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Effect of handball game on body temperature and sweating in handball players

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ABSTRACT

The purpose of the study was to compare the effect of handball game on body temperature and sweating in national level handball players. The study was restricted to fifty male subjects. All were national level handball players from various selected state participated in national level handball tournament. The data collected on body temperatures and sweating (body weight) before and after the game .In order to analysis the data obtained, paired't' test was employed, the level of significance was chosen at .05. The results from the data revealed that there were significant differences in oral body temperature between, before the game and after the game. Oral body temperature increased significantly after the game. The results from the data collected on body weight revealed that there was significant difference in body weight before the game and after the game. Body weight decreased significantly after the game which in turn indicated a significant increase in the amount of sweat.

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Key words : Oral temperature, Body temperatures, Sweating

In the contemporary competitive sports every sportsmen and sports women is in a constant race to excel over the other. Competitions have become a fundamental mode of human expression as competitive sport is one of the very important factors of national and international recognition and prestige.

Performance of the sportsmen in competitive sports depends upon various causes such as the physical fitness, technique based upon scientific principles, scientific training programmer and diet etc. Apart from these, some conditions which are beyond the limitation of training parts specifically environmental diversities like heat, cold, high - low altitude and humidity also have an incredible influence on the performance of the sportsmen. Normal temperature is difficult to identify for a normal human, while assessment of temperature many persons have shown a range of normal temperature from approximately 97°C to 99°C , when measured by rectum, approximately 1 °F greater than the oral temperature. The average normal body temperature is generally considered to be 98 .6°F (37 °C) when measured orally. The vigorous exercise performed in extremes environmental conditions and surrounding brings variations in body temperature. When excessive heat is produced in the body by strenuous exercise, the rectal temperature can rise to as high as 101° to 104 ° F (Belding and Herting, 1962), which indicate the change in normal body temperature.

When the exercise is performed under comfortable environmental conditions, the only problem is the elimination of excess heat of the metabolism. It appears that the rise in body temperature in exercise is the result of a "resetting" of the hypothalamic "thermostat" at a higher level just as in clinical fever. The mobilization of neutrophilic leucocytes in to the circulation (well known to occur in exercise) would make the cells available for phagocytes of damaged tissue cells with release of pyrogens, so that the heat loss balances heat production at a higher body temperature. Furthermore, since most of the excess heat is produced in the active muscles, their temperature is certainly greater than that of the whole body, as reflected in the oral and rectal temperatures (Admas and Dewitt Norton, 1985). A rise in body temperature that is well tolerated by an exercising man may cause great distress in a resting man, and in fact, athletic performance is actually improved by a moderate rise in body temperature. The increased tolerance to hyperthermia in exercising persons is due to the fact that increased cardiac output permits the maintenance of an adequate cerebral blood flow, whereas exposure to heat without exercise is associated with a decreased cerebral blood flow because of decreased cardiac output and cerebra; vasoconstriction resulting from respirator alkalosis (Buskirk and Beetham1, 1962) . The beneficial effects of an elevated muscle temperature during exercise