



1997 to 2000 and 2003 to 2005 The Body Height and Body Weight of Preschool Children in Taipei City



Ting-yun Juang · Shwu-Huey Yang*

School of Nutrition and Health Sciences, Taipei Medical University, Taipei, Taiwan, ROC

Introduction

The purpose of this study was to evaluate the body height and weight of preschool children, aged from 3 to 6 years old, in Taipei City. We collect the data from 1997 to 2000 and 2003 to 2005 years to Taipei Medical University Hospital to inspect their health. And calculates body mass index (BMI) then try to compare the differences between 1997 to 2000 and 2003 to 2005.

Materials and methods

We collect preschool children's body heights and body weights from 1997 to 2000 and 2003 to 2005 years of Taipei Medical University Hospital to inspect their health. A total of 2102 and 3281 preschool, including 1122 (53.4%) and 1724 (52.5%) boys, 980 (46.6%) and 1557 (47.5%) girls. We measure the body height and body weight then calculates the BMI. And use SAS 8.2 to analyze the data.

Discussion

Although we can find the body heights have increased trend and the body weights, BMI have reduced trend in this study. This variations are normal in the standard of Department of Health, Executive Yuan, R.O.C. (DOH). It show that preschool children were growth fined in Taipei city.

Results

Table 1. Compared with mean of body heights by sex and age group

age	1997-2000				2003-2005				1993-96 Taiwan ¹
	N	Mean±SD	medium	mode	N	Mean±SD	medium	mode	Mean±SD
male									
3	96	100.0±4.0 ^b	99.5	98.0	291	100.9±5.6 ^c	100.5	100.0	-
4	275	106.6±4.9 ^b	106.2	105.0	592	106.9±5.3 ^c	106.5	105.0	107.7±9.7
5	414	112.8±5.0	113.0	112.0	602	113.1±5.6	113.1	114.0	112.9±5.0
6	84	116.4±4.7	116.0	113.0	244	117.0±5.8	117.0	117.0	119.0±6.5
female									
3	97	98.6±4.4	97.8	97.0	267	98.7±5.5	99.0	100.0	-
4	211	105.7±5.0	105.0	108.0	526	105.9±5.0	106.0	105.0	105.1±4.2
5	411	112.5±5.0	112.5	112.0	556	111.8±6.1	112.0	112.0	109.9±4.7
6	74	116.8±5.6	116.5	113.0	210	116.3±6.1	116.0	117.0	117.7±7.9

Table 2. Compared with mean of body weights by sex and age group

age	1997-2000				2003-2005				1993-96 Taiwan ¹
	N	Mean±SD	medium	mode	N	Mean±SD	medium	mode	Mean±SD
male									
3	96	16.5±2.3	16.5	16.5	288	16.8±2.7	16.4	15.0	-
4	275	18.9±3.1	18.0	17.5	591	18.6±3.1	18.0	18.0	17.5±2.6
5	414	21.3±3.7 ^c	20.5	20.0	603	20.8±3.9 ^c	20.3	20.3	20.1±2.9
6	84	22.6±4.3	21.5	19.0	250	22.4±4.2	21.5	21.5	22.2±4.6
female									
3	97	16.2±2.3	16.0	16.0	266	15.9±2.4	15.5	15.5	-
4	211	18.3±2.7 ^c	18.0	19.0	525	17.9±2.8 ^c	17.5	17.5	105.1±4.2
5	411	20.7±3.5 ^c	20.0	20.0	556	19.7±3.3 ^c	19.0	19.0	109.9±4.7
6	74	22.0±3.4	22.0	19.0	222	21.3±3.7	21.0	21.0	117.7±7.9

Table 3. Compared with mean of BMI by sex and age group

age	1997-2000				2003-2005				1993-96 Taiwan ¹	DOH ²
	N	Mean±SD	medium	mode	N	Mean±SD	medium	mode	Mean±SD	Normal
male										
3	96	16.6±1.4	16.4	16.7	288	16.5±1.9	16.1	14.1	-	14.8-17.7
4	275	16.7±1.8 ^c	16.4	15.7	591	16.3±2.0 ^c	16.0	15.4	15.2±1.9	14.4-17.7
5	414	16.7±2.2 ^c	16.3	15.5	601	16.2±2.2 ^c	15.9	15.2	15.8±1.9	14.0-17.7
6	84	16.6±2.5	15.9	15.7	244	16.3±2.2	15.8	15.1	15.5±2.1	13.9-17.9
female										
3	97	16.5±2.1	16.2	15.2	266	16.2±1.7	16.0	17.0	-	14.5-17.2
4	211	16.4±1.7 ^c	16.3	14.6	525	15.9±1.8 ^c	15.6	15.4	15.0±1.5	14.2-17.1
5	411	16.5±2.0	16.0	15.7	556	15.7±1.9	15.4	15.1	14.9±1.6	13.9-17.1
6	74	15.9±1.8	15.7	14.9	210	15.6±1.8	15.3	14.6	15.2±2.1	13.6-17.2

The body heights of preschool children have increased trend in 2003 to 2005. And the three years old ($p = 0.0281$) and four years old ($p = 0.0131$) boys have significant increased. In girls, besides six years old, it have increased trend from 3 to 5 years old. In body weights, both boys and girls have reduced trend. And the boys of five year old ($p = 0.0468$) and the girls of five years old ($p < 0.0001$) have significant reduced. In BMI, both boys and girls have reduced trend. And the boys of four years old ($p = 0.0022$) and five years old ($p = 0.0004$) and the girls of four years old ($p = 0.0004$) have significant reduced.