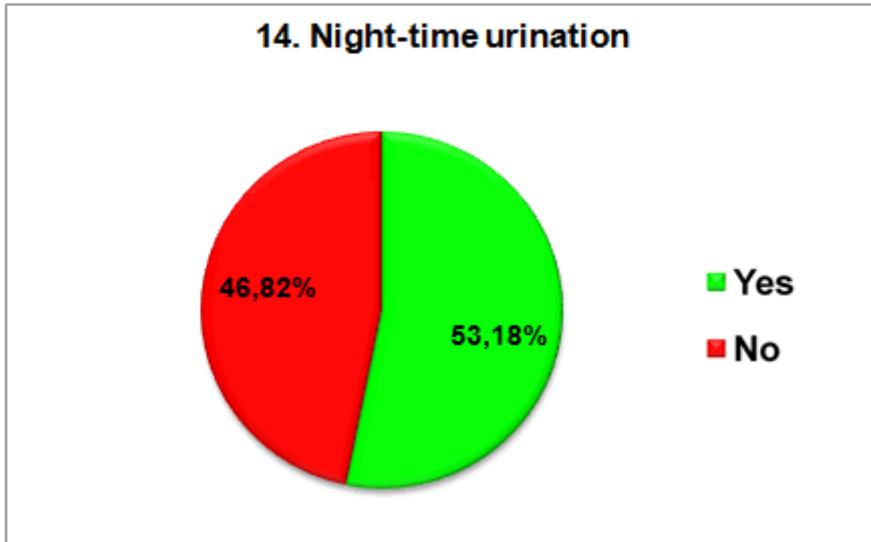
152 of 220 respondents had **shaky gait, unsteady grip**. 68 of them didn't have these symptoms.



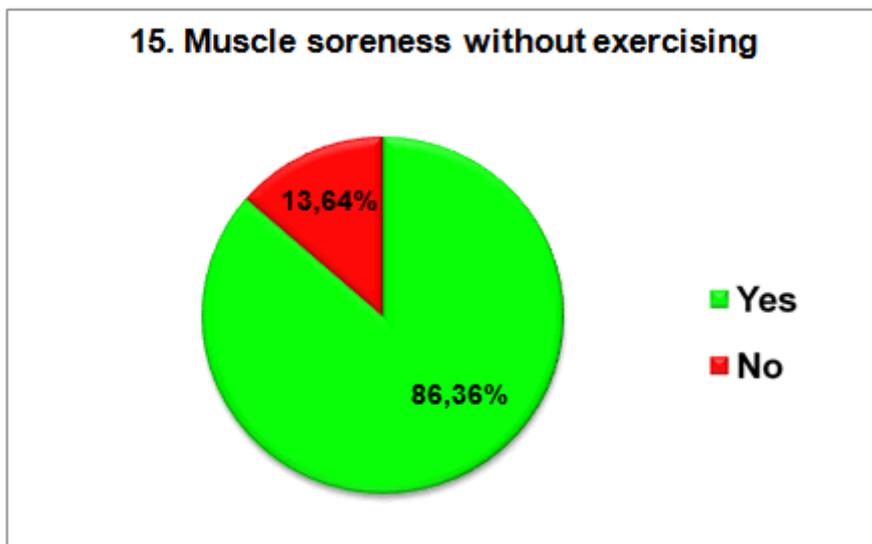
145 of the 220 respondents had **impairment of the fine motor skills and of coordination**. 75 of them didn't have these symptoms.



