



“A STUDY TO ASSESS THE EFFECTIVENESS OF ALLEN BUERGER EXERCISE IN IMPROVING LOWER EXTREMITY PERFUSION AMONG DIABETES MELLITUS PATIENTS ADMITTED IN SELECTED HOSPITALS OF THE CITY.”

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Abstract: **OBJECTIVES OF THE STUDY:** 1.To assess the level of lower extremity perfusion among diabetes mellitus patients. 2.To evaluate the effectiveness of Allen Buerger exercise on lower extremity perfusion among the experimental group. 3.To correlate the lower extremity perfusion score between the experimental and Control group. 4.To find out the association between lower extremity perfusion score with selected demographic variables among diabetes mellitus patients. **HYPOTHESIS:** **H₀:** There will be no significant difference between pre and post test score of lower extremity perfusion among diabetes mellitus patients in experimental group. **H₀₁:** There will be no significant difference between experimental and control group of lower extremity perfusion among diabetes mellitus patients. **H₀₂:** There will be no significant association between experimental and control group of lower extremity perfusion among diabetes mellitus patients. **Dependent Variable:** In the present study, dependent variable was lower extremity perfusion among diabetes mellitus patients. **Independent Variables:** In the present study, independent variable was Allen Buerger exercise on improving lower extremity perfusion among diabetes mellitus patients. **Setting Of The Study:** The study was conducted in the selected hospitals of the city. **Population:** In the present study accessible population was diabetes mellitus patients of lower extremity perfusion. **Sample:** The study sample comprised of the patients having lower extremity perfusion such diabetes mellitus patients. **Sampling Technique:** Non probability purposive sampling is a technique where in the sample is gathered in a process that does give all the individuals of a family members who have a back pain in the population. **SAMPLE SIZE:** The sample size was 80, 40 for experimental group; 40 for control group. **Major Findings Of Study:** In this study, 5% of diabetes mellitus patients in

experimental group had normal lower extremity score, 22.5% in experimental group and 27.5% in control group had some arterial disease, 65% in experimental group and 67.5% in control group had moderate arterial disease and 7.5% in experimental group and 5% in control group had severe arterial disease score. Minimum lower extremity score in experimental group was 0.40 and in control group it was 0.40 and in maximum lower extremity score in experimental group was 8 and in control group it was 0.90. Mean lower extremity score among diabetes mellitus, while after post test it shows 12.5% of diabetes mellitus patients in experimental group and 5% in control group had normal lower extremity score, 75% in experimental group and 82.5% in control group had some arterial disease and 12.5% in experimental group and 12.5% in control group had moderate arterial disease score. Minimum lower extremity score in experimental group was 0.50 and in control group it was 0.40 and in maximum lower extremity score in experimental group was 2 and in control group it was 1.40.

RESEARCH METHODOLOGY:

RESEARCH APPROACH: According to Sassaroli, (2005) Research approach is a systematic investigation to establish facts or principles or to collect the information on a subject⁶³. In this study to accomplish the objective of evaluate the effectiveness of Buerger Allen Exercise on levels of lower extremity perfusion among diabetes mellitus patients in selected hospitals of the city

RESEARCH DESIGN: According to Polite and Beck (2021), Research design is the Overall Plan for addressing a research question, including specifications for enhancing the study's integrity⁶⁴.

POPULATION: The target population selected for study was the diabetes mellitus patients who have lower extremity perfusion. Accessible population selected for study was diabetes mellitus patients of lower extremity perfusion present during the study. **SAMPLE:** The study sample comprised the patients having lower extremity perfusion such diabetes mellitus patients. **SAMPLING TECHNIQUE:** In this study Non probability purposive sampling is used for selecting the samples. **SAMPLE SIZE:** The sample size was 80, 40 for experimental group ;40for control group

DATA AND SOURCES OF DATA

SETTINGS OF THE STUDY: The study was conducted in selected hospitals of the city

The conceptual frame work of the present study as depicted in the diagram was developed on the basis of Orem's theory of self-care. Self care deficit theory or nursing is composed of six basic concepts and one related or peripheral concept. The basic or core, concepts are self – care, self care agency, therapeutic self care demand, self care deficit, nursing agency and nursing system. Self care, self care agency, therapeutic self care demand and self care deficit are related to the patient, or the person in need of nursing. Whereas nursing agency and nursing system are related to the nurses and their actions, **Self care (dependent care):** The practice of activities that individuals, initiate and perform on their own behalf in maintaining life, health and well being (1991). In this study the diabetic patients with lower extremity perfusions will acquire demand or requirements to sustain and maintain life called as health deviated self care requirement i.e., ignorance of care of lower extremities. **Self care agency (Dependent care agency):** Self care agency is the power of individuals to engage in self care and the capability for self care. The person who uses the power or self care ability is the self care agent. In this study the self care agency is the patients with lower extremity perfusion **Therapeutic self care (demand):** It can be thought of as a collection of action to be performed or "a programme of action". This totality of care actions is performed to meet the self care requisites. In this study, the therapeutic self care demand is the need for information, education, communication and demonstration regarding Buerger Allen exercise to promote lower extremity perfusion healing **Self care deficit:** A self care deficit is the relationship between self care demands of the individuals in which capabilities for self care are not equal to meeting some or all of the components of their therapeutic self care demands. In this study the self care deficit is the inadequate care to promote lower extremity perfusion healing. **Nursing agency:** Complex property or attribute of persons and trained as nurses that is enabling when exercise for knowing and helping others. Know their self care demand and in meeting their self care demand. In this study the investigator is the nursing agency carries out the information on lower extremity perfusion of diabetic patients in the selected hospitals of selected city. Where the pre assessment of the lower extremity perfusion was done and the frequent regular interval the post assessment also was carried out on the lower extremity perfusion. **Nursing system:** All the actions and the interactions of the nurses and patients in nursing practice situation. There are three types of nursing systems, i.e., wholly compensatory, practically compensatory and supportive educative system. In this study the investigator has chosen the supportive educative system as nursing system in which performing Buerger Allen exercise was

done in an explained 3 steps and administered to the patients of those who are having lower extremity perfusion.

