

REPORT

Validation of InBody720

InBody

1. Validation of “InBody” Bioelectrical Impedance Analysis by DEXA(Dual Energy X-ray Absorptiometry)

Research about human body Composition began during the 1940s in the laboratory of AR Behnke.

Body composition criterion methods are upon the model in which the body consists of two-component – Fat Free Mass, Fat Mass such as hydrodensitometry

The gold standard method of body composition is hydrodensitometry.

But this is not incongruent for using on fields (Hospital, Home and so on) because that needs space, equipments, trained observer and expensive.

Otherwise after 1980s BIA method fast widely spread using for Body composition measurement.

This method is based on four-component model like DEXA.

DEXA has been used to be measuring not only for body composition but also for bone density these days.

We tested validation of InBody by DEXA.

We conclude InBody is very accuracy, reliable, reproducible and useful device as body composition analysis.

Because Technologies (Segmental BIA, Multifrequency, 8-point Tactile electrodes) applied in InBody are the more advanced rather than traditional BIA.

2. Validation of InBody720

Date : 2000 ~ 2002

Where : Sanggye Paik Hospital, YongDong Severance Hospital, Yongin Severance Hospital

Methods

Subjects : n=731 (M = 343 F = 388)

Instruments : BIA(InBody720), DEXA(LUNAR DPX-L, Lunar Radiation, Wisconsin, USA)

Procedure

1. Before any measurement were made, subjects were in a 12-h fasting, no consumption of alcohol for 12h before measurement, no meal for 2h before measurement, no exercise and no shower in the day of the test and after void

2. Measurement of Height

Height was measured to the nearest 0.5cm by using a liner height scale.

3. Measurement of BIA.

- a. Subjects were measured wearing with t-shirt, short pants
- b. Measurer Input data (Age, Height, Sex)
- c. The Subject Stands upright stepping onto the foot electrodes.
- d. The Subject Grips the hand electrodes with his (her) arms held vertically.
- e. Measurer should be Check if the measurement is all right before the subject leave.

4. Measurement of DEXA

- a. All subjects were measured wearing with gown
- b. Whole body Scan take about 15min.

c. The subject lay supine on a comfortable table.

d. DEXA result sheet: See last page.

Result

Table 1. Characteristics of the subjects (total n=731)

	Male(Mean±SD)	Female(Mean±SD)
N	343	388
Age	39.8±17.5(5 ~ 88)	40.5±17.2(6 ~ 82)
Height	169.3±9.2(106.5 ~ 193)	156.4±7.7(113.6 ~ 176.5)
Weight	68.3±17.3(17.3 ~ 119.7)	54.7±10.0(20.1 ~ 90.9)
BMI	23.7±4.0(14.3 ~ 43.0)	22.3±3.8(14.0 ~ 35.4)

Table 2. Age

Age	Male	Female	Total
~ 17	20	27	47
18~29	90	104	194
30~39	63	67	130
40~49	61	63	124
50~59	52	64	116
60~69	35	43	78
70~	22	20	42
Total	343	388	731

InBody720 FFM