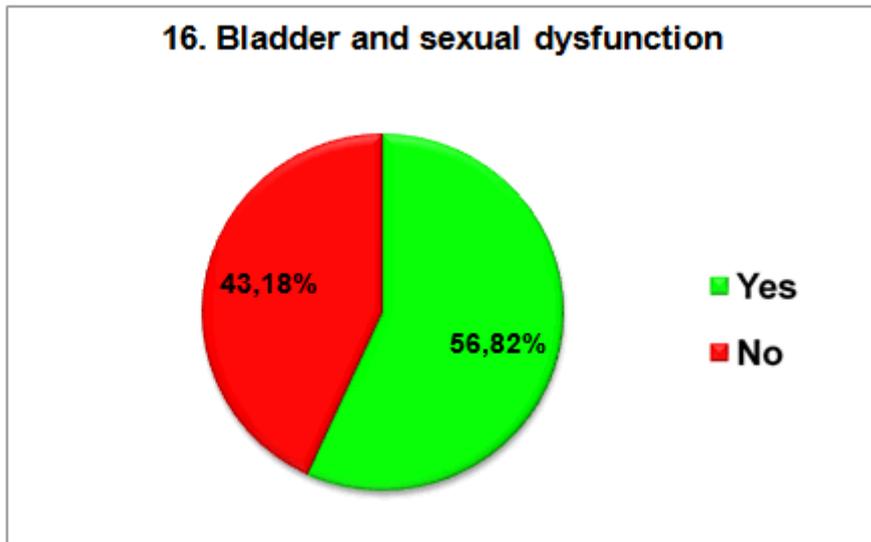
164 of 220 respondents had **night sweats**. 56 of them didn't have this symptom.



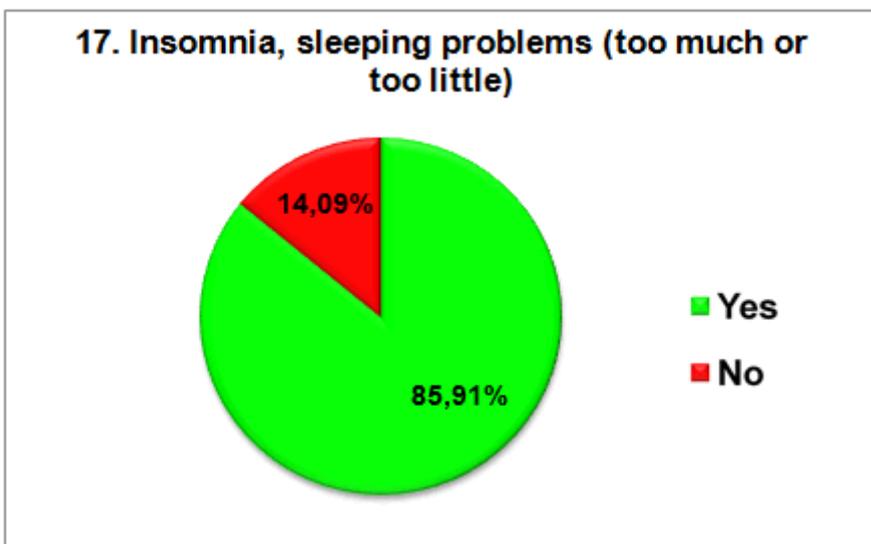
117 of 220 respondents had **night-time urination**. 103 of them didn't have this symptom.



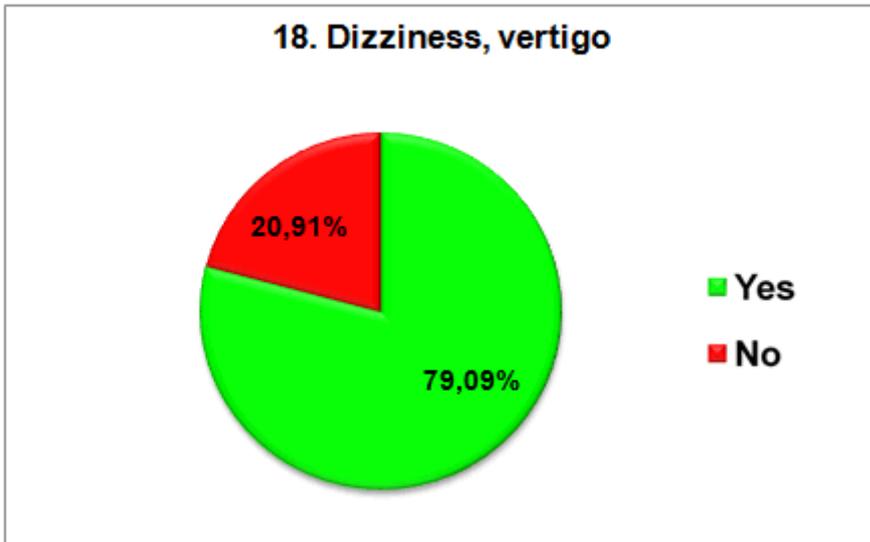
190 of 220 respondents had **Muscle soreness without exercising**. 30 of them didn't have this symptom.



