

## **How to evaluate the influences of organic food on the whole human being? Experiences with a convent study.**

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## What do we know about the health influences of organic food?

“Most studies have compared the effect of organic and conventional fertilizers on the nutrient content of the produce, and not the effect of the production system as a whole.

Simply measuring the concentrations of the various nutrients...by no means reflect the quality of the food, *per se*.

Even if a production method does not alter the nutrient content of the produce, this does not mean that other important parameters, such as bioavailability, remain the same as well.”

Magkos et al., 2003

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What kind of quality concept do we have?

Farm level:

Single practises, or the farming system as a whole?

Food level:

Single nutrients, or quality as a whole?

Single foodstuffs, or the diet as a whole?

Consumer level:

Single physiological parameters, or the human being as a whole?

Process quality – ethical, social and ecological dimensions of production

Produce quality – contents of nutrients, poisons and their availability

Food quality – relation to the human being as a consumer

Who is the human being? A healthy body? A satisfied soul? A powerful mind?

What we have to measure, when we want to evaluate the quality of organic food?

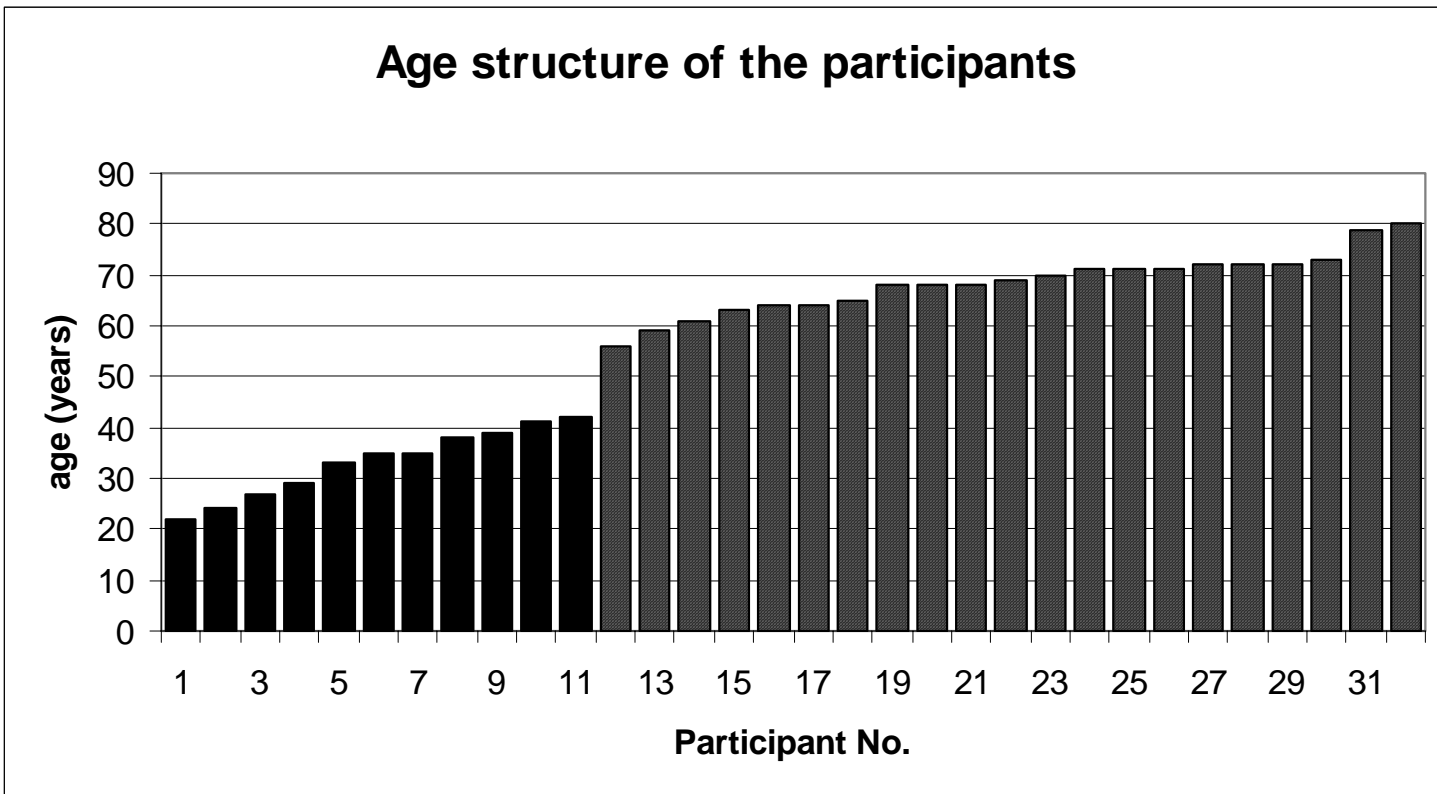
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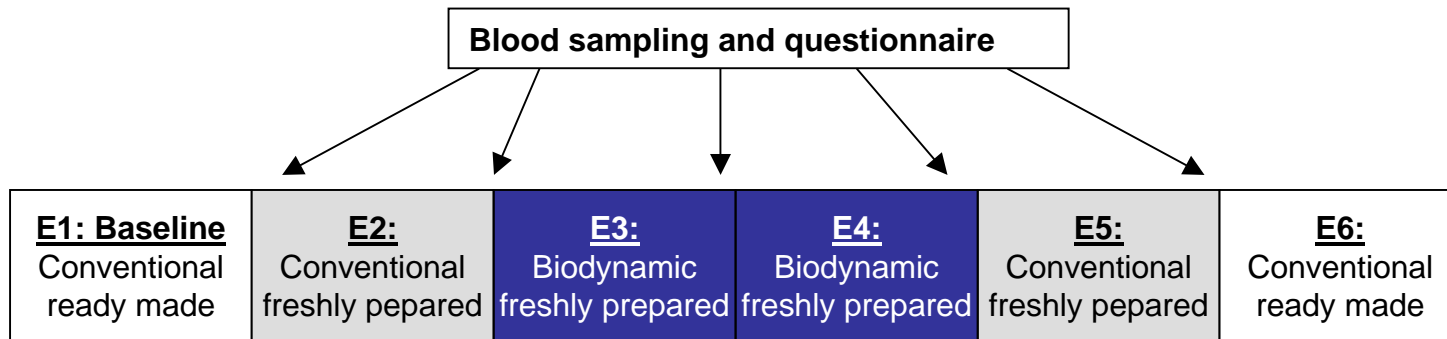
## ‘The convent study’

