

**The Effect of a Homoeopathic Complex,
Hamamelis virginica 30cH, *Apis mellifica* 6cH,
Apocynum cannabinum 6cH, *Natrum muriaticum* 6cH
and *Natrum sulphuricum* 6cH
on Oedema of the Lower Extremities in women
during Long Air Flights**

A mini-dissertation submitted to the Faculty of Health Sciences, University of Johannesburg, in partial fulfilment of the requirements for the Degree of Master's of Technology in the programme Homoeopathy

By

Ivana Blazevic
(Student number: 9909131)

Supervisor: _____

Dr. E.M. Solomon

_____ Date

Co-Supervisor: _____

Dr. J.L. Schultz

_____ Date

DECLARATION

I, Ivana Blazevic, declare that this dissertation is my own work. It is being submitted for the degree of Master of Technology: Homoeopathy at the University of Johannesburg. It has not been submitted before for any degree or diploma at this or any other tertiary institution.

Signature of candidate

Date

ABSTRACT

Oedema is the presence of excess fluid in the body tissues (Guyton & Hall, 1997). During long air flights, blood pools in the body tissues due to decreased muscle movement. This causes bilateral ankle oedema and results in an increased risk of deep vein thrombosis as well as discomfort to the passengers after their flight (Hope *et al.*, 2001).

Hamamelis virginica is clinically indicated as a homoeopathic remedy which acts upon the venous system (Nash, 2002). *Apis mellifica*, *Apocynum cannabinum*, *Natrum muriaticum* and *Natrum sulphuricum* are all homoeopathic remedies used in the treatment of oedema.

The aim of this study is to ascertain the efficiency of the Homoeopathic complex formula, *Hamamelis virginica* 30cH, *Apis mellifica* 6cH, *Apocynum cannabinum* 6cH, *Natrum muriaticum* 6cH and *Natrum sulphuricum* 6cH in the treatment of swelling (bilateral oedema) in the lower extremities in women during and after long air flights.

This study is a double blind, placebo controlled trial. Forty female participants, between the ages of eighteen to thirty-nine, with a previous history of ankle swelling after long air flights and who were planning long air flights of eight hours or more, were recruited by means of advertisement for this study. Participants meeting the inclusion criteria underwent an examination and were matched in terms of age and risk factors; weight, cigarette smoking, oral contraception, alcohol and coffee consumption. The participants within the matched pairs were then assigned to one of two groups. One group was randomly assigned the experimental group and the other the control. Participants were required to take six powders sublingually without water. The first powder was taken two hours before the actual flight. The second, third and fourth powders were taken every two and a half hours

during the course of the flight and the fifth powder was taken after the flight landed. The sixth powder was taken the day after the flight. The participants were measured by the researcher (Appendix D), measuring the circumference of their calf, ankle and foot. The participants were instructed to do three measurements, the first on the day of their flight, the second on the day they arrive at their destination and the third, on the day after their last dose of medication. The measurements were recorded and a questionnaire completed (Appendix E).

The data obtained from the participants measurement and questionnaire form was statistically analysed using the repeated measures test, paired t-test, descriptive statistics the crosstab, and the Huynh-Feldt test. Statistical analysis showed significant differences, $P < 0.05$, between the control and medicated groups for the measurements in centimetres of the left ankle and right ankle. The results obtained from the research show that the homoeopathic complex medication in this study significantly reduces lower extremities oedema during long air flights, as compared to the control group. The control group, on the other hand, did show an increase in measurements of the lower extremities during the air flight. This implies that the placebo did not provide any benefit towards reducing the oedema of lower extremities in women during long air flights. Therefore the null hypothesis was rejected

Preliminary findings suggest that the homoeopathic complex preparation of *Hamamelis virginica* 30cH, *Apis mellifica* 6cH, *Apocynum cannabinum* 6cH, *Natrum muriaticum* 6cH and *Natrum sulphuricum* 6cH, is effective in reducing the oedema of ankles during long air flights but more research is needed to confirm these findings.

This dissertation is dedicated to my parents,
my brother and grandparents,
for their love, encouragement, support
and prayers, during my studies.

ACKNOWLEDGEMENTS

I express my sincere gratitude to the following persons for their assistance in the execution of this study and the preparation of this minor dissertation.