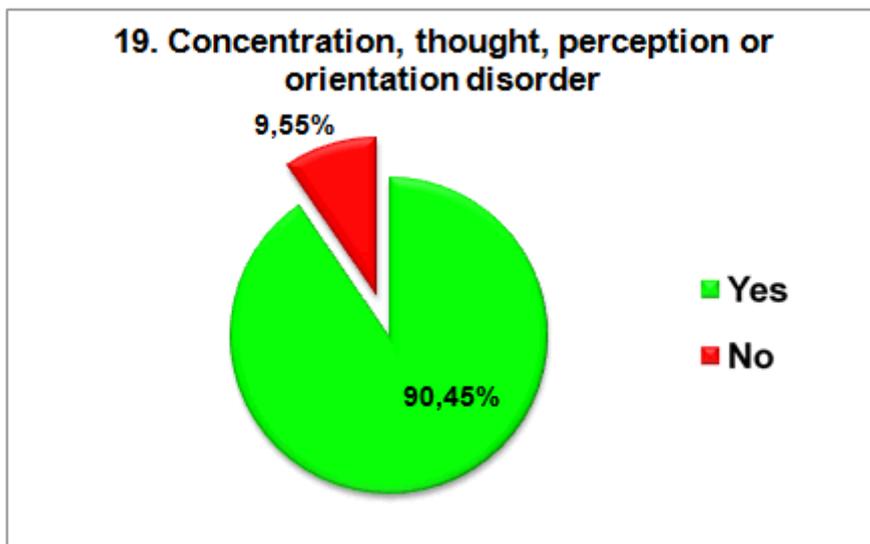
125 of 220 respondents had **bladder and sexual dysfunction**. 95 of them didn't have these symptoms.



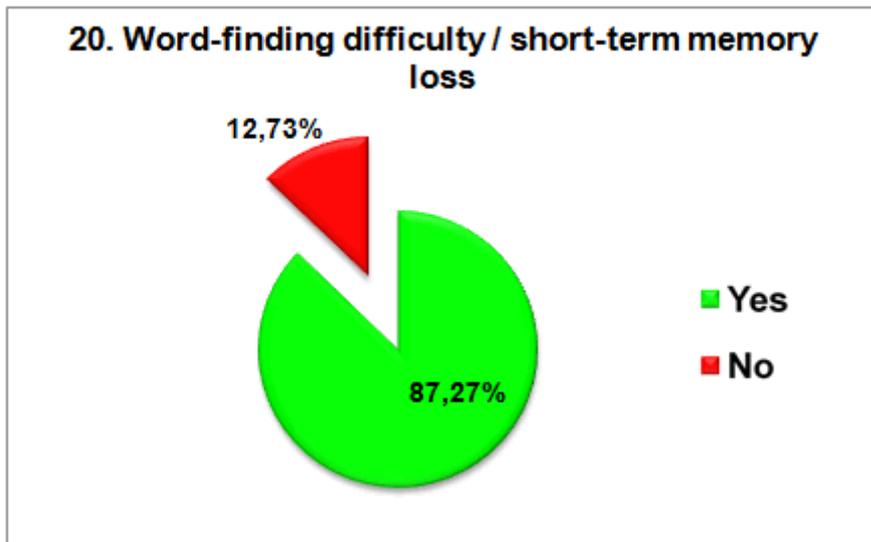
189 of 220 respondents had **insomnia, sleeping problems (too much or too little)**. 31 of them didn't have these symptoms.



