



Disc herniation and spinal canal narrowing are so frequent as to be shown by MRI imaging in a large amount of the people in their later years, and in most cases, such conditions are not responsible for the pain. They often are referred to as reasons for surgery, but only seldom are operations successful in improving the pain definitively [2]

Often the answer of cause of pain lies not only in terms of pain, but in the way we stand, sit, rest, and play. [4] How we care for our posture has a direct impact on the extent to which back pain may occur. Be aware of "best" way to sit, stand, walk and can go a little further to the easing of symptoms. [5] Research among patients suffering from back problems shows that 85% of all problems can be traced back to a sitting position (long) incorrect. A better life starts with being healthy. [9] Pain can be minimized by changing sitting posture during job activity. Changing position of legs, back and even chair can cause significant improvement of frequency of Low Back Pain [10] Correct posture is a function of Pelvis position, Lumbar and thoracic spine position, Shoulder position, Maximum hip extensor muscle use, Core stabilization, Eliminates low back discomfort and Eliminates shoulder -arm -hand discomfort [6]

### **Objectives**

The objectives of this study are,

1. Awareness of sitting posture adapted by patients of chronic low back pain
2. Correlate the poor sitting posture with chronic low back pain

### **1.1 Operational Definitions**

#### **1.1.1 Low Back**

The lumbar spine consists of five lumbar vertebral bodies. These sit on top of the sacrum, which in turn is above the coccyx (tailbone). The lumbar spine supports the thoracic spine (which has twelve vertebral levels), and this in turn wires the cervical spine (neck), which has seven levels. Finally, the cervical spine supports the head. It is hence clear that the lumbar spine supports most of the weight of the body. Its vertebral bodies are the largest of the spine, because of the large amount of weight they must bear. (1)

#### **1.1.2 Low back pain**

Low back pain is a common musculoskeletal disorder disturbing 80% of people at some point in their lives. In the United States it is the most frequent cause of job-related disability, a leading provider to missed work, and the second most common neurological disorder, only headache is more common. It can be acute, subacute or chronic in duration. With conservative trial, the symptoms of low back pain typically show considerable improvement within a few weeks from onset. (1)

#### **1.1.3 Chronic Low Back Pain**

Low back pain is considered chronic if present for more than three months. Chronic back pain may incur an injury, illness or stress on various body parts. The type of pain can vary widely and can be felt as bone pain, nerve pain or muscle. The pain may also vary. For example, pain can be painful, burning, tingling or stabbing, sharp or dull, and seems well

defined or vague. The intensity can range from mild to severe. (1)

#### **1.1.4 Posture**

Lower Back Pain affects up to 80 percent of the population. It can come on suddenly or evolve over time. The causes are many cases with most lasting only a short period of time. However, persistent lower back pain last for a while and have a direct impact on the quality of life, potential and our ability to function in our daily activities. While the causes of low back pain are many, some underlying considerations affect not only how it progresses, but how to possibly improve back pain. (4)

#### **1.1.5 Sitting for too long**

Find a comfortable and stable sitting is important in maintaining the lumbar spine is healthy, which makes the chance of lower back pain. 5. Sitting for long periods can directly affect our ability to maintain good sitting posture, and especially how our lower back and is adjusted as the sitting position is maintained (4)

#### **1.1.6 Healthy postures**

Many back problems are primarily the result of an improper lifestyle. Research among patients suffering from back problems shows that 85% of all problems can be traced back to a sitting position (long) incorrect. A better life starts with being healthy. (9)

#### **1.1.7 Correct posture**

- Pelvis position (note: pelvis position dictates spine position)
- Lumbar and thoracic spine position
- Shoulder position...which allows for:
- Maximum hip extensor muscle use
- Core stabilization
- Eliminates low back discomfort
- Eliminates shoulder -arm -hand discomfort (6)

### **1.2 Materials and methods**

#### **1.2.1 Study Design**

A cross sectional survey was done. Participants of the study are of both gender and any age having established diagnosis of chronic low back pain. History of patients were taken and a questionnaire Performa was filled

#### **1.2.2 Setting**

Physiotherapy department of

- Ghurki Trust Teaching Hospital Lahore
- Raza Hospital, Lahore

#### **1.2.3 Study Population**

Male and Female patients with chronic low back pain

#### **1.2.4 Duration of Study**

It took about three months to collect data and analyze it for conclusion from the participants of the study after approval from advance research committee

