ANTHROPOMETRIC PARAMETERS AND PHYSICAL FITNESS CHARACTERISTICS ON PERFORMANCE OF NATIONAL FEMALE BADMINTON PLAYERS IN SRI LANKA

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Anthropometric parameters and physical fitness characteristics are important and vital for any sport and those parameters would decide the ultimate performance levels of players. However, studies related to badminton game is limited and not often found. Further, there are limited studies done in Sri Lanka to analyse the importance of anthropometric measurements, physical fitness characteristics and how these factors may help to the development of the badminton sport. The prime aim of the current study was to identify the relationship between anthropometric parameters and physical fitness characteristics with performance level of national female badminton players in Sri Lanka. This study population comprised 15 female national badminton players age between 20 to 25 years. Age, height and anthropometric parameters such as length, girth, and skinfold measurements which were measured by CDC 2007 protocol. The performance level and physical fitness characteristics were collected from Sri Lanka Badminton Association and Institute of Sports Medicine respectively. The correlation analysis were done to measure the relationship between parameters. Age ($r = 0.557$, $p = 0.031$), height ($r = 0.657$, $p = 0.008$) were shown positive relationship with the performance. Comparably, length parameters such as upper arm length ($r = 0.689$, $p = 0.005$), forearm length ($r = 0.658$, $p=0.027$), total arm length ($r = 0.714$, $p = 0.003$) and total leg length ($r = 0.545$, $p = 0.036$); as well as girth measurements such as thigh girth right ($r = 0.669$, $p = 0.006$), thigh girth left ($r = 0.542$, $p = 0.037$), calf girth right ($r = 0.101$, $p = 0.002$) , ankle girth right ($r = 0.452$, $p = 0.091$) also revealed the positive relationship with the performance. However, there was no relationship between the performance levels with none of skinfold parameters. Physical fitness characteristics such as flexibility ($r = 0.673$, $p = 0.006$), muscle endurance $r = 0.665$, $p = 0.007$), speed ($r = 0.671$, $p = 0.006$), agility ($r = 0.662$, $p = 0.007$), power ($r = 0.669$, $p = 0.006$) and aerobic endurance ($r = 0.727$, $p = 0.002$) were shown positive relationship with the performance.

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