Statistical tools and econometric models

DEVELOPMENT OF RESEARCH TOOL According to Polite and Beck (2009), the tool acts as a instrument to assess and collect the data from the respondent of the study⁷¹. The tool was used for gathering relevant data was ankle brachial index scale to assess the lower extremity perfusion among diabetes mellitus patients in selected hospitals of the city.

PREPARATION OF TOOL. The following steps were carried out in preparing the tool are: 1) Literature review. 2) Validity of tool. 3) Pre-Testing. 4) Reliability

DESCRIPTION OF THE TOOL: Based on the objectives of the study, standardized tool and checklist was used to assess the level of lower extremity perfusion. The tool was divided into two sections: Section A and Section B.

Descriptive Statistics

Section A : Distribution of diabetes mellitus patients with regards to demographic variables. **Section B :** Assessment of level of pre test and post test level of lower extremity perfusion score among diabetes mellitus patients admitted in selected hospital of the city in experimental and control group. **Section C:** Assessment of effectiveness of Allen Buerger Exercise on lower extremity perfusion score among diabetes mellitus patients admitted in selected hospital of the city in experimental and control group. **Section D:** Correlation of lower extremity perfusion score in post test of diabetes mellitus patients in experimental and in control group. **Section E:** Association of post test level of lower extremity score among diabetes mellitus patients admitted in selected hospital of the city in experimental group with their demographic variables.

RESULTS AND DISCUSSION

In this study, 5% of diabetes mellitus patients in experimental group had normal lower extremity score, 22.5% in experimental group and 27.5% in control group had some arterial disease, 65% in experimental group and 67.5% in control group had moderate arterial disease and 7.5% in experimental group and 5% in control group had severe arterial disease score. Minimum lower extremity score in experimental group was 0.40 and in control group it was 0.40 and in maximum lower extremity score in experimental group was 8 and in control group it was 0.90. Mean lower extremity score among diabetes mellitus, while after post test it shows 12.5% of diabetes mellitus patients in experimental group and 5% in control group had normal lower extremity score, 75% in experimental group and 82.5% in control group had some arterial disease and 12.5% in experimental group and 12.5% in control group had moderate arterial disease score. Minimum lower extremity score in experimental group was 0.50 and in control group it was 0.40 and in maximum lower extremity score in experimental group was 2 and in control group it was 1.40.

Section A: Distribution of diabetes mellitus patients with regards to demographic variables.

Section B: Assessment of level of pre test and post test level of lower extremity perfusion score among diabetes mellitus patients admitted in selected hospital of the city in experimental and control group.

Section C: Assessment of effectiveness of Allen Buerger Exercise on lower extremity perfusion score among diabetes mellitus patients admitted in selected hospital of the city in experimental and control group

Section D: Correlation of lower extremity perfusion score in post test of diabetes mellitus patients in experimental and in control group.

Section E: Association of post test level of lower extremity score among diabetes mellitus patients admitted in selected hospital of the city in experimental group with their demographic variables.

SECTION A: This section deals with percentage wise distribution of diabetes mellitus patients with regards to their demographic characteristics. A convenient sample of 80 subjects was drawn from the study population, who were from selected hospital of the city. The data obtained to describe the sample characteristics including age, BMI, dietary pattern, bad habit, duration of DM, type of DM, previous history of PAD, activity and ABI value respectively.

TABLE 4.1: PERCENTAGE WISE DISTRIBUTION OF DIABETES MELLITUS PATIENTS ACCORDING TO DEMOGRAPHIC CHARACTERISTICS.

n=80

Demographic Variables	Experimental Group(n=40)	Control Group(n=40)
Age(yrs)		
45-50 yrs	15(37.5%)	17(42.5%)
50-55 yrs	15(37.5%)	17(42.5%)
55-60 yrs	10(25%)	6(15%)
BMI(kg/m2)		
18.5-24.9 kg/m2	14(35%)	18(45%)
25-29.9 kg/m2	25(62.5%)	22(55%)
13.5-17.9 kg/m2	1(2.5%)	0(0%)
Diet pattern		
Vegetarian	18(45%)	22(55%)
Non Vegetarian	0(0%)	0(0%)
Mixed	22(55%)	18(45%)
Bad Habit		
Smoking	10(25%)	3(7.5%)
Alcohol	12(30%)	10(25%)
Tobacco	2(5%)	11(27.5%)
No Habit	16(40%)	16(40%)
Duration of DM		
1-3 yrs	7(17.5%)	16(40%)
3-6 yrs	26(65%)	21(52.5%)
>6 yrs	7(17.5%)	3(7.5%)
Type of DM		
Type 1	31(77.5%)	32(80%)
Type 2	9(22.5%)	8(20%)
Previous history of PAD		
Yes	6(15%)	3(7.5%)
No	34(85%)	37(92.5%)
Activity		
Mild	17(42.5%)	19(47.5%)
Moderate	15(37.5%)	19(47.5%)
Severe	7(17.5%)	2(5%)
Absent	1(2.5%)	0(0%)