#### **1.2.5 Sample size**

Sample size was calculated by the following formula

$$n_0 = \frac{Z^2pq}{e^2}$$

Where Confidence level = 95%  
 For 95% Confidence level Z was 1.96  
 p (proportions/Confidence interval) = 10%  
 q = 1-p, e = half width of the desired interval

### Sampling Technique:

Non probability purposive sampling

### 1.2.6 Eligibility

#### Inclusion Criteria

- Chronic low back pain (invading more than 3 months)
- Age factor: 20-50 years
- Localized lower back pain
- Mechanical low back pain
- Patients having job with  $\geq 4$  hours of sitting

#### Exclusion Criteria

- Radiating back pain
- Inflammatory disease of vertebral column or spinal cord
- Infectious disease of vertebral column or spinal cord
- Malignant disease of vertebral column or spinal cord
- Congenital vertebral deformity
- Patient not meeting inclusive criteria

- Patient not willing to be included in research

### 1.2.7 Data collection

120 questionnaire performa were given. Out of which 93 were found reliable to be included in research. A Performa was filled relating to their sitting posture habit during job/work. Data is collected on a questionnaire Performa

### 1.2.8 Ethical consideration

Informed consent of all the participants was given before conduct of the study.

- The privacy and confidentiality of patients is preserved.
- The ethical and moral values are observed in the development of research plan.
- The research was exclusive of anything which may cause any physical, social or emotional harm to the patient.

### 1.2.9 Statistical Procedure

Descriptive statistics were used to determine the frequencies of the following variables like age, gender, sitting time, sitting position, type of chair and use of lumbar support pillow. Data was entered by using SPSS version 20 and was analyzed by Interactive Statistical Calculator

## 2. Results

### 2.1 Socio-demographic Profile

**Table 1: Socio-demographic Profile of Subjects**

	Study sample		The intensity of LBP										
	No.	%age	Unbearable		Severe		Moderate		Mild		Discomfort		
			No.	%age	No.	%age	No.	%age	No.	%age	No.	%age	
<b>Gender</b>													
Male	59	63.4	7	12	12	20	18	31	20	34	2	3	
Female	34	36.6	6	18	9	26	11	32	5	15	3	9	
<b>Age group (years)</b>													
$\leq 34$	52	55.9	6	12	9	17	16	31	19	37	2	3	
$\geq 35$	41	44.1	7	17	12	29	13	32	6	15	3	7	
<b>Exercising habit</b>													
Yes	17	18.3	0	0	1	6	9	53	4	24	3	17	
No	76	81.7	13	17	20	26	20	26	21	28	2	3	

### 2.2 Work ergonomic characteristics

**Table 2: Work ergonomic characteristics of patients and their LBP duration:**

	Study sample		Duration of pain history										
	No.	%age	3 month		3 month - 6 month		6 month - 1 year		>1 year				
			No.	%age	No.	%age	No.	%age	No.	%age			
<b>Sitting Time</b>													
$\geq 6$ hrs	62	66.6	8	13	12	19	19	31	23	37			
$< 6$ hrs	31	33.4	4	13	6	19	11	36	10	32			
<b>Body Position in Sitting</b>													
Forward Bent $\geq 2$ hrs	57	61.3	7	12	14	25	17	30	19	33			
Forward Bent $< 2$ hrs	36	38.7	5	14	4	11	13	36	14	39			
<b>Chair type</b>													
Back Support	68	73.1	8	12	13	19	20	29	27	40			
No back Support	25	26.9	4	16	5	20	10	40	6	24			
<b>Adjustable Back Support</b>													
Yes	22	23.7	3	14	4	18	8	36	7	32			
No	71	76.3	9	13	14	20	22	31	26	36			
<b>Adjustable Seating Surface</b>													
Yes	11	11.9	3	27	3	27	2	19	3	27			
No	82	88.1	9	11	15	18	28	34	30	37			

### 2.3 Lumbar support pillow with pain intensity

**Table 3:** Frequencies and Odds ratio with respective 95% CI for variables related to physical activity

	Study sample		The intensity of LBP									
	No.	%age	Unbearable		Severe		Moderate		Mild		Discomfort	
			No.	%age	No.	%age	No.	%age	No.	%age	No.	%age
Lumbar support pillow												
Yes	43	46	2	5	5	12	17	39	16	37	3	7
No	50	54	11	22	16	32	12	24	9	18	2	4

### 3. Conclusion

According to this cross sectional survey Posture awareness is very poor in PAK public. They often use poor posture while they are sitting. And they can't even recognize it. Their ignorance not only leads to some serious problems but also causes increased expenses on their treatment and also affects their job activities. This indirectly affects their life

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