Carried out in 2002 in a catholic women’s convent in Germany

Probands: 32 nuns



## ‘The convent study’



Each period lasted for two weeks

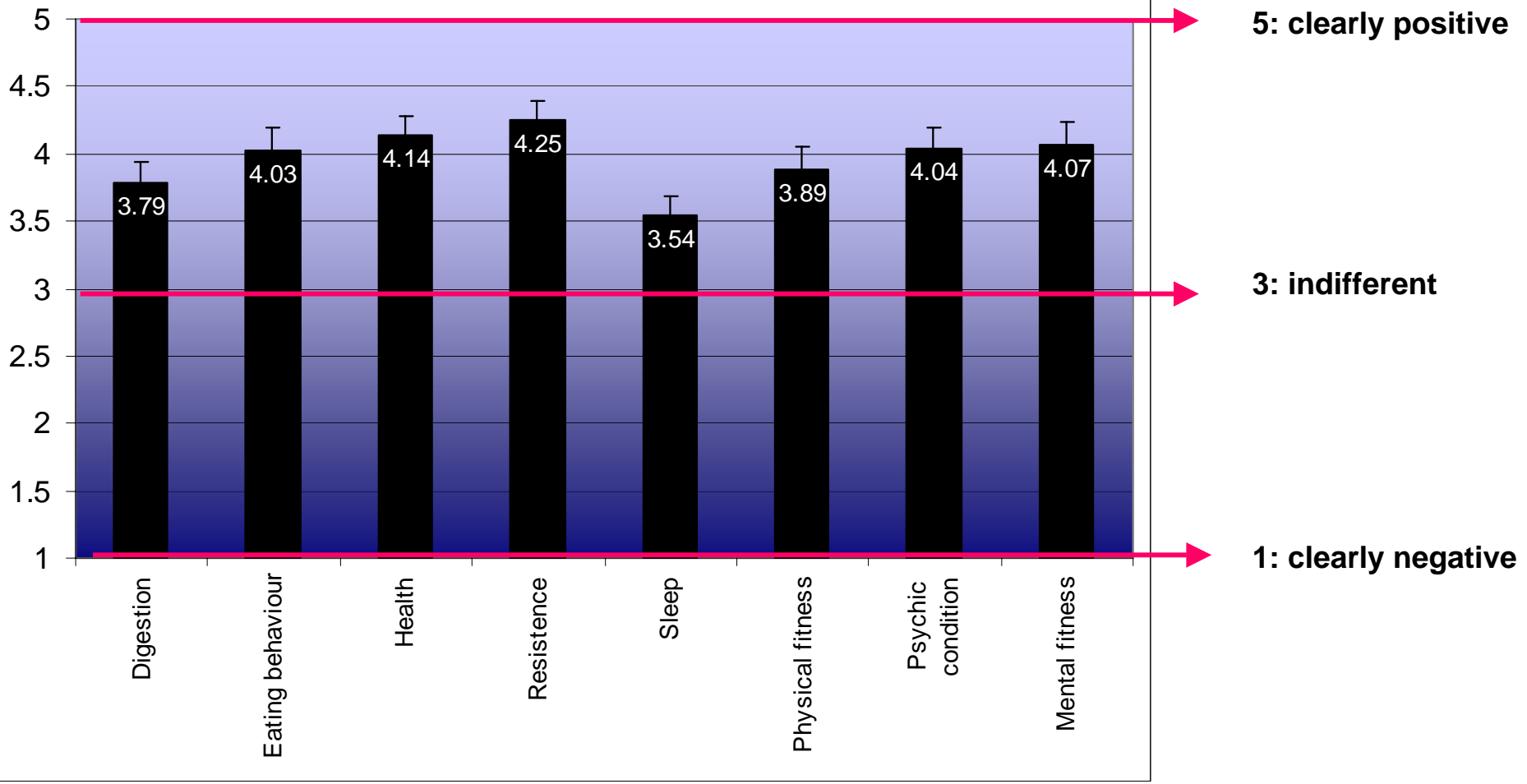
Food:

‘Conventional’ originated from non-certified production

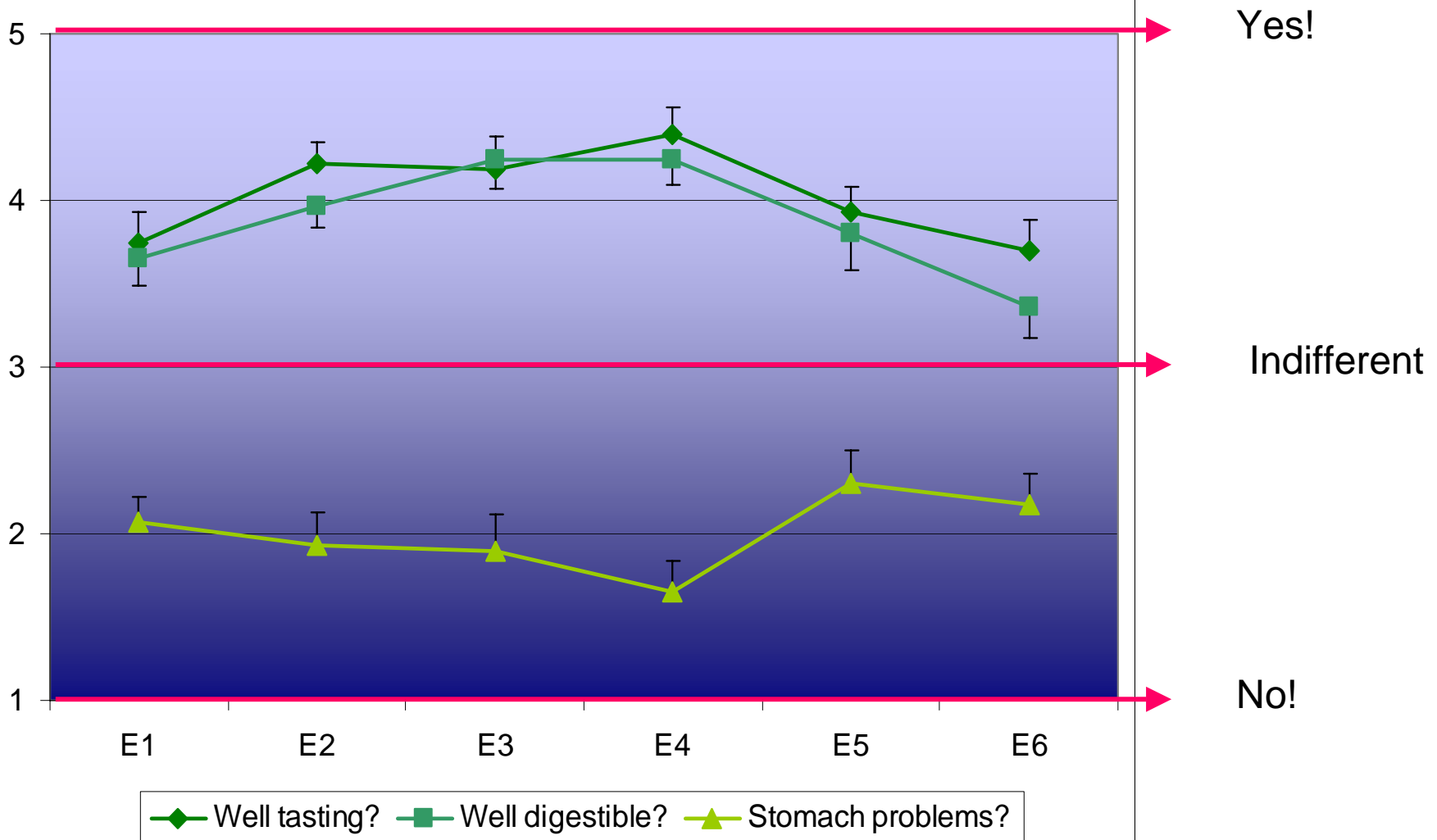
‘biodynamic’: 85% from biodyn.; 15% from organic production