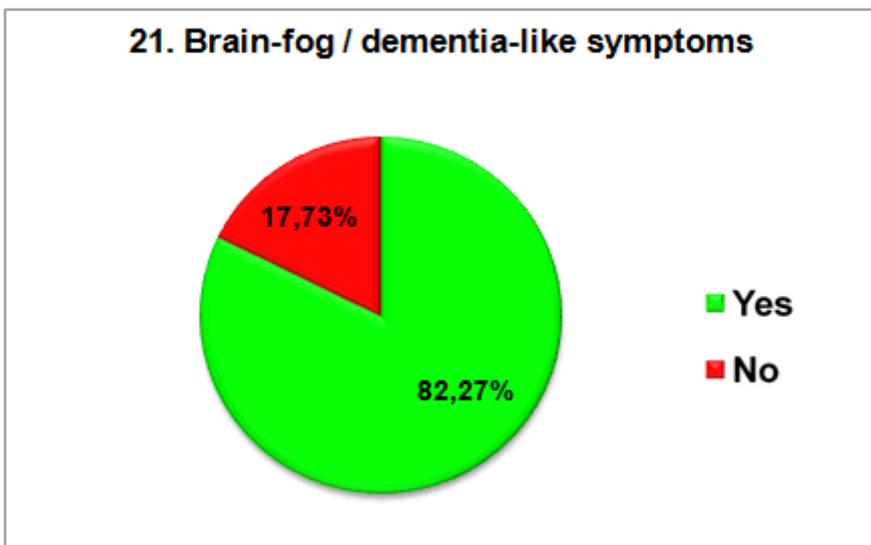
174 of 220 respondents had **dizziness and vertigo**. 46 of them didn't have these symptoms.



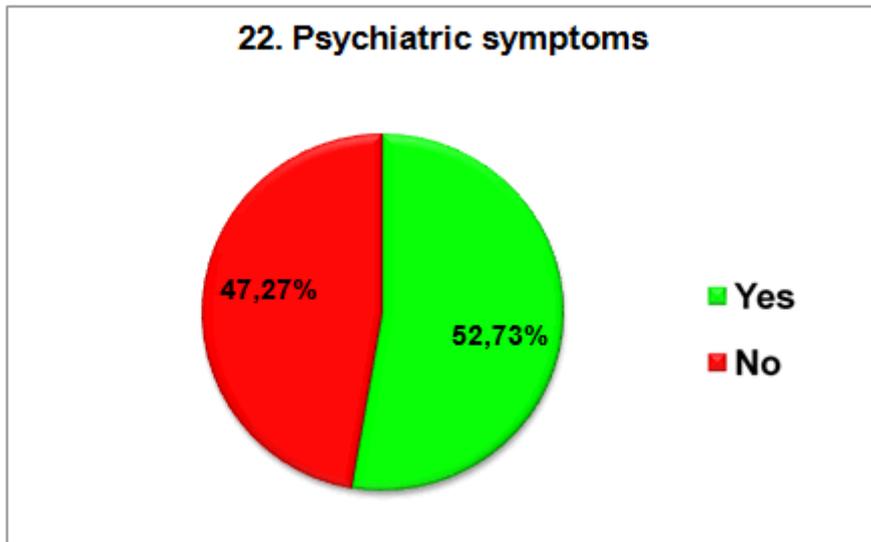
199 of 220 respondents had **concentration, thought, perception or orientation disorder**. 21 of them didn't have these symptoms.



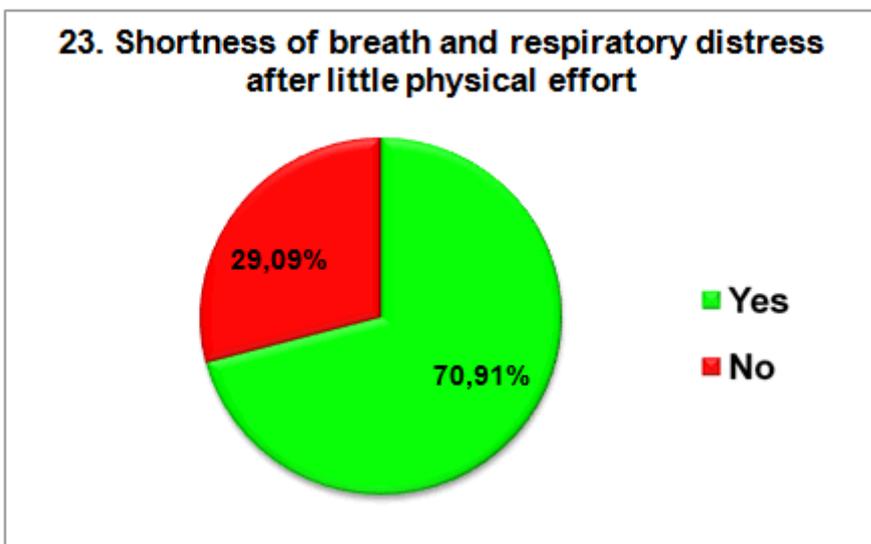
192 of 220 respondents had **word-finding difficulty / short-term memory loss**. 28 of them didn't have these symptoms.