- Regarding age: in experimental group (37.5%) of patients were included in age group 45-50 yr as well as in age group 50-55 yr, and 25 % of patients were included in age group 55-60 yr while in control group, (42.5%) of patients were included in age group 45-50 yr as well as in age group 50-55 yr, and 15 % of patients were included in age group 55-60 yr.
- Regarding BMI: in experimental group, (35%) of patients were included in 18.5-24.9 kg/m2 range ,62.5% of patients in 25-29.9 kg/m2 range and 2.5 % of patients were included in 13.5-17.9 kg/m2 range while in control group, (45%) of patients were included in 18.5-24.9 kg/m2 range ,55% of patients in 25-29.9 kg/m2 range and 0 % of patients were included in 13.5-17.9 kg/m2 range.
- Regarding diet pattern: in experimental group, 45 % of patients were included in vegetarian and 55 % of patients were included in mixed group while in control group, 55 % of patients were included in vegetarian and 45 % of patients were included in mixed group.
- Regarding bad habits: in experimental group, 25% of patients were included in smoking , 30% of were included in alcohol, 5% of patients were included in tobacco and 40 % of patients had no bad habits while in control group, 7.5% of patients were included in smoking , 25% of were included in alcohol, 27.5% of patients were included in tobacco and 40 % of patients had no bad habits.
- About duration of diabetes mellitus: in experimental group, 7.5% of patients were included in duration of 1-3

yr, 65% of patients were included in duration of 3-6 yrs and

, 17.5% of patients were included in duration of more than 6 yrs while in control group 40% of patients were included in duration of 1-3 yrs, 52.5% of patients were included in duration of 3-6 yrs and , 7.5% of patients were included in duration of more than 6 yrs,

- Again about type of diabetes mellitus: in experimental group, 77.5% of patients were included in type 1 diabetes mellitus and 22.5% of patients were included in type 2 diabetes mellitus while in control group, 80% of patients were included in type 1 diabetes mellitus and 20% of patients were included in type 2 diabetes mellitus.
- Regarding previous history of PAD: in experimental group, 15% of patients had previous history of PAD and 85% of patients had no previous history of PAD while in control group, 7.5% of patients had previous history of PAD and 92.5% of patients had no previous history of PAD.
- About activity: in experimental group, 42.5% of patients were included in mild activity , 37.5% of were included in moderate activity, 17.5% of patients were included in severe activity and 2.5 % of patients had no activity while in control group, 47.5% of patients were included in mild activity , 47.5% of were included in moderate activity, 5% of patients were included in severe activity and 0 % of patients had no activity.

PERCENTAGE WISE DISTRIBUTION OF DIABETES MELLITUS PATIENTS ACCORDING TO SELECTED CLINICAL FEATURES OF PAD.

- Regarding peripheral pulses, Peripheral pulse was absent in 17.5% of diabetes mellitus patients in experimental group and 5% in control group, non palpable in 42.5% of DM patients in experimental group and 45% in control group and it was weak in 40% of diabetes patients in experimental group and 50% of control group.
- Regarding capillary refill time, Capillary refill time was 3 in 37.5% of diabetes mellitus patients in experimental group and 52.50% in control group, was 4 in 47.5% of DM patients in experimental group and 42.5% in control group and was more than 4 in 15% of diabetes patients in experimental group and 5% of control group.
- Regarding edema, Edema was mild in 35% of diabetes mellitus patients in experimental group and 60% in control group, was moderate in 47.5% of DM patients in experimental group and 37.5% in control group and was severe in 17.5% of diabetes patients in experimental group and 2.50% of control group.
- About temperature, Temperature was cold in 15% of diabetes mellitus patients in experimental group and 5% in control group, was mild in 42.5% of DM patients in experimental group and 45% in control group and was moderate in 42.5% of diabetes patients in experimental group and 50% of control group.
- According to pain, Pain was mild in 40% of diabetes mellitus patients in experimental group and 42.5% in control group, was moderate in 37.5% of DM patients in experimental group and 50% in control group and was severe in 22.5% of diabetes patients in experimental group and 7.50% of control group.
- Regarding skin, Skin was bluish in 35% of diabetes mellitus patients in experimental group and 47.5% in control group, was pale in 42.5% of DM patients in experimental group and 47.5% in control group and was reddish in 17.5% of diabetes patients in experimental group and 5% of control group.

SECTION B

This section deals with the assessment of level of lower extremity perfusion among diabetes mellitus patients admitted in selected hospitals of the city. The level of lower extremity perfusion score is divided under following heading of normal, some arterial disease, moderate arterial disease and severe arterial disease respectively.

