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Physiological changes with middle aged women due to brisk walking on grass

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Abstract
The purpose of the study was to find out the effect of brisk walking on grass on selected physiological variables such as systolic blood pressure and diastolic blood pressure. To achieve this purpose of the study, thirty middle aged women in and around Vellore District, Tamil Nadu, India were selected as subjects at random. The age of the subjects were ranged from 35 to 45 years. The selected subjects were divided into two equal groups of fifteen subjects each, such as brisk walking on grass group (Group I) and control group (Group II). The brisk walking on grass group (Group I) underwent their respective training programme for three days per week for twelve weeks. Group II acted as control in which they did not undergo any special training programme apart from their regular day today activities. All the subjects of two groups were tested on selected criterion variable such as systolic blood pressure and diastolic blood pressure at prior to and immediately after the training programme by using sphygmomanometer. The analysis of covariance (ANCOVA) was used to analysis the significant difference, if any in between the groups. The level of significant to test the 'F' ratio obtained by the analysis of covariance was tested at .05 level of confidence, which was considered as an appropriate. The results of the study revealed that there was a significant difference between brisk walking on grass group and control group on selected physiological variables such as systolic blood pressure and diastolic blood pressure. Significant changes on selected criterion variables were also noticed due to brisk walking on grass.

Keywords: Physiological changes, middle aged women due, brisk walking, grass

Introduction
Fresh grass, warm sunlight and beautiful natural surroundings can make anyone drop their footwear and enjoy walking barefoot. Walking barefoot on grass, also known as 'earthing', has been in the news for some time. People across the globe enjoy doing it in the early morning or late afternoon and not just on grass, you can walk barefoot on soil or sand, too.
The earth is full of energies and getting in touch with these energies nourishes the body as well as the mind and soul. In addition, walking is a gentle exercise that people from all age groups can do. Our feet have many reflexology zones that correspond to various organs of our body, including the eyes. When we walk barefoot, we put maximum pressure on the first, second and third toes-the main reflexology pressure points for the eyes. Stimulating these points helps improve eyesight. It also helps the entire body stay healthy. Walking barefoot is great exercise for your feet.
It strengthens and stretches the muscles, tendons and ligaments in your feet, ankles and calves. This helps prevent injury, knee strain and back problems. It also improves flexor strength and is beneficial for people who have flat feet. Moreover, it helps keep your posture upright and reduces the risk of developing calluses, strains and stiffness in the soles of your feet

Methodology
The purpose of the study was to find out the effect of brisk walking on grass on selected physiological variables such as systolic blood pressure and diastolic blood pressure. To achieve this purpose of the study, thirty middle aged women in and around Vellore District, Tamil Nadu, India were selected as subjects at random. The age of the subjects were ranged from 35 to 45 years. The selected subjects were divided into two equal groups of fifteen subjects each, such as brisk walking on grass group (Group I) and control group (Group II).

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The brisk walking on grass group (Group I) underwent their respective training programme for three days per week for twelve weeks. Group II acted as control in which they did not undergo any special training programme apart from their regular day today activities. All the subjects of two groups were tested on selected criterion variable such as systolic blood pressure and diastolic blood pressure at prior to and immediately after the training programme by using sphygmomanometer. The analysis of covariance (ANCOVA) was used to analysis the significant difference, if any in between the groups. The level of significant to test the 'F'

ratio obtained by the analysis of covariance was tested at.05 level of confidence, which was considered as an appropriate.

Analysis of the Data
The influence of brisk walking on grass on each physiological variable were analyzed separately and presented below.

Systolic Blood Pressure
The analysis of covariance on systolic blood pressure of the pre and post test scores of brisk walking on grass group and control group have been analyzed and presented in Table I.

