

BACKGROUND Hello!! As you can guess I am not yet born but I hear everything my parents say. I don't understand the meaning but I can repeat everything.

I understood two important things:

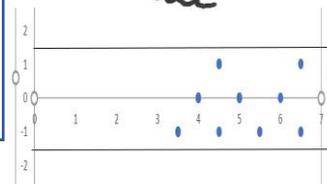
- 1 - In a few years, it will be better not to have scoliosis
- 2 - The measurement of the prominences of the trunk is a fundamental assessment to discover it and follow the treatment.



Dad says that prominences are classically measured using a specific and quite expansive tool called scoliometer, but in recent years, many digital APPS for smartphones have been put on the market. The functions of these applications were already studied and it showed an excellent reliability. For this reason the subjects involved in the study were not patients but physiotherapists who participated in a training course and who accepted to have their trunk prominences measured by two assessors: an expert and an inexperienced one.

The **AIMS** of the trial was:

- 1) Checking consistency of the measurements taken with the scoliometer and the smartphone adapted with the tweezers.
- 2) Verification of the intra-operator reliability.
- 3) Verification of the inter-operator reliability.
- 4) Verification of the reliability of the measurements performed by an inexperienced assessor compared to the same measurements performed by an expert assessor. Statistical analysis was performed by a third operator, using Pearson's correlation index and Bland-Altman plot. (what is it??)



CONCLUSION

Using tweezers to adapt a smartphone and making it suitable to measure the prominences of a trunk that has a scoliosis is a procedure having two specific advantages:

- The tweezers can be applied to any type of smartphone and overcome the problem of the size and the design of any of it.
- The tweezers are extremely cheap and easily available.



Michele Romano, Alessandra Negrini - ISICO - Italy TWEEZERS AS A FINAL SOLUTION FOR THE ASSESSMENT OF ANGLE TRUNK ROTATION. RELIABILITY STUDY COMPARED WITH THE GOLD STANDARD TOOL.

Attention!! Mom warns that to use the smartphone like a scoliometer, it is necessary to modify the shape of the case. Some plastic supports have been developed but the shape of these tools is not always adequate to the size of all smartphones.



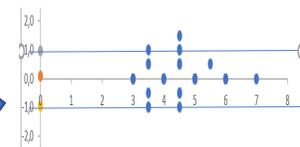
Otherways, why the tweezers?

The **RESULTS** showed a very good consistency using both statistical tests.

The Pearson's correlation Indices are:

- Inexperienced assessor using scoliometer and smartphone **0,737**
- Inexperienced assessor internal consistency **0,682**
- Expert assessor using scoliometer and smartphone **0,862**
- Expert assessor internal consistency **0,756**

For both Bland - Altman plots the systematic average error, is very close to 0 (0,08 - 0,12). All the points corresponding to the measures fell within area defined by +/- 2DS, with the exclusion of only one in plot 2 (on the right 😊)



Intraop. ----- Bland Altman ----- Interop

So Happy !!