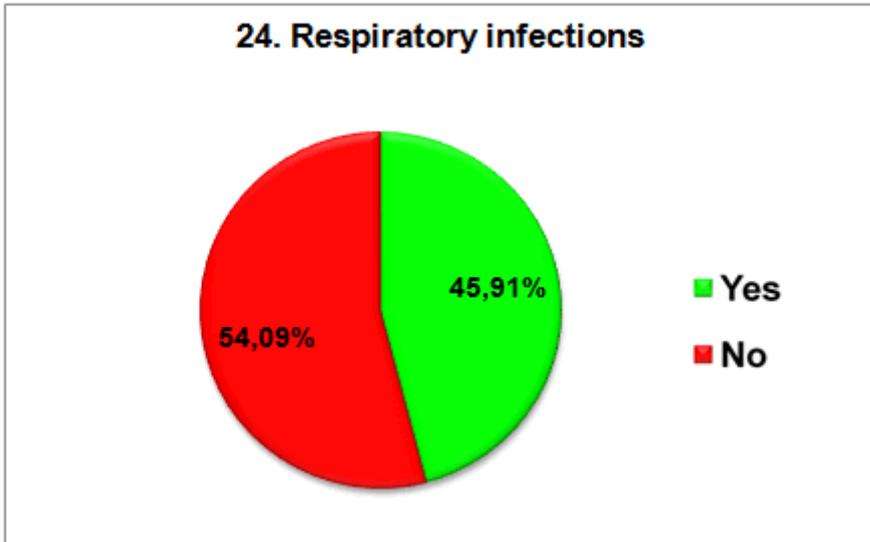
181 of 220 respondents had **brain-fog / dementia-like symptoms**. 39 of them didn't have these symptoms.



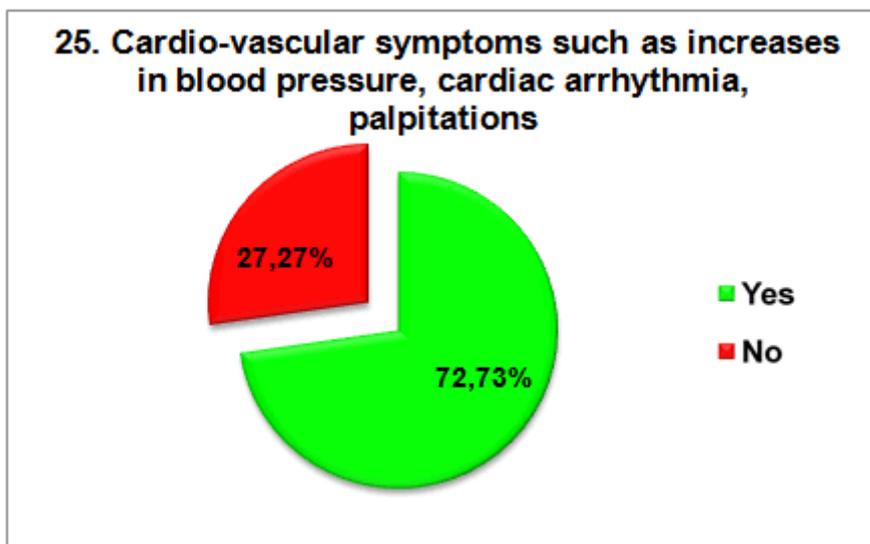
116 of 220 respondents had **psychiatric symptoms**. 104 of them didn't have those symptoms.