Dr. E.M. Solomon	-Supervisor
Dr. J.L. Schultz	-Co-supervisor
Mrs R. Eiselen	-Statistician
Mr A. Martin	-Statistician
Patients	-For their kind support and participation
Dr. B. Saunders	- For her continuous support
Natura Homoeopathic Laboratories	-For preparing the complex preparing remedy

TABLE OF CONTENTS

	Page
DECLARATION.....	ii
ABSTRACT.....	iii
DEDICATION.....	v
ACKNOWLEDGMENTS.....	vi
TABLE OF CONTENTS.....	vii
LIST OF FIGURES.....	xii
LIST OF TABLES.....	xiii
LIST OF APPENDICES.....	xvii
1. CHAPTER ONE: INTRODUCTION	
1.1. General introduction.....	1
1.2. Aim of the study.....	1
1.3. Objectives.....	2
1.4. Hypotheses.....	2
1.5. Importance of the problem.....	3
2. CHAPTER TWO: LITERATURE REVIEW	
2.1 Oedema.....	4
2.2 The arterial system.....	4
2.3 The vascular system.....	4

2.4 The capillary and lymphatic system.....	6
2.5 Causes of lower limb oedema.....	7
2.5.1 Causes of acute lower limb swelling.....	8
2.5.2 Causes of chronic lower limb swelling.....	8
2.5.2.1 Congenital vascular abnormalities.....	8
2.5.2.2 Venous diseases.....	9
2.5.2.3 Lymphoedema.....	9
2.5.2.4 Other.....	9
2.6 Differential diagnosis of oedema.....	10
2.7 Risk factors of oedema.....	11
2.8 Air travel.....	12
2.8.1 History of economy-class syndrome and oedema.....	12
2.8.2 Causes of oedema during air travel.....	13
2.8.3 Treatment of oedema during the air flight.....	15
2.9 Complications of general oedema and oedema from air flights..	16
2.10 Homoeopathic treatment.....	17
2.10.1. Introduction.....	17
2.10.2. Homoeopathy.....	18
2.10.2.1 Samuel Hahnemann.....	18
2.10.2.2 Principles of homoeopathy.....	19
2.10.2.3. Preparation of homoeopathic remedies.....	20
2.10.3. Prescribing techniques in homoeopathy.....	21

2.10.3.1 The single remedy.....	21
2.10.3.2 The complex remedy.....	22
2.10.4 Frequency of dose.....	21
2.11 Homoeopathic treatment.....	23
2.11.1 Hamamelis virginica.....	23
2.11.2 Apis mellifica.....	24
2.11.3 Apocynum cannabinum.....	25
2.11.4 Natrum muriaticum.....	26
2.11.5 Natrum sulphuricum.....	26

CHAPTER THREE: METHODS AND MATERIALS

3.1 Methods.....	28
3.1.1 Study Design.....	28
3.1.2 Subject Selection.....	28
3.1.3 Inclusion and Exclusion Criteria.....	29
3.1.3.1 Inclusion Criteria.....	29
3.1.3.2 Exclusion Criteria.....	29
3.2 Materials.....	30
3.2.1 Homoeopathic Intervention.....	30
3.2.2 Dispensing of Medication.....	30

3.3 Methodology.....	30
3.4 Measurements and Observations.....	32
3.4.1 The Symptom Assessment Form.....	32
3.4.2 Statistical Analysis.....	33

CHAPTER FOUR: RESULTS

4.1 Introduction.....	35
4.2 The Risk Factors.....	35
4.2.1 The BMI scale.....	35
4.2.2 The Age Criteria.....	35
4.2.3 The Oral Contraceptive.....	37
4.2.4 The cigarette smoking.....	38
4.2.5 Alcohol consumption on a flight.....	39
4.2.6 Coffee/ Tea consumption per day.....	40
4.3 Participants recorded information during the flight.....	41
4.3.1 Participants consumption of fluids during the flight.....	41
4.3.2 Participants crossing their legs during the flight.....	42
4.3.3 Recording of participants walking during the flight.....	43
4.3.4 Recording of participants exercising during the flight.....	44
4.4 The Stages of Measurement.....	45
4.4.1 Stage 1.....	45

4.4.2 Stage 2.....	46
4.4.3 Stage 3.....	47
4.4.4 Stage 4.....	47
4.5 Repeated Measure Test.....	48
4.5.1 The right calf.....	48
4.5.2 The right ankle.....	51
4.5.3 The right foot.....	54
4.5.4 The left calf.....	57
4.5.5 The left ankle.....	60
4.5.6 The left foot.....	63
4.6 The summary of repeated measures.....	66
CHAPTER FIVE: DISCUSSION AND CONCLUSION	70
CHAPTER SIX: RECOMMENDATION.....	73
CHAPTER SEVEN: REFERENCES.....	74
CHAPTER EIGHT: APPENDICES.....	80