## Expectations towards the biodynamic diet

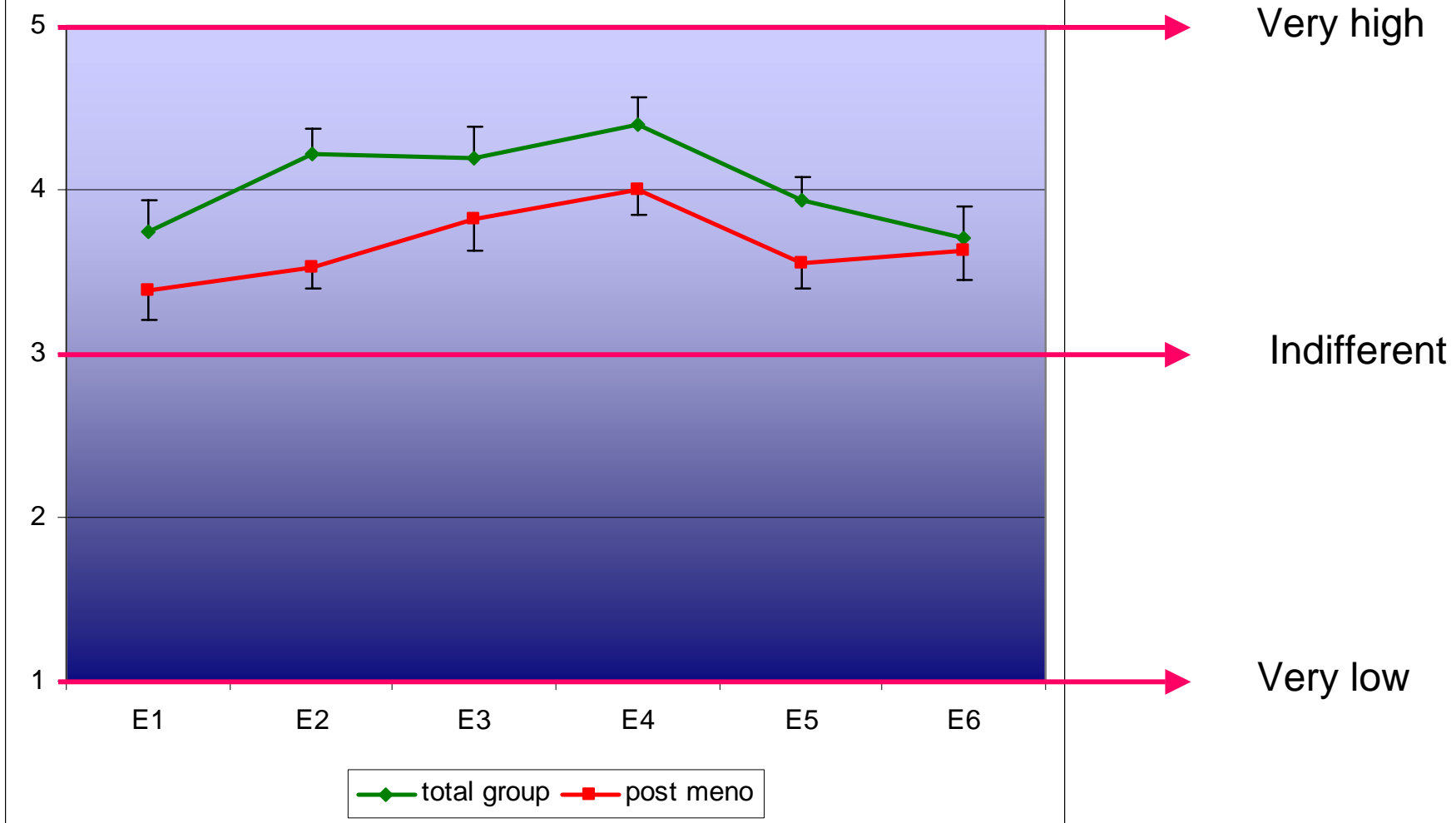


# Food quality, experienced by the probands





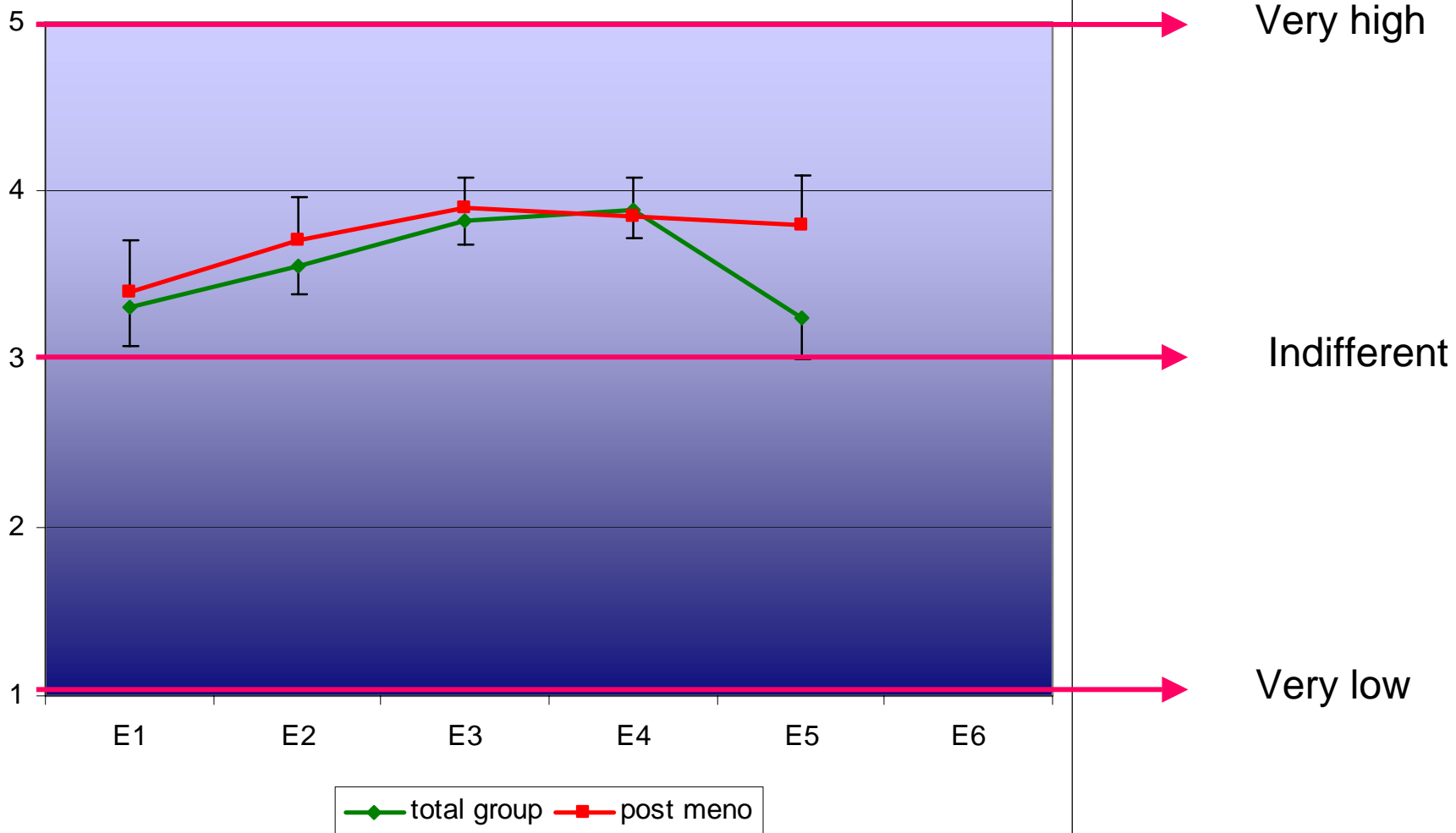
### How would you range your health in the past 2 weeks?