Table I: Analysis of Covariance of the Data on Systolic Blood Pressure of Pre and Post Tests Scores of Brisk Walking On Grass Group and Control Group.

test	Brisk Walking on Grass Group	Control Group	Source of Variance	Sum of Squares	df	Mean Squares	Obtained 'F' Ratio
			Pre Test				
Mean	129.33	128.67	Between	3.33	1	3.33	0.25
S.D.	3.74	3.19	Within	368.67	28	13.17	
			Post Test				
Mean	125.20	127.93	Between	56.03	1	56.03	4.76*
S.D.	3.26	2.84	Within	329.37	28	11.76	
			Adjusted Post Test				
Mean	124.93	128.20	Between	79.64	1	79.64	68.54*
			Within	31.38	28	1.16	

* Significant at.05 level of confidence.

(The table value required for significance at.05 level of confidence with df 1 and 28, 1 and 27 were 4.20 and 4.21 respectively)

The table I shows that pre-test means on systolic blood pressure of brisk walking on grass group and control group are 129.33 and 128.67 respectively. The obtained "F" ratio of 0.25 for pre -test means is less than the table value of 4.20 for df 1 and 28 required for significance at.05 level of confidence on systolic blood pressure. The post-test means on systolic blood pressure of brisk walking on grass group and control group are 125.20 and 127.93 respectively. The obtained "F" ratio of 4.76 for post-test means is more than the table value of 4.20 for df 1 and 28 required for significance at.05 level of confidence on systolic blood pressure.

The table I further shows that the adjusted post-test mean

values of brisk walking on grass group and control group are 124.93 and 128.20 respectively. The obtained "F" ratio of 68.54 for adjusted post-test means is greater than the required table value of 4.20 for df 1 and 28 required for significance at.05 level of confidence on systolic blood pressure. The results of the study indicated that there was a significant difference between the adjusted post-test means of brisk walking on grass group and control group on systolic blood pressure.

Diastolic Blood Pressure
The analysis of covariance on diastolic blood pressure of the pre and post test scores of brisk walking on grass group and control group have been analyzed and presented in Table II.

Table 2: Analysis of covariance of the data on diastolic blood pressure of pre and post tests scores of brisk walking on grass group and control group.

test	Brisk Walking on Grass Group	Control Group	Source of Variance	Sum of Squares	df	Mean Squares	Obtained 'F' Ratio
			Pre Test				
Mean	87.13	86.87	Between	0.53	1	0.53	0.12
S.D.	2.22	1.76	Within	123.47	28	4.41	
			Post Test				
Mean	82.80	86.40	Between	97.20	1	97.20	14.70*
S.D.	1.82	1.67	Within	185.20	28	6.61	
			Adjusted Post Test				
Mean	82.71	86.49	Between	106.93	1	106.93	98.85*
			Within	29.21	28	1.08	

* Significant at.05 level of confidence.

(The table value required for significance at.05 level of confidence with df 1 and 28, 1 and 27 were 4.20 and 4.21 respectively)

The table II shows that pre-test means on diastolic blood pressure of brisk walking on grass group and control group are 87.13 and 86.87 respectively. the obtained "F" ratio of 0.12 for pre -test means is less than the table value of 4.20 for df 1 and 28 required for significance at.05 level of confidence on diastolic blood pressure. The post-test means on diastolic blood pressure of brisk walking on grass group and control

group are 82.80 and 86.40 respectively. the obtained "F" ratio of 14.70 for post-test means is more than the table value of 4.20 for df 1 and 28 required for significance at.05 level of confidence on diastolic blood pressure.

The table II further shows that the adjusted post-test mean values of brisk walking on grass group and control group are 82.71 and 86.49 respectively. The obtained "F" ratio of 98.85 for adjusted post-test means is greater than the required table value of 4.21 for df 1 and 27 required for significance at.05 level of confidence on diastolic blood pressure. The results of

the study indicated that there was significant difference between the adjusted post-test means of brisk walking on grass group and control group on diastolic blood pressure.

Conclusions

- There was a significant difference between brisk walking on grass group and control group on systolic blood pressure.
- There was a significant difference between brisk walking on grass group and control group on diastolic blood pressure.
- And also it was found that there was a significant improvement on selected criterion variables such as systolic blood pressure and diastolic blood pressure due to brisk walking on grass.

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