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EXTENDED ABSTRACT

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EXAMINING THE ROLE OF ANTI-SLIP SOCKS IN ENHANCING BALANCE AND STABILITY AMONG UNIVERSITY FUTSAL PLAYERS

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I. INTRODUCTION

Balance is crucial for futsal players, yet the role of anti-slip socks in enhancing balance performance remains underexplored. Agility and dynamic balance were significantly better using grip socks compared to those wearing standard socks [1]. Most existing research focuses on external supports like taping, bracing, and orthoses, with little attention to the potential benefits of grip socks [2]. This research investigates the effect of grip socks on balance among UiTM futsal players, addressing gaps in understanding their potential to improve stability and reduce injury risks, particularly when compared to standard socks.

II. Methods

A quantitative experimental design involved 24 UiTM futsal players (19–24 years). Static and dynamic balance were assessed using the Balance Error Scoring System (BESS) and Star Excursion Balance Test (SEBT). Grip socks with standardized soles were compared to regular socks under randomized conditions. Paired t-tests analyzed performance differences, with significance set at p<0.05.

III. RESULTS AND DISCUSSION

A. Results Analysis on Static Balance via Balance Error Scoring System

For static balance, the paired samples t-test showed a significant difference between the two types of socks, t(23) = 9.11, p < 0.01. Interestingly, participants showed better stability, as measured by the Balance Error Scoring System (BESS), while wearing standard socks compared to grip socks (Table 1). These findings indicate that grip socks reduce foot slippage, contributing to better static balance performance.

B. Results Analysis on Dynamic Balance via Star Excursion Balance Test

For dynamic balance, there was also a significant difference between standard socks and grip socks, t(23) = -16.64, p < 0.01. Participants performed significantly better with grip socks, scoring lower in standard socks (Table 1). These results suggest that grip socks enhance proprioception and dynamic stability during movement.

This study highlights the role of grip socks as a non-invasive solution to enhance balance performance in futsal players. These findings underscore the enhanced grip and reduced foot slippage offered by grip socks, contributing to better balance and potentially lowering the risk of injuries among futsal players [3].

 TABLE I

 Comparison Between Standard Socks and Grip Socks on Balance Among

 UITM Futsal Players.

Variable		Mean	Std. Deviation	t	Sig
Dynamic Balance	Standard and grip socks	-2.84792	.83854	-16.64	<.001
Static Balance	Standard and grip socks	2.292	1.233	9.11	<.001

IV. CONCLUSIONS

The study concludes that anti-slip socks significantly enhance both static and dynamic balance compared to standard socks among UiTM futsal players. These improvements in balance suggest that anti-slip socks could play a crucial role in injury prevention by reducing the likelihood of slips and falls during play.

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