

UNIVERSITI TEKNOLOGI MARA PAHANG

**EFFECT PRE COOLING METHOD IN WARM UP
SESSION ON BODY TEMPERATURE AND
AEROBIC PERFORMANCE AMONG FUTSAL
PLAYER**

MOHD SYAFIQ SYAMIM BIN ABUL SAMAT

2012375565

**Research Project Report submitted in partial fulfilment of the
requirements
for the Degree of
Bachelor of Sports Science (Hons.)**

Faculty of Sports Science and Recreation

January 2015

ACKNOWLEDGEMENTS

First and foremost, I'm so grateful to Allah S.W.T showed me the right way to walk in my life. A major research project like this is never the work of anyone alone. The contributions of many different people, in their different ways, have made this possible. I would like to extend my appreciation especially to the following.

Foremost, I would like to express my sincere gratitude to my advisor and also supervisor, Mr. Mohd Zulkhairi bin Mohd. Azam for the continuous support of my degree study and research, for her patience, motivation, enthusiasm, and immense knowledge. Her guidance helped me in all the time of research and writing of this thesis. I could not have imagined having a better advisor and mentor for my degree study.

Besides that, I also want to thank my fellow classmates especially to Redha Fahmi bin Radzuan for helping me with the data collection, for the stimulating discussions, for the sleepless nights we were working together before deadlines, and for all the fun we have had in the last two years.

Special thanks to all my 30 subjects from UiTM Pahang Futsal Team for their cooperation and willingness to participate in this study. I would like to thank the members of my family for always supporting me and showing me guidance when

TABLE OF CONTENT

CONTENTS	PAGE
DECLARATION	i
ACKNOWLEDGEMENT	ii
TABLE OF CONTENT	iii, iv, v
LIST OF TABLES	vi
LIST OF FIGURES	vi
ABSTRACT	vii
CHAPTER ONE; INTRODUCTION	
1.0 Background of the Study	1
1.1 Statement of Problem	4
1.2 Research Objective	5
1.3 Research Question	5
1.4 Research Hypothesis	6
1.5 Operational Term	7
1.5 Research Limitation	8
1.6 Research Delimitation	8
1.7 Significant of Study	9
CHAPTER TWO; LITERATURE REVIEW	
2.0 Futsal	10
2.1 Pre Cooling	12
2.2 Body Temperature	15
2.3 Aerobic Performance	16

CHAPTER THREE; RESEARCH METHODOLOGY

3.0	Research Design	18
3.1	Sample and Sample Design	18
3.2	Sampling Technique	19
3.3	Research Method Frame Work	20
3.4	Data Collection Procedure	21
3.5	Testing, Instrumental and Procedure	23
3.6	Data Analysis	26

CHAPTER FOUR; RESULT AND DATA ANALYSIS

4.0	Introduction	27
4.1	Data Analysis Test	28
4.2	Descriptive Analysis	29
4.3	Demographic Data	30
4.4	Body Temperature	31
4.5	VO ₂ Max	34
4.6	Conclusion	37

CHAPTER FIVE; DISCUSSION

5.0	Introduction	38
5.1	Discussion	39
5.1.1	Body Temperature	40
5.1.2	Aerobic Performance	40

CHAPTER SIX; CONCLUSION & RECOMMENDATION

6.1	Conclusion	42
6.2	Recommendation for Future Study	43

REFERENCES	44
-------------------	----

APPENDIX	47
-----------------	----

ABSTRACT

Before starting a training or competition start, all athletes must take a fully preparation in order to make training is perfect and can have a peak performance during the competition. The preparation of the athlete must be in terms of physical and mental. The objective of this study were to determine the effect of pre cooling method during warm up session on body temperature and aerobic performance. A total of thirty male UiTM Pahang futsal players age from 18 to 24 years old were recruited to complete this test. The subjects were randomly divide into two groups, control and experimental group. A 20m multi-stage shuttle run were given to the subject. Body temperature had been recorded for each subject before warm up, after warm up and after test. The data was analyses using SPSS statistical software. Paired t-test is used for the body temperature while Independent t-test is used for VO₂Max. The result show that the warm up from before warm up and after warm up which is control group have [$t = -18.076$, $p = .029$]. A less significant change in experimental group in pre cooling before warm up and after test [$t = -2.429$, $p < .0005$]. The result between warm-up and pre-cooling conducted to compare the scores for both groups for VO₂Max. There was significant difference ($t = 6.791$, $p < .0005$ (two-tailed)). The effect size was 0.24 eta squared which is large size effect.