TABLE 4.3: ASSESSMENT WITH LEVEL OF PRE TEST LOWER EXTREMITY PERFUSION SCORE

n= 80

Level of pre test lower extremity perfusion score	Score Range	Level of Pre test lower extremity perfusion Score	
		Experimental Group(n=40)	Control Group(n=40)
Normal	>1	2(5%)	0(0%)
Some arterial disease	1.0-0.8	9(22.5%)	11(27.5%)
Moderate arterial disease	0.8-0.5	26(65%)	27(67.5%)
Severe arterial disease	<0.5	3(7.5%)	2(5%)
Minimum score		0.4	0.40
Maximum score		8	0.90
Mean knowledge score		0.99 ± 1.33	0.78±0.11

The above table shows that 5% of diabetes mellitus patients in experimental group had normal lower extremity score, 22.5% in experimental group and 27.5% in control group had some arterial disease, 65% in experimental group and 67.5% in control group had moderate arterial disease and 7.5% in experimental group and 5% in control group had severe arterial disease score. Minimum lower extremity score in experimental group was 0.40 and in control group it was 0.40 and in maximum lower extremity score in experimental group was 8 and in control group it was 0.90. Mean lower extremity score among diabetes mellitus patients in experimental group was 0.99 ± 1.33 and in control group it was 0.78 ± 0.11 .

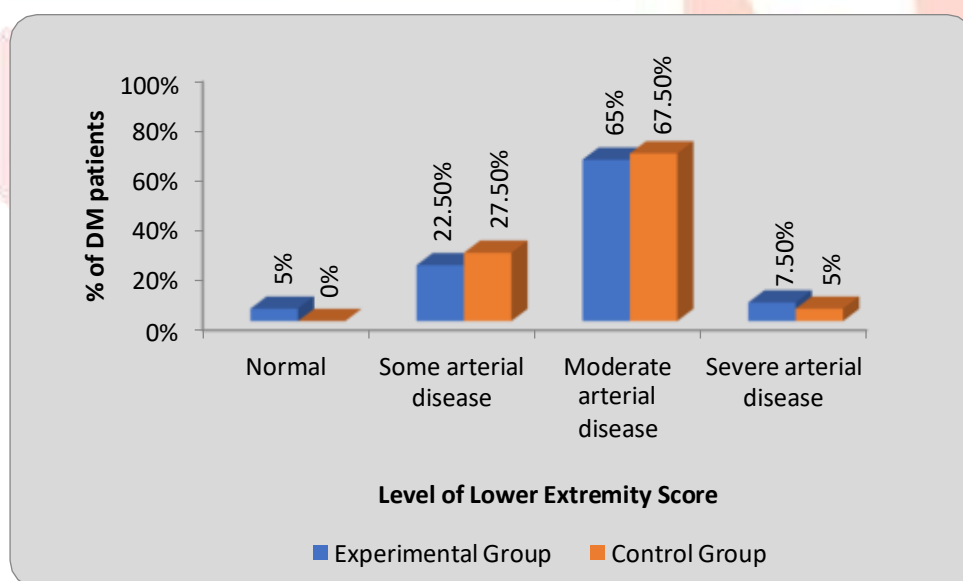
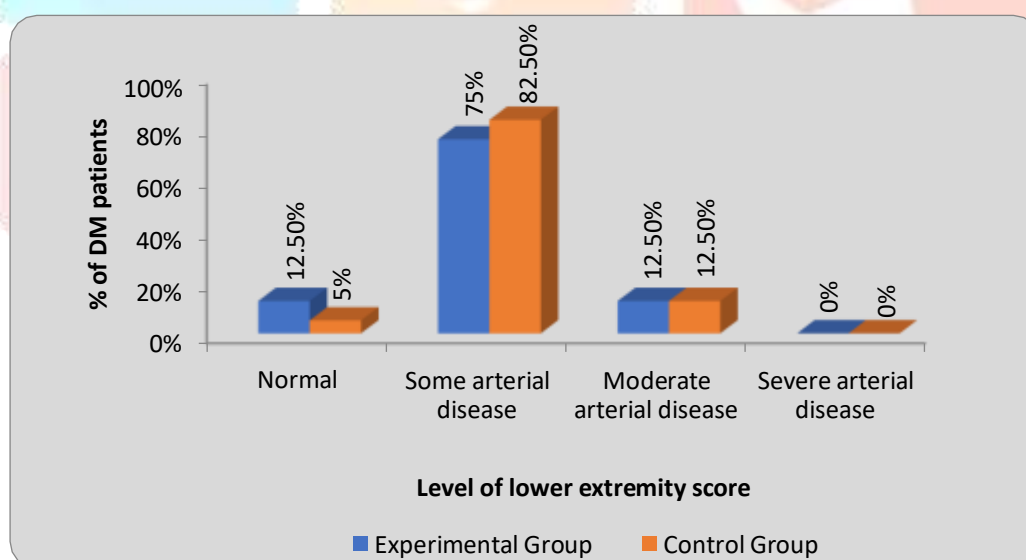
GRAPH 4.15: ASSESSMENT WITH LEVEL OF PRE TEST LOWER EXTREMITY PERFUSION SCORE

TABLE 4.4: ASSESSMENT WITH LEVEL OF POST TEST LOWER EXTREMITY PERFUSION SCORE

n= 80

Level of post test lower extremity perfusionscore	Score Range	Level of Post test lower extremity perfusion Score	
		Experimental Group(n=40)	Control Group(n=40)
Normal	>1	5(12.5%)	2(5%)
Some arterial disease	1.0-0.8	30(75%)	33(82.5%)
Moderate arterial disease	0.8-0.5	5(12.5%)	5(12.5%)
Severe arterial disease	<0.5	0(0%)	0(0%)
Minimum score		0.50	0.40
Maximum score		2	1.40
Mean knowledge score		1.13 ± 0.45	0.78±0.21

The above table shows that 12.5% of diabetes mellitus patients in experimental group and 5% in control group had normal lower extremity score, 75% in experimental group and 82.5% in control group had some arterial disease and 12.5% in experimental group and 12.5% in control group had moderate arterial disease score. Minimum lower extremity score in experimental group was 0.50 and in control group it was 0.40 and in maximum lower extremity score in experimental group was 2 and in control group it was 1.40. Mean lower extremity score among diabetes mellitus patients in experimental group was 1.13 ± 0.45 and in control group it was 0.78 ± 0.21 .