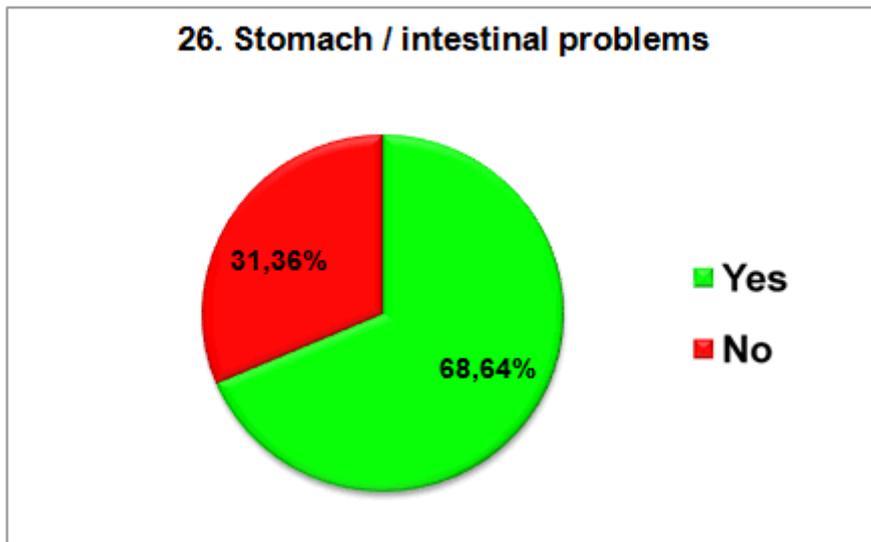
156 of 220 respondents had **shortness of breath and respiratory distress after little physical effort**. 64 of them didn't have these symptoms.



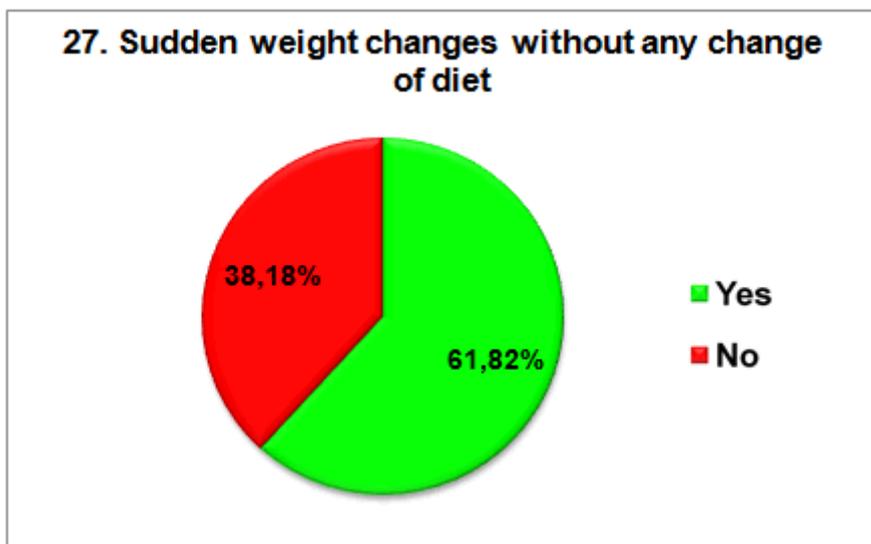
101 of 220 respondents had **respiratory infections**. 119 of them didn't have these symptoms.



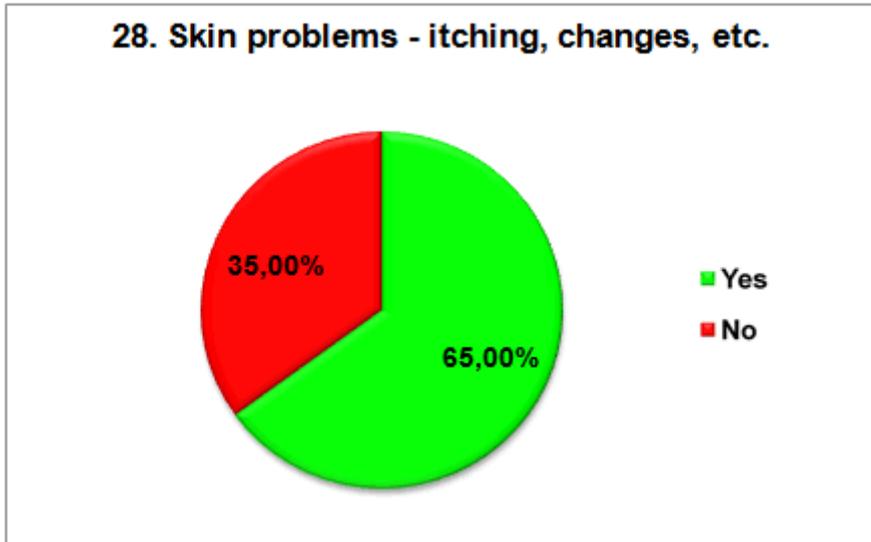
160 of 220 respondents had **cardio-vascular symptoms such as increases in blood pressure, cardiac arrhythmia, palpitations**. 60 of them didn't have these symptoms.



