



## **A Comparative study to assess the effect of standing position and sitting crossed leg position on blood pressure among faculties of Charusat Changa Gujarat**

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### **Abstract**

The Researcher aims to assess Effect of standing position and sitting crossed leg position on blood pressure. Multiple databases were searched focusing on effect of standing position and sitting crossed leg position on blood pressure. It was concluded through this literature review that standing position increases the blood pressure little significantly.

**Keywords:** standing position, sitting crossed leg position, blood pressure, faculties

### **1. Introduction**

Blood pressure monitoring is one of the most commonly used techniques in the diagnosis and treatment of various health care problems. Blood pressure measurement is a crucial tool in determining the existence of hypertension. Consequently, all efforts should be made to eliminate errors in measuring blood pressure. Numerous factors influence an individual's blood pressure measurement including medications, arm and body position, noise, extreme temperature, constrictive clothing, faulty equipment white-coat effect, attitude of the person taking the measurement, anxiety, improper cuff length or width, talking, mental and physical activity and diurnal variability<sup>[1]</sup>.

The importance of the accuracy of blood pressure assessments cannot be overemphasized. Many judgments about a client's health are made based on blood pressure. It is an important indicator of the client's condition and is used as a basis for nursing interventions.

It is helpful to know what the minimum number of home readings should be to establish a stable level when response to anti-hypertensive treatment, whether it be using medications or non pharmacological treatment. To determine the influence of the number of readings used to define the difference between two average blood pressure levels instructed patients to take three readings in the morning and three in the evening over a period of 3 week. They then calculated the standard deviation (SD) of the difference between two means derived from increasing number from individual readings over two 10-d periods. The SD of the difference between the two means decreased progressively as larger numbers of individual readings were used to define each of the two means. About 80% of this reduction was obtained when 15 readings were used to define a mean, and including a larger number of readings brought little additional precision. The authors concluded that three readings taken over 5 days (preferably at the same

day) should be sufficient to detect a drug-induced decrease of blood pressure<sup>[2]</sup>.

### **2. Materials and Methods**

The data collection process involves the precise, systematic gathering of information relevant to the research purpose questions.

The pilot study is carried out at the end of the planning phase of research in order to explore and test the research elements to make relevant modifications in research tools and methodology<sup>[3]</sup>. It is designed to acquaint the researcher with the problem to be corrected in preparation for the large research project and try out problems of collecting the data.

The pilot study was conducted at Manikaka Topawala Institute of Nursing, CHARUSAT Changa after getting formal administration permission from college authority.

After obtaining formal administrative approval, pilot study was conducted from. Pilot study was aimed to assess the effect of standing position and sitting crossed leg position on blood pressure.

Prior written permission was obtained for the main study from the selected institutes of CHARUSAT. Faculties were selected by purposive sampling technique. Informed consent was obtained from the subjects with the assured confidentiality. Data collection was done in selected institutes of CHARUSAT, Changa. Totally, 100 samples were involved in the study.

### **3. Results and Discussion**

#### **Major findings of the study**

#### **1. Data analysis for socio-demographic variables**

The data on sample characteristics revealed that faculties were between the age group of 30-32 years. Majority of the faculties 51(51%) were male, 72(72%) of the faculties belongs to normal BMI. Around 96(96%) of faculties were found vegetarian in whom 99(99%) do not have any kind of

bad habits, out of which 57(57%) consume once in a week junk food.

**2. Data analysis for effect of standing position on blood pressure**

Data analysis for effect of standing position on blood pressure revealed that in standing position average systolic blood pressure was 121.9 with standard deviation of 7.2. In standing position, average diastolic blood pressure was 81.2 with standard deviation of 5.9.

**3. Data analysis for effect of sitting cross leg position on blood pressure**

Data analysis for effect of sitting crossed leg position on blood pressure revealed that in sitting crossed leg position average systolic blood pressure was 123.9 with standard deviation of 7.6. In sitting position, average diastolic blood pressure was 84.3 with standard deviation of 4.4.

**4. Data analysis for comparison between effect of standing position and sitting cross leg position on blood pressure**

Data analysis depicts that for comparison of blood pressure

in standing position with that in sitting crossed leg position average systolic blood pressure was 121.9 in standing position and 123.9 in sitting crossed leg position. Systolic blood pressure increased significantly in sitting crossed leg position as compared to that in standing position.

Average diastolic blood pressure was 81.2 in standing position and 84.3 in sitting crossed leg position. Diastolic blood pressure increased significantly in sitting crossed leg position as compared to that in standing position.

Blood pressure is significantly higher in sitting crossed leg position as compared to that in standing position.