LIST OF FIGURES

Figure	Page
1. Vein valve architecture (Ross, 1999).....	6
2. The circulation of extracellular fluid (Martini, 1998).....	7
3. Oxyhaemoglobin Dissociation Curve (Cesarone <i>et al</i> , 2003).....	14
4. Estimated marginal means of right calf.....	50
5. Estimated marginal means of right ankle.....	53
6. Estimated marginal means of right foot.....	56
7. Estimated marginal means of left calf.....	59
8. Estimated marginal means of left ankle.....	62
9. Estimated marginal means of left foot.....	65

LIST OF TABLES

Table	Title	Page no.
Table 1.	The age breakdown in the criteria age group	35
Table 2.	The percentage of participants in each age group	36
Table 3.	The number of participants in a specific age group who either had the placebo or the medication	36
Table 4.	The participants in the study who took oral contraceptives	37
Table 5.	The number of participants who take the oral contraceptive, either had the placebo or the medication	37
Table 6.	The participants' average of cigarettes smoked per day	38
Table 7.	The number of participants' average of cigarettes smoked per day, that either had the placebo or the medication	38
Table 8.	The participants' alcohol consumption during the flight	39
Table 9.	The number of participants consumption during the flight who either had the placebo or the medication	39
Table 10.	The participants' coffee/tea consumption per day	40
Table 11.	The number of participants with consumption of coffee/tea per day who either had the placebo or the medication	40

Table 12.	Participants consumption of fluids during the flight	41
Table 13.	A crosstab analysis between the placebo and medicated group consuming fluids during the flight	41
Table 14.	Participants crossing their legs during the flight	42
Table 15.	A crosstab analysis between the placebo and medicated group crossing their legs during the flight	42
Table 16.	Recording of participants walking during the flight	43
Table 17.	A crosstab analysis between the placebo and medicated group walking during the flight	43
Table 18.	Participants exercising during the flight	44
Table 19.	A crosstab analysis between the placebo and medicated group exercising during the flight	44
Table 20.	Statistics at Stage 1	46
Table 21.	Statistics at Stage 2	46
Table 22.	Statistics at Stage 3	47
Table 23.	Statistics at Stage 4	47
Table 24.	Descriptive Statistics at the right calf	48

Table 25.	Tests of within-subjects effect at the right calf	49
Table 26.	Tests of Within-Subjects contrasts at the right calf	49
Table 27.	Descriptive Statistics at the right ankle	51
Table 28.	Tests of within-subjects effect at the right ankle	52
Table 29.	Tests of Within-Subjects contrasts at the right ankle	52
Table 30.	Descriptive Statistics at the right foot	54
Table 31.	Tests of within-subjects effect at the right foot	55
Table 32.	Tests of Within-Subjects contrasts at the right foot	55
Table 33.	Descriptive Statistics at the left calf	57
Table 34.	Tests of within-subjects effect at the left calf	58
Table 35.	Tests of Within-Subjects contrasts at the left calf	58
Table 36.	Descriptive Statistics at the left ankle	60
Table 37.	Tests of within-subjects effect at the left ankle	61
Table 38.	Tests of Within-Subjects contrasts at the left ankle	61
Table 39.	Descriptive Statistics at the left foot	63
Table 40.	Tests of within-subjects effect at the left foot	64
Table 41.	Tests of within-Subjects contrasts at the left foot	64

Table 42.	Summary using the Huyn-Feldt test on all the stages and the groups	66
Table 43.	Summary statistical analysis between stages 1 and 2	67
Table 44.	Summary statistical analysis between stages 2 and 3	68
Table 45.	Summary statistical analysis between stages 3 and 4	69

LIST OF APPENDICES

	Page no.
Appendix A: Patient information and consent form.....	80
Appendix B: How to measure and take the medication.....	83
Appendix C: Participants questionnaire.....	86
Appendix D: Patients examination form.....	91
Appendix E: Participants measurement and questionnaire form.....	93
Appendix F: Initial testing (test of normality).....	96
Appendix H: Measurements in Stage 2.....	103
Appendix I: Measurements in Stage 3.....	109
Appendix J: Measurements in Stage 4.....	115