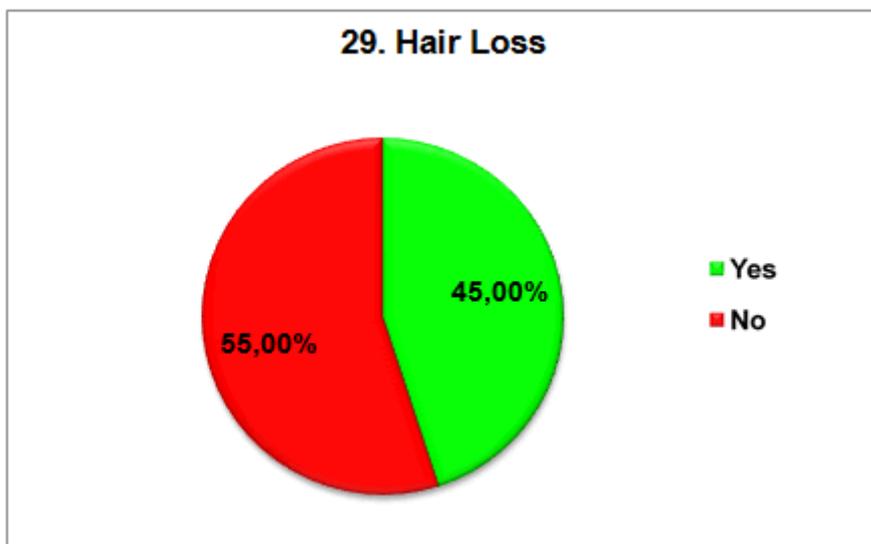
151 of 220 respondents had **stomach / intestinal problems**. 69 of them didn't have these symptoms.



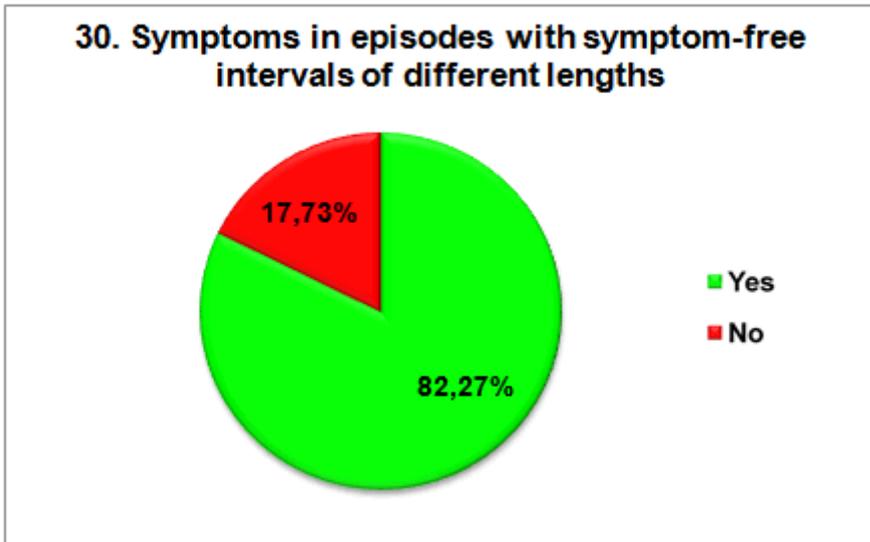
136 of 220 respondents had **sudden weight changes without any change of diet**. 84 of them didn't have these symptoms.



143 of 220 respondents had **skin problems - itching, changes, etc.** 77 of them didn't have these symptoms.



99 of 220 respondents had **hair loss.** 121 of them didn't have this symptom.



181 of 220 respondents had **symptoms in episodes with symptom-free intervals of different lengths**. 39 of them didn't have these symptoms.