GRAPH 4.16: ASSESSMENT WITH LEVEL OF POST TEST LOWER EXTREMITY PERFUSION SCORE

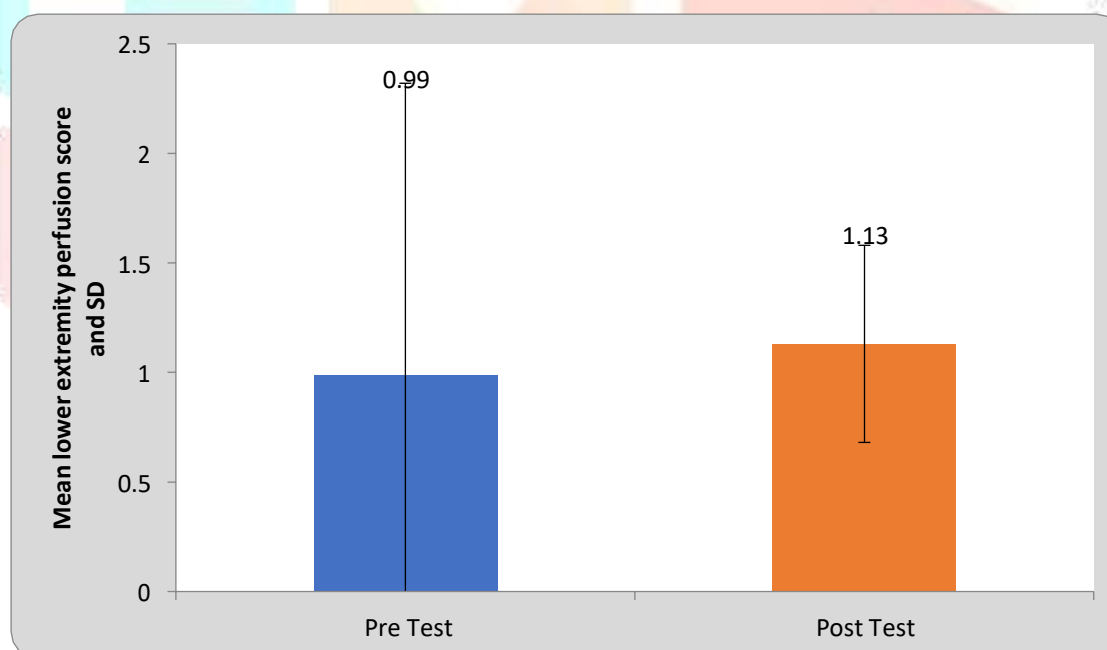
SECTION C

This section deals with the effectiveness of Allen Buerger Exercise in improving lower extremity perfusion among diabetes mellitus patients admitted in selected hospitals of the city. The hypothesis is tested statistically with distribution of pretest and post-test mean, standard deviation and mean percentage lower extremity perfusion score. The levels of knowledge during the pretest and post-test are compared to prove the effectiveness of Allen Buerger Exercise. Significance of difference at 5% level of significance is tested with student's paired 't' test and tabulated 't' value is compared with calculated 't' value. Also, the calculated 'p' values are compared with acceptable 'p' value i.e. 0.05.

TABLE 4.5: SIGNIFICANCE OF DIFFERENCE BETWEEN LOWER EXTREMITY PERFUSION SCORE IN PRE AND POST TEST OF DIABETES MELLITUS PATIENTS IN EXPERIMENTAL GROUP**n=40**

Test	Mean	SD	Mean Difference	t-value	p-value
Pre Test	0.99	1.33	0.14±1.43	27.42	
Post Test	1.13	0.45			0.0001 S,p<0.05

This table shows the comparison of pretest and post-test lower extremity perfusion scores of diabetes mellitus patients admitted in selected hospitals of the city. Mean, standard deviation and mean difference values are compared and student's paired 't' test is applied at 5% level of significance. The tabulated value for n=40-1 i.e. 39 degrees of freedom was 2.42. The calculated 't' value i.e. 27.42 are much higher than the tabulated value at 5% level of significance for overall lower extremity perfusion score of diabetes mellitus patients which is statistically acceptable level of significance. Hence it is statistically interpreted that the Allen Buerger Exercise in improving lower extremity perfusion among diabetes mellitus patients admitted in selected hospitals of the city was effective.

