THE ANTHROPOMETRIC STUDY OF WOMEN'S WEIGHTLIFTERS IN TAIWAN

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INTRODUCTION: Anthropometric measurements were used to describe individuals or populations, while some measurements are used for correlation with performance in sport; others are used to investigate the public health and nutrition survey (Kipper, 1996), differences between local races and maturation at the young age of athletes (Kipper, 1998). Because of particularity of each sport event, the anthropometric parameters showed the specific results from different sport events. But there was no research to investigate the anthropometric data and features for female weightlifting, providing for proper material selection for young weightlifters. The purpose of this study was to investigate data of body measurements of women's weightlifters in Taiwan, and was to find the differences at the three age groups in female weightlifting.

METHODS: We used the method provided by Nippon (1998) and Kippers (1984) to measure the body shapes and sizes of sixty-three women's weightlifters. The subjects were divided into junior, senior and college group. The each group contained twenty-one athletes which were composed of top three weightlifters at each level in the national competition. We measured twenty-eight parameters after the competition and normalized raw data by dividing subject's stature. One-way ANOVA was used to analyze the difference of measured indexes at the three groups of age.

RESULTS AND DISCUSSION: The results showed that neck circumferences at the college group were significantly larger than that at the senior and junior group. College group also exhibited the largest shoulder width and thigh length among the three groups ($p < 0.05$). The larger circumferences at the college group proved that weight and power training resulted in hypertrophy of skeletal muscle (Hernandez & Kravitz, 2003). And Wide shoulder and long thigh seemed to exhibit the higher efficiencies in weightlifting and conform to the principles of biomechanics.

CONCLUSION: The results of this study will provide coaches and sports biomechanists to identify the better anthropometric features of women's weightlifters.

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