

## Impact of Dietary Protein Intake, Physical Activity on Urinary Creatine and Urinary Creatinine Excretion in a Team-sport

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Creatine and Creatinine plays a role in muscle function. Urinary creatine and urinary creatinine concentration was measured in order to see significance in monitoring athlete and athlete's performance. Evaluate association of dietary protein intake and physical activity on urinary creatine, urinary creatinine concentration in different team sports [cricket players (C), basketball players (B) and football players (F)]. A total of 62 players from different team sports - C (n-20), B (n-17) and F (n-25) age of 18-30 years were participated. Post training urine samples was analyze by difference in the creatinine present before and after heating with acid solution urinary creatine was obtained. Using Jaffe's reaction and absorbance read spectrophotometrically at 520nm urinary creatinine was obtained. 24 hour dietary recall was consider. Positive correlation between urinary creatine and dietary protein per day, dietary protein according to body weight per day was found ( $r = 0.013$ ,  $p < 0.001$ ), ( $r = 0.000$ ,  $p < 0.005$ ) respectively. Negative correlation between urinary creatinine and dietary protein according to body weight per day and duration of practice per day was found ( $r = 0.000$ ,  $p < 0.001$ ), ( $r = 0.035$ ,  $p < 0.005$ ) respectively. Urinary creatine mean (SD) values- C group  $78.63 \pm 27.17$ , B group  $102.65 \pm 38$  and F group  $169.60 \pm 41.58$ . Urinary creatinine mean (SD) values- C group  $46.60 \pm 37.23$ , B group  $84.88 \pm 48.27$  and F group  $70.40 \pm 44.083$ . Significant increase was seen in urinary creatine excretion with respect to dietary protein per day, dietary protein according to body weight per day. Urinary creatine excretion is more in football players followed by basketball players. Significant decline was seen in urinary creatinine excretion with respect to increase dietary protein according to body weight per day and increase duration of practice. Urinary Creatine excretion is more in basketball players followed by football players. Urinary creatine and urinary creatinine excretion depends on sports-type, duration of sports and protein consumption.

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