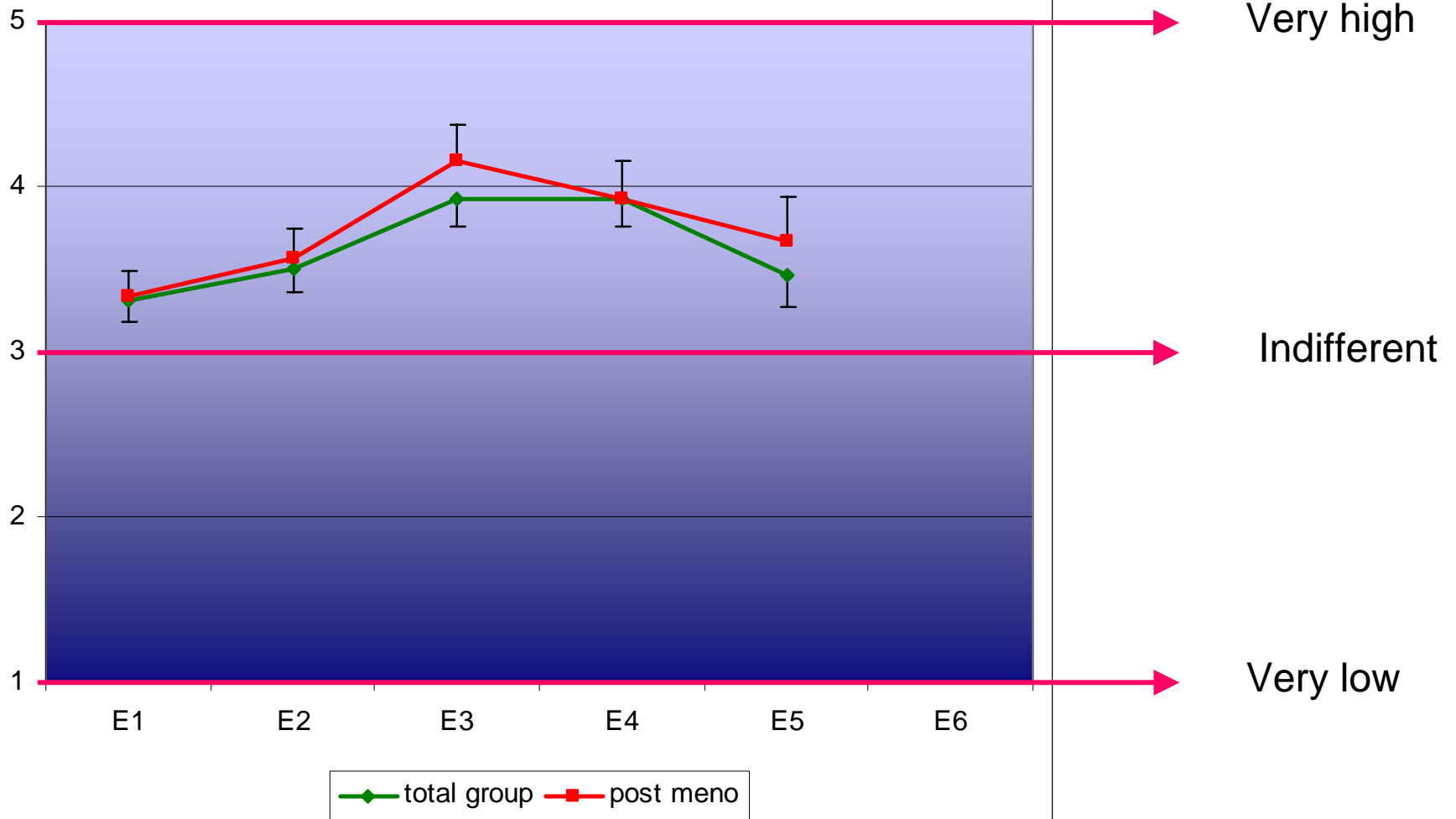


### How would you range your physical fitness in the past 2 weeks?



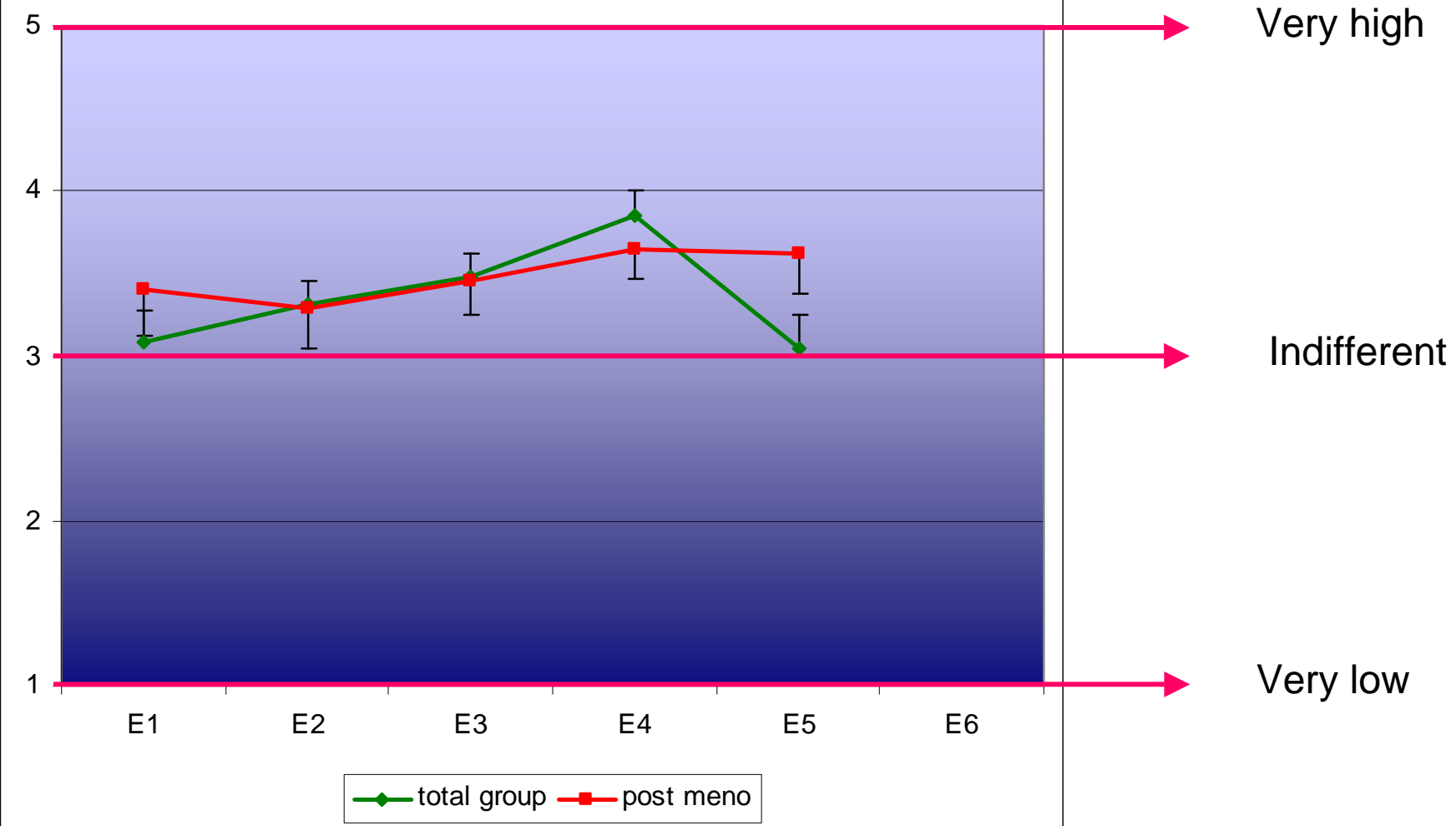


### How would you range your psychic fitness in the past 2 weeks?



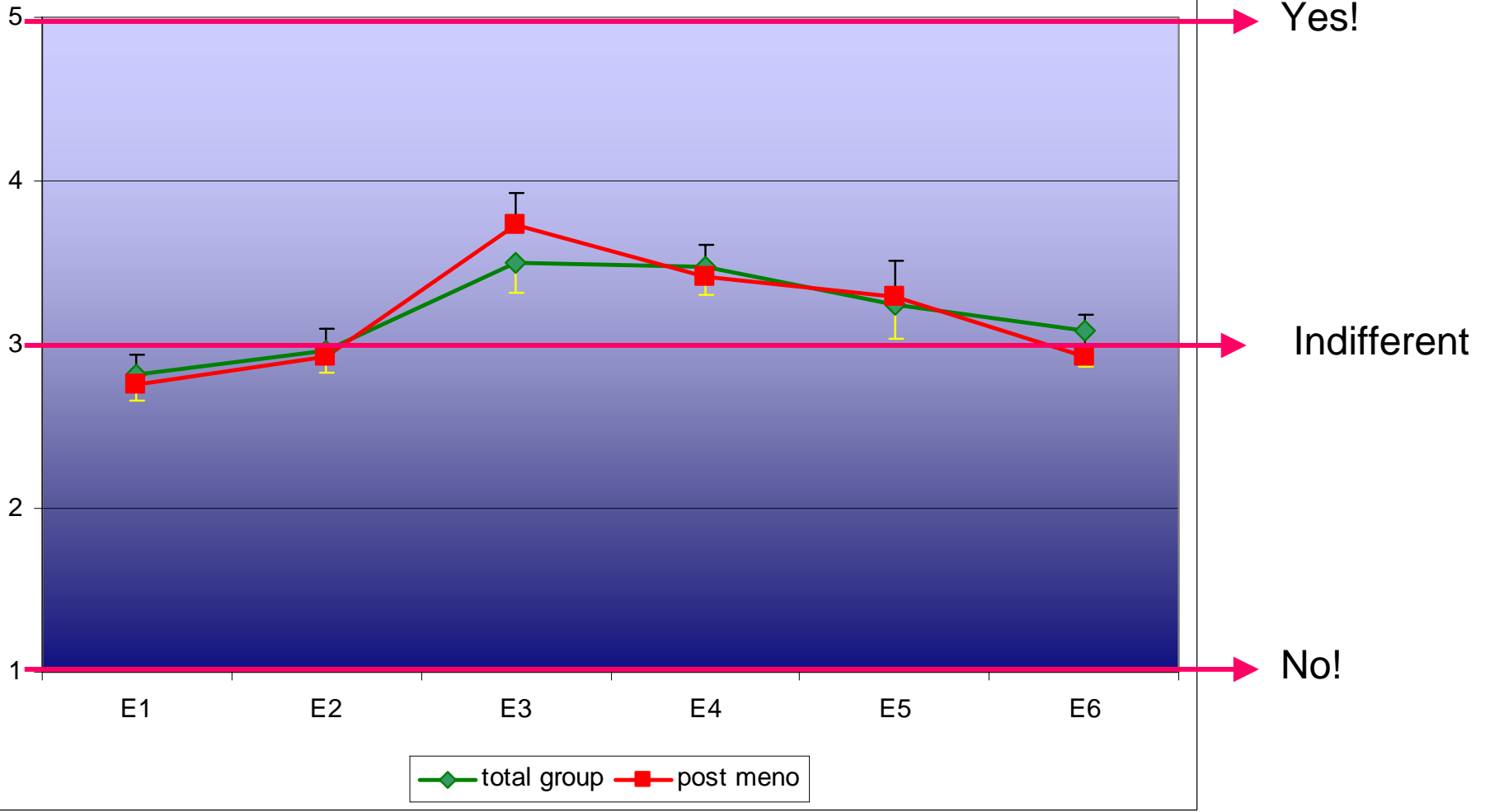


### How would you range your mental fitness in the past 2 weeks?



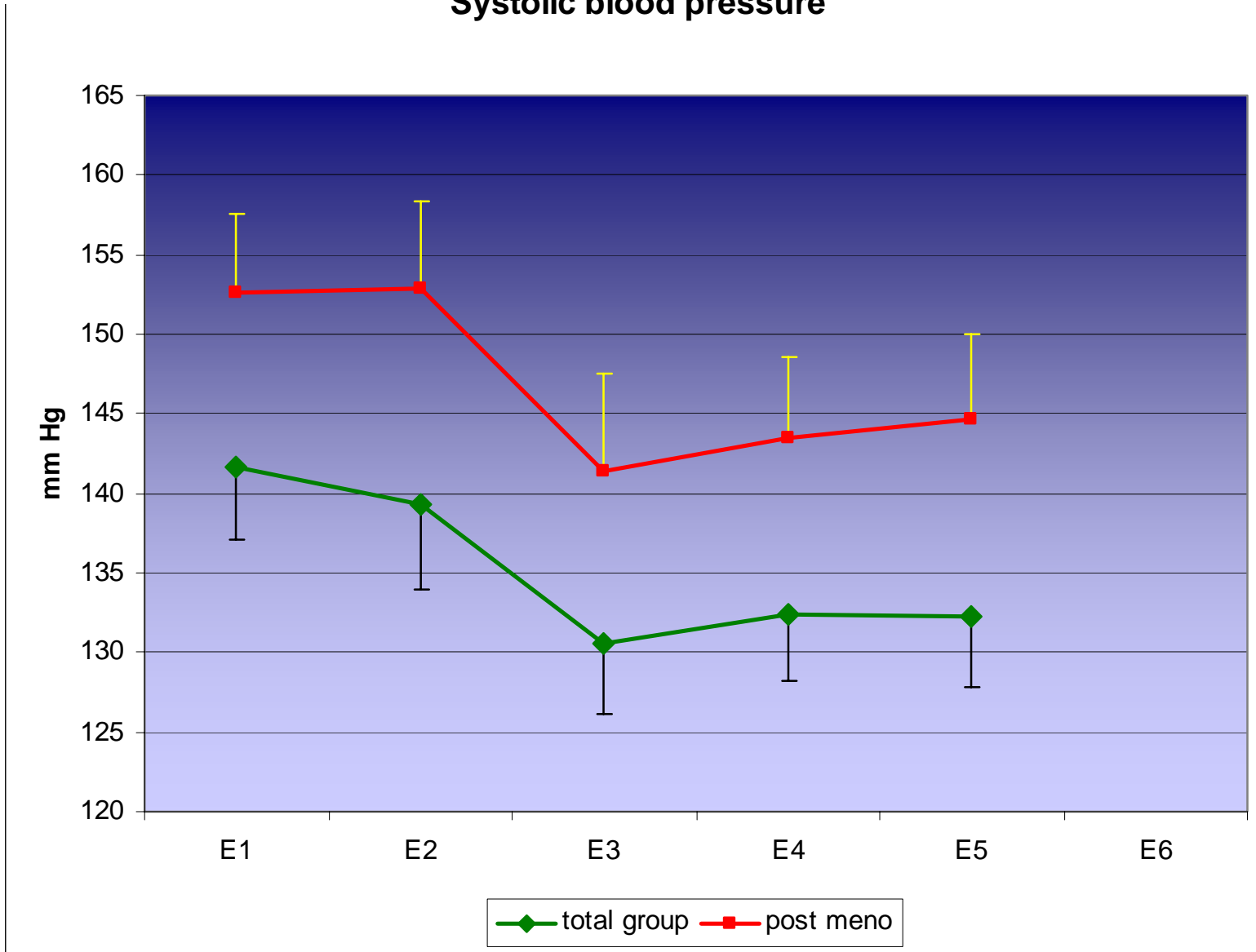


### Did you feel relaxed in the past two weeks?



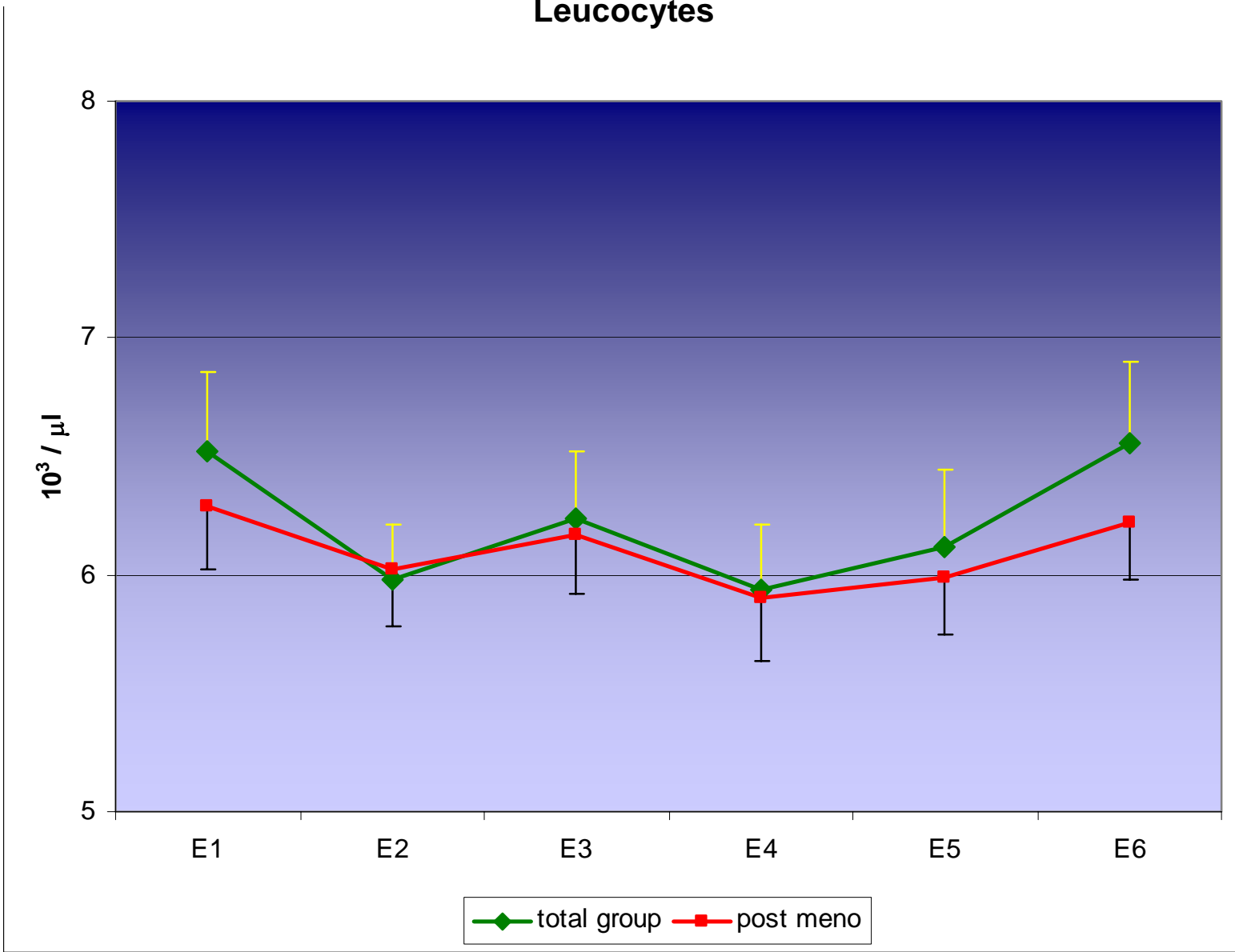