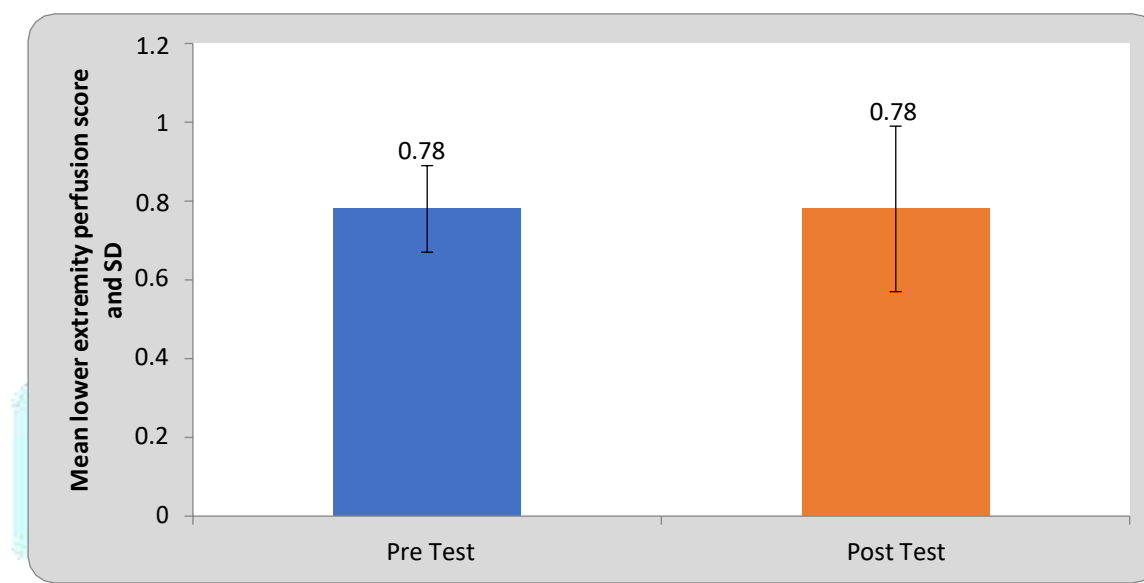
GRAPH 4.17: SIGNIFICANCE OF DIFFERENCE BETWEEN LOWER EXTREMITY PERFUSION SCORE IN PRE AND POST TEST OF DIABETES MELLITUS PATIENTS IN EXPERIMENTAL GROUP**TABLE 4.6: SIGNIFICANCE OF DIFFERENCE BETWEEN LOWER EXTREMITY PERFUSION SCORE IN PRE AND POST TEST OF DIABETES MELLITUS PATIENTS IN CONTROL GROUP****n=40**

Test	Mean	SD	Mean Difference	t-value	p-value
Pre Test	0.78	0.11	0.005±0.25	0.12	0.90
Post Test	0.78	0.21			NS,p>0.05

This table shows the comparison of pretest and post test lower extremity perfusion scores of diabetes mellitus patients admitted in selected hospitals of the city. Mean, standard deviation and mean difference

values are compared and student's paired 't' test is applied at 5% level of significance. The tabulated value for $n=40-1$ i.e. 39 degrees of freedom was 2.42. The calculated 't' value i.e. 0.12 are much less than the tabulated value at 5% level of significance for overall lower extremity perfusion score of diabetes mellitus patients which is statistically not acceptable level of significance. Hence it is statistically interpreted that the Allen Buerger Exercise in improving lower extremity perfusion among diabetes mellitus patients admitted in selected hospitals of the city was not effective. Thus, the H_{01} is accepted.

GRAPH 4.18: SIGNIFICANCE OF DIFFERENCE BETWEEN LOWER EXTREMITY PERFUSION SCORE IN PRE AND POST TEST OF DIABETES MELLITUS PATIENTS IN CONTROL GROUP



SECTION D

Correlation of lower extremity perfusion score in post test of diabetes mellitus patients in experimental and in control group

TABLE 4.7: CORRELATION OF LOWER EXTREMITY PERFUSION SCORE IN POST TEST OF DIABETES MELLITUS PATIENTS IN EXPERIMENTAL AND IN CONTROL GROUP

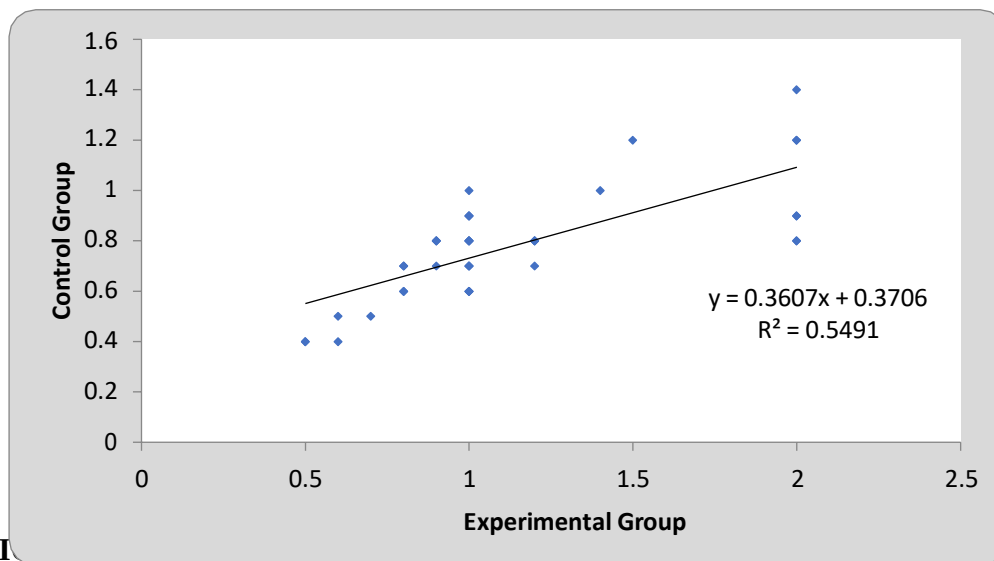
n=80

Group	Mean	SD	Mean Difference	r-value	p-value
Experimental Group	1.13	0.45	0.35±0.07	0.741	0.0001 S,p<0.05
Control Group	0.78	0.21			

This table shows the correlation of post test lower extremity perfusion scores of diabetes mellitus patients admitted in selected hospitals of the city in experimental and control group. Lower extremity perfusion score are correlated by using Pearson's Correlation Coefficient.