**5. Data analysis for association between standing position and sitting crossed leg position among the demographic variables**

Statistical analysis was done by the Anova. Anova test revealed that the variables age, gender, height, BMI, diet, habit, consumption of junk food none of the demographic variable was found to have significant association with the standing position and sitting crossed leg position.

**Table 1:** Frequency and percentage distribution of faculties according to Socio-Demographic Variables N=100

Demographic variable	Frequency	Percentage
<b>Age</b>		
30-32 years	40	40%
33-35 years	24	24%
36-37 years	19	19%
38-40 years	17	17%
<b>Gender</b>		
Male	51	51%
Female	49	49%
<b>BMI</b>		
Normal	72	72%
Obese	1	1%
Overweight	17	17%
Underweight	10	10%
<b>Diet</b>		
Vegetarian	96	96%
Mixed	4	4%
<b>Habit</b>		
Tobacco chewing	1	1%
No Habit	99	99%
<b>Consumption of junk food</b>		
Once in a week	57	57%
Twice in a week	24	24%
Thrice in a week	9	9%
Not Consuming	10	10%

**Table 2:** Mean, Standard deviation scores of faculties regarding effect of standing position on blood pressure N=100

Standing Position	Mean	Standard Deviation
Systolic	121.9	7.2
Diastolic	81.2	5.9

**Table 3:** Mean, Standard deviation scores of faculties regarding effect of sitting crossed leg position on blood pressure N=100

Sitting Crossed Leg Position	Mean	Standard Deviation
Systolic	123.9	7.6
Diastolic	84.3	4.4

**Table 4:** Mean, Standard deviation, t-test value scores of faculties regarding comparison between effect of standing position and sitting cross leg position on blood pressure among faculties of Charusat N=100

Blood pressure	Position	Mean	SD	t-test	df	p-value
Systolic	Standing	121.9	7.2	2.0	99	0.022
	Sitting cross leg	123.9	7.6			
Diastolic	Standing	81.2	5.9	4.3	99	0.000
	Sitting cross leg	84.3	4.4			

P<0.05

**Table 5:** Anova scores of faculties for association between systolic blood pressure in standing position with demographic variables N=100

Demographic variable	P-value	Calculated value	Tabulated value
Age in years	0.051	2.68	2.70
Gender	0.759	0.09	3.94
BMI	0.431	0.93	2.70
Diet	0.160	2.00	3.94
Habit	0.094	2.86	3.94
Consumption of junk food (In a week)	0.445	0.90	2.70

P<0.05

**Table 6:** Anova scores of faculties for association between diastolic blood pressure in standing position with demographic variables N=100

Demographic variable	P-value	Calculated value	Tabulated value
Age in years	0.405	0.98	2.70
Gender	0.286	1.15	3.94
BMI	0.554	0.70	2.70
Diet	0.806	0.06	3.94
Habit	0.838	0.04	3.94
Consumption of junk food (In a week)	0.811	0.32	2.70

P<0.05

**Table 7:** Anova scores of faculties for association between systolic blood pressure in sitting cross leg position with demographic variables P<0.05 N=100

Demographic variable	P-value	Calculated value	Tabulated value
Age in years	0.946	0.12	2.70
Gender	0.259	1.29	3.94
BMI	0.964	0.09	2.70
Diet	0.708	0.14	3.94
Habit	0.067	3.43	3.94
Consumption of junk food (In a week)	0.131	1.92	2.70

**Table 8:** Anova scores of faculties for association between diastolic blood pressure in sittingcrossed leg position with demographic variables N=100

Demographic variable	P-value	Calculated value	Tabulated value
Age in years	0.761	0.39	2.70
Gender	0.090	2.94	3.94
BMI	0.897	0.20	2.70
Diet	0.708	0.14	3.94
Habit	0.330	0.96	3.94
Consumption of junk food (In a week)	0.604	0.62	2.70

P<0.05

**4. Conclusion**

Many predators, parasitoids, entomopathogenic fungus and viruses have been identified from sesame ecosystem. It is therefore required to study about the efficiency of some of the important predators and parasitoids in order to reduce the use of chemical pesticides in sesame and also conserved many natural enemies as well as the pollinators.

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**6. References**

1. Foster-Fitzpatrick L, Anna Ortiz BS, Sibilano H. The Effects of Crossed Leg on. Nursing Research. 1992; 48:105-8.
2. Rai BK. Pests of Oilseed Crops in India and Their Control. Indian council of Agricultural Research. New Delhi, India. 1976, 76-80.
3. White B. William. Blood Pressure Monitoring in

- Cardiovascular Medicine and Therapeutics. New Jersey: Humana Press Totowa. 2007, 17.
4. Sharma Suresh. Nursing Research & Statistics. 2nd ed. Tamil Nadu. Published by Reed Elsevier India Private Limited. 2004; 121,124,101,138,39,210,286,287,41.