UNIVERSITI TEKNOLOGI MARA

EFFECTS OF KINESIO TAPING ON SKILL-RELATED PHYSICAL FITNESS FOLLOWING FATIGUE INDUCTION AMONG RECREATIONAL ATHLETES: A RANDOMIZED-CONTROLLED TRIAL

MUHAMMAD NOH ZULFIKRI BIN MOHD JAMALI

Thesis submitted in fulfilment
of the requirements for the degree of
Master of Science

Faculty of Health Sciences

October 2016

ABSTRACT

This study aimed to determine the effects of Kinesio® taping (KT) on dynamic balance, agility, explosive leg power and postural control following fatigue induction among recreational athletes. It is hypothesized that the application of KT limits the effects of fatigue on dynamic balance, agility, explosive leg power and dynamic postural control among recreational athletes. This study used a randomized controlled trial recruited 72 male recreational athletes, randomized to one of the four groups (Group A: KT and fatigue; Group B: no tape and fatigue; Group C: KT and no fatigue; Group D: no tape and no fatigue). Fatigue was induced using the adapted Functional Agility Short Term Fatigue Protocol (FAST-FP). The rectus femoris of quadriceps, biceps femoris of the hamstring and medial gastrocnemius of the dominant leg were taped. The dynamic balance, agility, explosive leg power and dynamic postural control were assessed pre and post fatigue. For dynamic balance, a significant change was found among the groups over time ($p<0.0005$, $\eta_p^2=0.51$) and the time effect ($p<0.00005$, $\eta_p^2=0.45$). The main effect was not significant ($p=0.16$, $\eta_p^2=0.07$).For agility, a significant change was observed among the groups over time ($p<0.0005$, $\eta_p^2=0.36$) and the main effect of time ($p<0.0005$, $\eta_p^2=0.13$). The main effect was not significant ($p=0.45$, $\eta_p^2=0.04$). For explosive leg power, a significant interaction was found between the group and time ($p<0.001$, $\eta_p^2=0.554$), the main effect of time ($p<0.001$, $\eta_p^2=0.60$) and the main of groups ($p=0.004$, $\eta_p^2=0.18$). A post hoc comparison using the Bonferroni test indicated a significant difference between Group B and Group C ($p<0.02$) and Group B and Group D ($p<0.03$).For dynamic postural control, a significant interaction was observed between the group and time for the anterior-posterior position ($p=0.03$, $\eta_p^2=0.21$). While non-significant interaction was observed in the anterior-posterior variability ($p>0.05$, $\eta_p^2<0.001$), lateral symmetry ($p=0.84$, $\eta_p^2=0.001$) and lateral variability ($p=0.50$, $\eta_p^2=0.02$). A significant main effect of time was observed for anterior-posterior position ($p>0.05$, $\eta_p^2=0.15$) while non-significant for anterior-posterior variability ($p=0.82$, $\eta_p^2=0.002$), lateral ($p=0.65$, $\eta_p^2=0.007$) and lateral variability ($p>0.05$, $\eta_p^2=0.12$). For the main effect of the two groups was not significant for the anterior-posterior position ($p=0.42$, $\eta_p^2=0.02$), anterior-posterior variability ($p=0.74$, $\eta_p^2=0.004$), lateral symmetry ($p=0.73$, $\eta_p^2=0.004$) and lateral variability ($p=0.87$, $\eta_p^2=0.001$). In conclusion, KT application did not limit the effects of fatigue on the dynamic balance, agility, explosive leg power and postural control. Moreover, KT application did not enhance dynamic balance, agility, explosive leg power and postural.

ACKNOWLEDGEMENT

First and foremost, all praise is due to The One, who has created the heaven and earth, The Most Gracious and Most Merciful.

Words would not express my deepest appreciation as the present study greatly benefited from the input of my respectful supervisors, Dr. Maria Justine, and Saiful Adli Bukry.

I would like to expand my heartfelt gratitude to my colleagues who have made a tremendous contribution.

I would also like to dedicate my special acknowledgments to my dearest mother and father, family and friends whom without their endless encouragement, care, and prayers, this dream would not have been achieved.

Finally, I sincerely thank everyone who had involved in this study in one way or another toward completing this study.

TABLE OF CONTENTS