Significant positive correlation was found in lower extremity perfusion score among patients of experimental and control group.

GRAPH 4.19 : CORRELATION OF LOWER EXTREMITY PERFUSION SCORE IN POST TEST OF DIABETES MELLITUS PATIENTS IN EXPERIMENTAL AND IN CONTROL GROUP



SECTION 4.8:

Association of level of post test lower extremity perfusion score among diabetes mellitus patients admitted in selected hospitals of the city in relation to their demographic variables **TABLE 4. 8: ASSOCIATION OF POST TEST LOWER EXTREMITY PERFUSION SCORE AMONG DIABETES MELLITUS PATIENTS IN RELATION TO THEIR AGE IN YEARS.**

n=40

Age (yrs)	No. of DM patients	Normal	Some arterial disease	Moderate arterial disease	Severe arterial	χ^2 -value	p-value
45-50 yrs	15(37.5%)	4	11	0	0	11.27	0.024 S,p<0.05
50-55 yrs	15(37.5%)	0	11	4	0		
55-60 yrs	10(25%)	1	8	1	0		

This table shows the association of lower extremity perfusion score with age in years of diabetes mellitus patients from selected hospitals of the city. The tabulated ' χ^2 ' values was 9.49(df=4) which is less than the calculated ' χ^2 ' i.e. 11.27 at 5% level of significance. Also the calculated ' p '=0.024 which was less than the acceptable level of significance i.e. ' p '=0.05. Hence it is interpreted that age in years of diabetes mellitus patients is statistically associated with their post test lower extremity perfusion score.

TABLE 4.9: ASSOCIATION OF POST TEST LOWER EXTREMITY PERFUSION SCORE AMONG DIABETES MELLITUS PATIENTS IN RELATION TO THEIR BMI(KG/M2).

n=40

BMI(kg/m2)	No. of DM patients	Normal	Some arterial disease	Moderate arterial disease	Severe arterial	χ^2 -value	p-value
18.5-24.9 kg/m2	14(35%)	1	11	2	0	0.99	0.91 NS,p>0.05
25-29.9 kg/m2	25(62.5%)	4	18	3	0		
13.5-17.9 kg/m2	1(2.5%)	0	1	0	0		

This table shows the association of lower extremity perfusion score with BMI(kg/m2) of diabetes mellitus patients from selected hospitals of the city. The tabulated ' χ^2 ' values was 9.49(df=4) which is higher than the calculated ' χ^2 ' i.e. 0.99 at 5% level of significance. Also, the calculated ' p '=0.91 which was higher than the acceptable level of significance i.e. ' p '=0.05. Hence it is interpreted that BMI (kg/m2) of diabetes mellitus patients is statistically not associated with their post test lower extremity perfusion score.

TABLE 4.10: ASSOCIATION OF POST TEST LOWER EXTREMITY PERFUSION SCORE AMONG DIABETES MELLITUS PATIENTS IN RELATION TO THEIR DIET PATTERN

n=40

Diet pattern	No. of DM patients	Normal	Some arterial disease	Moderate arterial	Severe arterial	χ^2 -value	p-value
Vegetarian	18(45%)	3	13	2	0	0.53	0.76 NS,p>0.05
Non Vegetarian	0(0%)	0	0	0	0		
Mixed	22(55%)	2	17	3	0		

This table shows the association of lower extremity perfusion score with diet pattern of diabetes mellitus patients from selected hospitals of the city. The tabulated ' χ^2 ' values was 5.99(df=2) which is higher than the calculated ' χ^2 ' i.e. 0.53 at 5% level of significance. Also, the calculated ' p '=0.76 which was higher than the acceptable level of significance i.e. ' p '=0.05. Hence it is interpreted that diet pattern of diabetes mellitus patients is statistically not associated with their post test lower extremity perfusion score.

TABLE 4.11: ASSOCIATION OF POST TEST LOWER EXTREMITY PERFUSION SCORE AMONG DIABETES MELLITUS PATIENTS IN RELATION THEIR BADHABITS

n=40

Bad habits	No. of DM patients	Normal	Some arterial disease	Moderate arterial disease	Severe arterial	χ^2 -value	p-value
Smoking	10(25%)	1	9	0	0	4.62	0.59 NS,p>0.05
Alcohol	12(30%)	1	8	3	0		
Tobacco	2(5%)	0	2	0	0		
No Habit	16(40%)	3	11	2	0		

This table shows the association of lower extremity perfusion score with bad habits of diabetes mellitus patients from selected hospitals of the city. The tabulated ' χ^2 ' values was 12.59(df=6) which is higher than the calculated ' χ^2 ' i.e. 4.62 at 5% level of significance. Also the calculated ' p '=0.59 which was higher than the acceptable level of significance i.e. ' p '=0.05. Hence it is interpreted that bad habits of diabetes mellitus patients is statistically not associated with their post test lower extremity perfusion score.

