

# **A comparison of chosen health indicators determined during routine medical examinations between table tennis, badminton and squash players**

Joško Sindik<sup>1</sup>, Jelena Šarac<sup>1</sup>, Saša Missoni<sup>1</sup>, Snježana Schuster<sup>2</sup>, Tonči Gregurinović<sup>3</sup>, Darko Tomić<sup>3</sup>, Miran Kondrič<sup>4</sup>

<sup>1</sup>Institute for Anthropological Research, Zagreb, Croatia

<sup>2</sup>University of Applied Health Sciences, Zagreb, Croatia

<sup>3</sup>Polyclinic for Occupational Health and Sport, Zagreb, Croatia

<sup>4</sup>University of Ljubljana, Faculty of Sports, Ljubljana, Slovenia (presenter)

**Keywords:** age groups, functional capacities, morphological characteristics, racket sports

**Abstract:** The main goal is comparison of chosen health indicators determined during routine medical examinations between table tennis, badminton and squash players. The second goal of this study was to determine whether there are taxa in respect of which athletes in these three sports could be grouped, according to their characteristics, collected during routine medical examinations, in relation to their age group and type of sport. Routine medical examinations are particularly important to determine current health status of the athletes, to provide information about risk factors and still unknown critical congenital dysfunctions at individual players. However, the main purpose of routine medical examinations is to determine lately developed dysfunctions, influenced during the processes of growth, development and exhaustive trainings. These dysfunctions could cause sudden deaths, or appearance of chronically diseases, or injuries. We have used the data from Polyclinic for Occupational Health and Sport, from male athletes (66 badminton, 143 squash and 235 table tennis players), and then female athletes (5 badminton, 127 squash and 81 table tennis players), stratified by gender and by four age groups. Collected data included height, weight, body mass index, blood pressure (diastolic and systolic), pulse rate, vital capacity of the lungs, hemoglobin, hematocrit, leukocyte, thrombocyte, ECG and sedimentation. The results of Kruskal Wallis and Chi-square tests indicated very small number of differences among table tennis, badminton and squash players in chosen indicators, mainly in height, weight and body mass index in certain age groups. The results of K-means cluster analysis revealed that there are two taxa, by which athletes in these three sports could be grouped, in relation to their age group and type of sport. The results are described in terms of desirable morphological characteristics, as well as in terms of specific functional capacities and motor abilities, for each sport (badminton, squash and table tennis). The main shortcomings are small number of participants in certain age groups and small number of badminton players.