## Systolic blood pressure



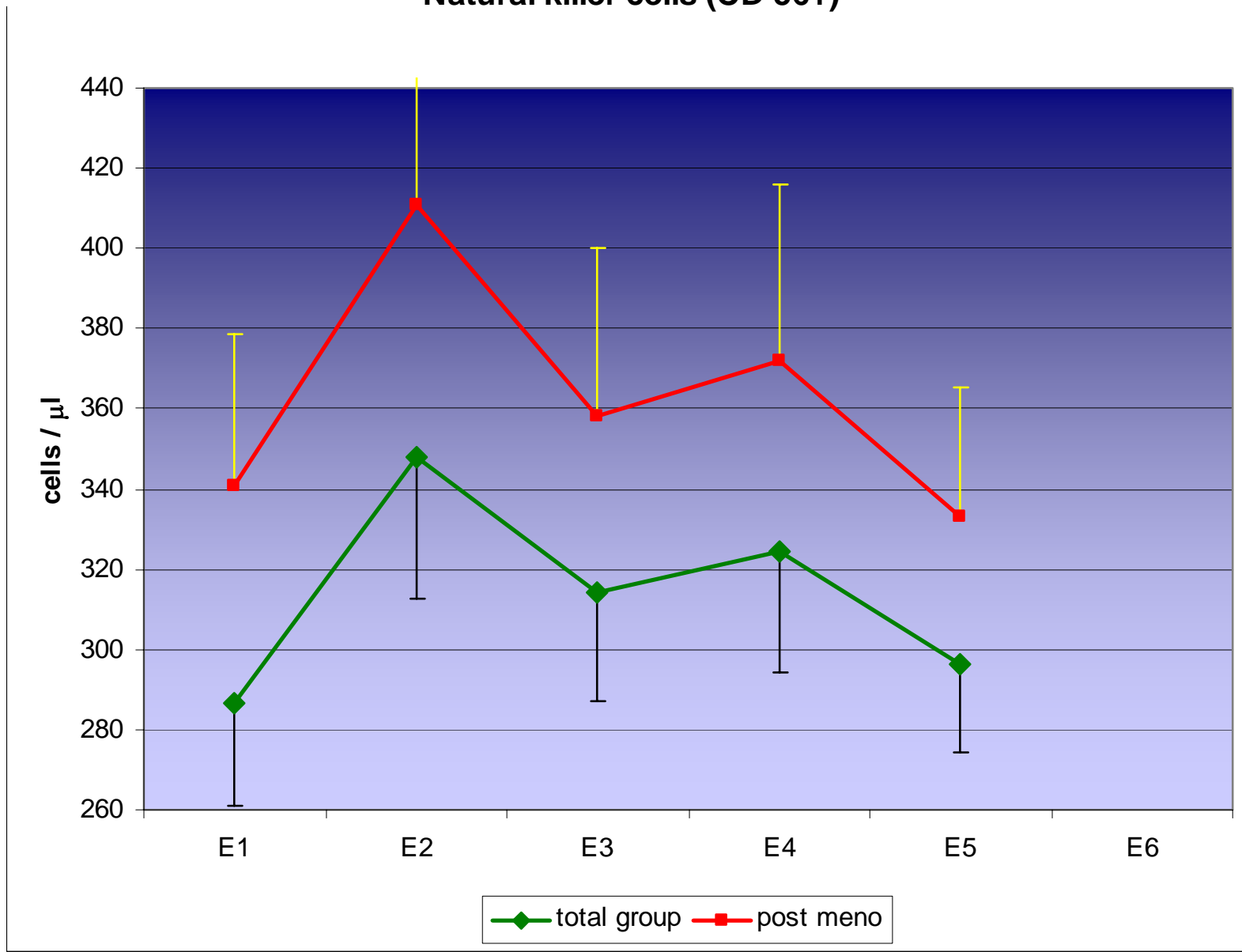


# Leucocytes



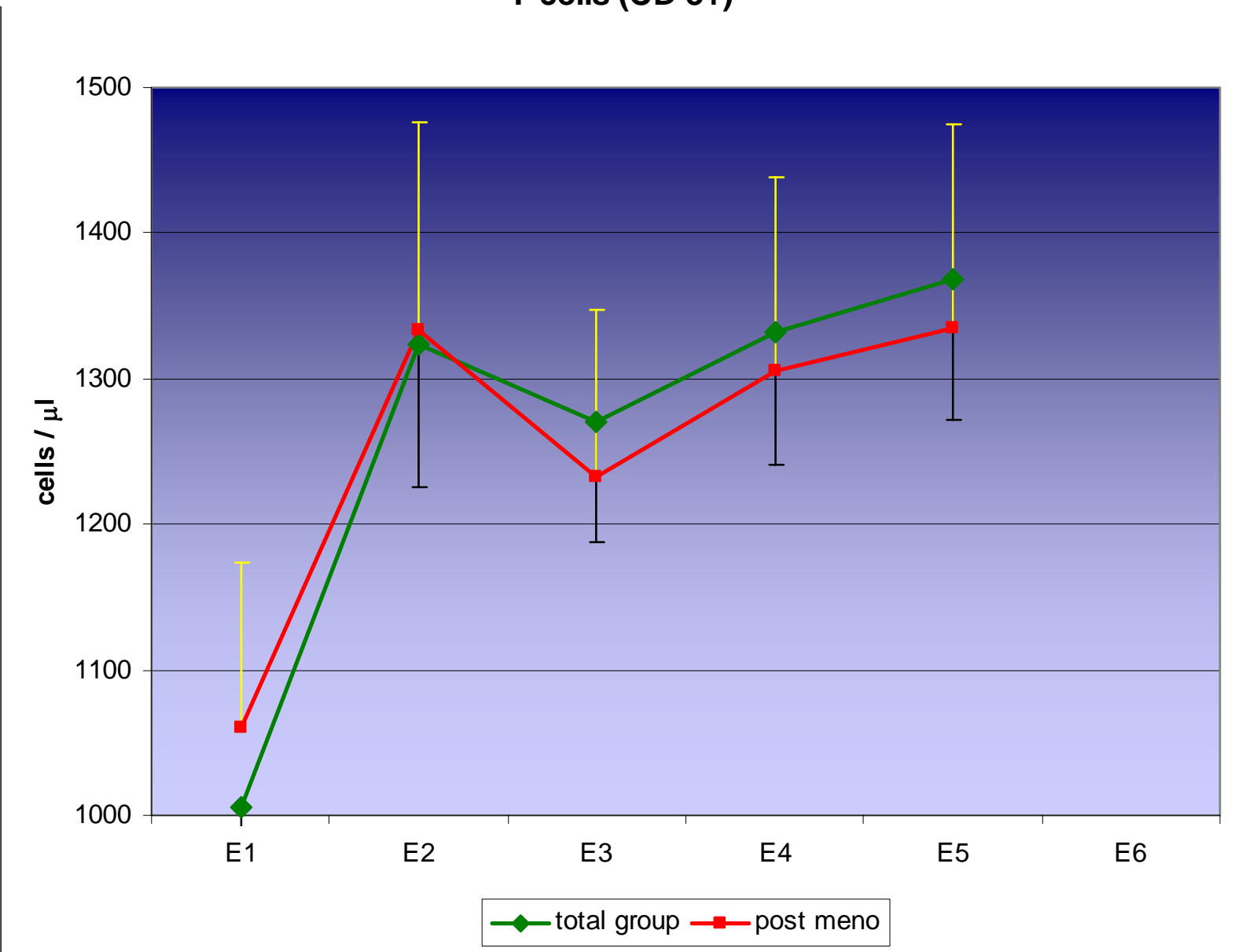


### Natural killer cells (CD 56+)





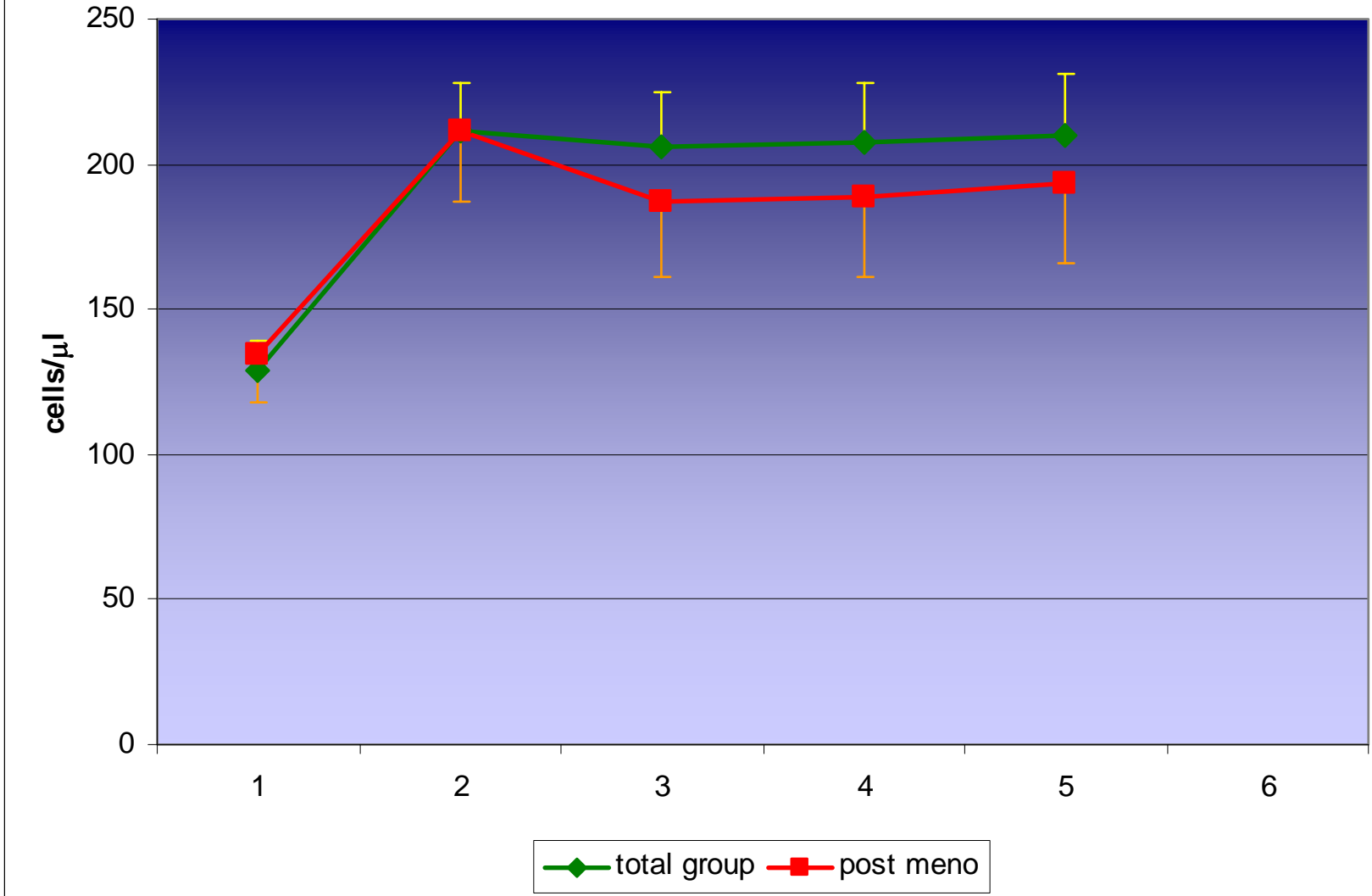
### T-cells (CD 3+)







### B-cells (CD19+)





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## Discussion I

Main problems of the convent study:

It was too short.

Yes, it was too short

The diet, investigated was too global.

What do we want to know?

The study had no control group

It has a control by the baseline measurements. But anyhow: yes, a real control is missing. It would have been too expensive and the probands group would have been too small.

The study was not double-blinded. ....

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## Discussion II:

### The study was not double-blinded...

This study shows an influence of the diet on personally experienced well-being

would this effect have taken place in a blinded study?

- if not, would this be a proof, that the well-being, experienced in this study, relies on a certain belief in organic food?
- or has it more to do with choice and ethics, which can only take place, when a person is able to choose (e.g. not blind)?
- if yes, ...?

This study shows, that there are only few influences of the biodynamic diet on physiological parameters.

If these influences would have been more pronounced in a blinded study:

Which method would be closer to the reality?

What we did not find in the non-blinded study – why should we find it with a double-blind trial?

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The summarised report about a scientific issue contains always but a very small part of the researcher's experiences, and not the most important part... It is as if only the words of a song are given but not the melody.

Ludwik Fleck.

If we teach ourselves to listen to the melody of research, I guess, a methodological pluralism will appear to be necessary, even essential...

Thank you.

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