EFFECT OF SAQ TRAINING WITH & WITHOUT CARBOHYDRATE SUPPLEMENTATION AMONG ELITE FOOTBALLER'S SPEED

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Abstract
The main objective of the current study was to evaluate the changes in performance (speed) through SAQ training and carbohydrate supplementation of 08 weeks intervention. The study was conducted in the vicinity of Punjab University, Lahore. Participants (n=16) were selected through the inclusion criteria which included elite footballers and the participants were divided into two groups which were groups (A) and (B). Hypotheses of this study were: H0 1 There is no significant difference between the pre-test of group A (speed) and the pre-test of group B (speed). Ha 2 There is a significant difference between the pre-test of group A (speed) and the post-test of group A (speed). Ha 3 There is a significant difference between the pre-test of group B (speed) and the post-test of group B (speed). Ha 4 It is hypothesized that there is a significant difference between training with the Supplementation group (A) and Training without the Supplementation group (B). Group (A) was allowed to follow the 08-week exercise plan (intervention) and carbohydrate supplementation. Only group (B) was allowed to follow the 08-week exercise plan (intervention). Descriptive statistics, means and standard deviations were calculated. The inferential statistics and different tests including paired sample t-test and independent samples t-test were applied to calculate the differences in performance of all studied groups. The data was analyzed and evaluated statistically using Version 22 of IBM SPSS (Statistical Product and Service Solutions) software. The means (with standard deviation) of the speed tests of training with carbohydrate supplementation group (A) and the means (with standard deviation) of the speed tests of training without carbohydrate supplementation group (B) were compared. This study confirms that there was not a significant difference between groups (A) and (B) before training and carbohydrate supplementation. There was a significant difference in speed in, the pre-test of the group (A) compared with the post-test, followed by SAQ Training with carbohydrate supplementation. On the other hand, there was also a significant difference in speed, in the pre-test of group B compared with the
post-test, followed by SAQ Training only. The study confirms that there was a significant change in the Speed of footballers training with carbohydrate supplementation group (A) compared to training without carbohydrate supplementation group (B), after 08 weeks of intervention.

**Keywords:** SAQ Training; Speed; University level Footballers; Carbohydrate Supplementation.

**Introduction**

In the realm of contemporary sports, elite football players consistently work towards improving their performance and gaining an advantage over their opponents. One training technique that has received a lot of attention is Speed, Agility, and Quickness (SAQ) training. SAQ training is a rigorous form of conditioning that focuses on boosting an athlete's speed, agility, reaction time, and overall quickness. It includes a range of drills and exercises that replicate the movements and requirements of football. (Lennemann et al., 2013). SAQ training is an intensive form of conditioning meticulously crafted to enhance an athlete's speed, agility, reaction time, and overall quickness – all essential qualities for triumph, in football (Jovanovic et al., 2011) The main objective of SAQ training is to enhance an athlete’s capacity to swiftly alter direction increase or decrease speed and react promptly to circumstances that commonly occur on the football field. Football is recognized as one of the demanding and fast-paced team sports, necessitating players to possess exceptional physical abilities to excel in different game scenarios (Milanović et al., 2013).

According to Kirkendall and Sayers (2020), exercises typically involve a combination of linear sprints, lateral movements, cutting and pivoting, multidirectional running, and quick acceleration bursts. Coaches and sports scientists create structured training sessions that progressively challenge the athlete's speed, agility, and quickness while closely simulating real-game scenarios. (Kloby Nielsen et al., 2020). Furthermore, SAQ training fosters cognitive abilities as players must quickly process information, make split-second decisions, and anticipate opponents' actions during training exercises. These cognitive skills translate directly into improved on-field performance, where players must think and react swiftly in ever-
changing game situations (Trecroci et al., 2022).

The focus is on creating a stimulating and challenging environment that pushes players to continually enhance their physical and cognitive abilities. To conclude, for elite football players, training in Speed, Agility, and Quickness (SAQ) has become essential to their quest for perfection. Its specific emphasis on improving quickness, agility, reaction time, and general speed fits perfectly with football’s dynamic style and the variety of physical demands players face during games (França et al., 2022). Although the advantages of SAQ training are widely established, academics, coaches, and athletes are now interested in learning more about how diet and supplements might optimize the efficacy of this training program. One important area of study is carbohydrate supplementation, which is essential for refueling muscles' glycogen reserves and enabling high-intensity activity. This study project's main goal was to examine and contrast the effects of SAQ training on elite football players' performance and physiological reactions with and without carbohydrate supplementation. The purpose of the study was to offer evidence-based insights into the possible advantages of consuming carbohydrates before SAQ training sessions and its implications for improving football players’ athletic performance (Hills & Russell, 2017).

Football and other high-intensity sports require a lot of carbohydrates. The body's glycogen reserves are exhausted during prolonged or vigorous activity, which results in fatigue and decreased performance. Carbohydrate Supplementation in the form of sports drinks, gels, or bars can help keep glycogen levels stable, postpone exhaustion, and increase total exercise capacity (Jäger et al., 2017). Carbohydrate Supplementation is now well recognized as an essential part of sports nutrition, especially when it comes to endurance-based activities where sustained energy expenditure is a major consideration. In the past, the focus has been on keeping muscles' glycogen levels high enough for long-duration activities like cycling or distance running. However, new research has shown that carbohydrates are also essential for maximizing performance during high-intensity, intermittent activities, which are typical of football and other sports (Guest et al., 2021). Football has a variety of physical demands since players must sprint, change directions quickly, and accelerate quickly throughout a play. As the game expands, these intense bursts of activity lead to fatigue and reduced performance because the body's
glycogen stores are depleting too rapidly. To perform at their best during practice and games, professional football