TABLE 4.12: ASSOCIATION OF POST TEST LOWER EXTREMITY PERFUSION SCORE AMONG DIABETES MELLITUS PATIENTS IN RELATION TO THEIR DURATION OF DM

n=40

Duration of diabetes mellitus	No. of DM patients	Normal	Some arterial disease	Moderate arterial disease	Severe arterial	χ^2 -value	p-value
1-3 yrs	7(17.5%)	0	7	0	0	4.30	0.36 NS,p>0.05
3-6 yrs	26(65%)	4	19	3	0		
>6 yrs	7(17.5%)	1	4	2	0		

This table shows the association of lower extremity perfusion score with duration of diabetes mellitus of diabetes mellitus patients from selected hospitals of the city. The tabulated ' χ^2 ' values was 9.49(df=4) which is higher than the calculated ' χ^2 ' i.e. 4.30 at 5% level of significance. Also the calculated ' p '=0.36 which was higher than the acceptable level of significance i.e. ' p '=0.05. Hence it is interpreted that duration of diabetes mellitus of diabetes mellitus patients is statistically not associated with their post test lower extremity perfusion score.

TABLE 4.13: ASSOCIATION OF POST TEST LOWER EXTREMITY PERFUSION SCORE AMONG DIABETES MELLITUS PATIENTS IN RELATION TO THEIR TYPE OF DM

n=40

Type of diabetes mellitus	No. of DM patients	Normal	Some arterial disease	Moderate arterial disease	Severe arterial	χ^2 -value	p-value
Type 1	31(77.5%)	4	23	4	0	0.04	0.97 NS,p>0.05
Type 2	9(22.5%)	1	7	1	0		

This table shows the association of lower extremity perfusion score with type of diabetes mellitus of diabetes mellitus patients from selected hospitals of the city. The tabulated ' χ^2 ' values was 5.99(df=2) which is higher than the calculated ' χ^2 ' i.e. 0.04 at 5% level of significance. Also, the calculated ' p '=0.97 which was higher than the acceptable level of significance i.e. ' p '=0.05. Hence it is interpreted that type of diabetes mellitus of diabetes mellitus patients is statistically not associated with their post test lower extremity perfusion score.

TABLE 4.14: ASSOCIATION OF POST TEST LOWER EXTREMITY PERFUSION SCORE AMONG DIABETES MELLITUS PATIENTS IN RELATION TO THEIR PREVIOUS HISTORY OF PAD

n=40

Previous history of PAD	No. of DM patients	Normal	Some arterial disease	Moderate arterial disease	Severe arterial	χ^2 -value	p-value
Yes	6(15%)	1	3	2	0	3.13	0.20 NS,p>0.05
No	34(85%)	4	27	3	0		

This table shows the association of lower extremity perfusion score with previous history of PAD of diabetes mellitus patients from selected hospitals of the city. The tabulated ' χ^2 ' values was 5.99(df=2) which is higher than the calculated ' χ^2 ' i.e. 3.13 at 5% level of significance. Also, the calculated ' p '=0.20 which was higher than the acceptable level of significance i.e. ' p '=0.05. Hence it is interpreted that previous history of PAD of diabetes mellitus patients is statistically not associated with their post-test lower extremity perfusion score.

TABLE 4.15: ASSOCIATION OF POST TEST LOWER EXTREMITY PERFUSION SCORE AMONG DIABETES MELLITUS PATIENTS IN RELATION THEIR ACTIVITY

n=40

Activity	No. of DM patients	Normal	Some arterial disease	Moderate arterial disease	Severe arterial	χ^2 -value	p-value
Mild	17(42.5%)	1	15	1	0	4.50	0.60 NS,p>0.05
Moderate	15(37.5%)	3	10	2	0		
Severe	7(17.5%)	1	4	2	0		
Absent	1(2.5%)	0	1	0	0		

This table shows the association of lower extremity perfusion score with activity of diabetes mellitus patients from selected hospitals of the city. The tabulated ' χ^2 ' values was 12.59(df=6) which is higher than the calculated ' χ^2 ' i.e. 4.50 at 5% level of significance. Also, the calculated ' p '=0.60 which was higher than the acceptable level of significance i.e. ' p '=0.05. Hence it is interpreted that activity of diabetes mellitus patients is statistically not associated with their post- test lower extremity perfusion score.

Major Findings Of Study: In this study, 5% of diabetes mellitus patients in experimental group had normal lower extremity score, 22.5% in experimental group and 27.5% in control group had some arterial disease, 65% in experimental group and 67.5% in control group had moderate arterial disease and 7.5% in experimental group and 5% in control group had severe arterial disease score. Minimum lower extremity score in experimental group was 0.40 and in control group it was 0.40 and in maximum lower extremity score in experimental group was 8 and in control group it was 0.90. Mean lower extremity score among diabetes mellitus, while after post test it shows 12.5% of diabetes mellitus patients in experimental group and 5% in control group had normal lower extremity score, 75% in experimental group and 82.5% in control group had some arterial disease and 12.5% in experimental group and 12.5% in control group had moderate

arterial disease score. Minimum lower extremity score in experimental group was 0.50 and in control group it was 0.40 and in maximum lower extremity score in experimental group was 2 and in control group it was 1.40.

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