

## FREQUENCY OF NECK PAIN IN CARDIAC SURGEONS

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### ABSTRACT:

#### BACKGROUND:

*Developing neck pain as a consequence of professional work is quite common and is reported to present in about 50% of population. It may be due to lack of exercise, metabolic disorders and may be related to bad posture while doing work. Cardiac surgeons may develop musculoskeletal pains due to bad posture while performing long duration surgeries.*

#### AIMS & OBJECTIVE:

*To see the frequency of neck pain in cardiac surgeons.*

#### MATERIAL & METHODS:

*This observational, cross sectional case series was carried out in cardiac surgery department of Punjab institute of cardiology, Lahore over a duration of one year in year 2018. A total of 21 working cardiac surgeons were included after their consent. All surgeons included in study regardless of age and gender. Surgeons with previous history of musculoskeletal disorders, rheumatic or connective tissue disorders, on regular analgesics for some disease or previous surgery of neck and diseases like diabetes, hypertension etc. were excluded from the study. All baseline information including age, gender, duration of job, working hours and number of surgeries performed per week were recorded. The posture of neck was recorded while doing surgery. Neck disability index/score (NDI) was used to assess the severity of neck pain and it was divided into mild, moderate and severe according to score. SPSS version 21 was used for analysis of data.*

#### RESULTS:

*The study showed that 66.7% of the surgeons perform their surgeries in standing posture and rest performed in mixed postures. 19 out of 21 (90.4%) had complaints about neck pain. Fatigability was reported in 52.4% and they also complained of neck muscle stretch. Use of NSAIDs was reported in 19.9% while muscle relaxant intake and need for physiotherapy was reported in 9.5% each. According to NDI score 9 had mild disability, 8 had moderate while severe disability was present in only 2 patients. There was no significant relationship between study variables and NDI score.*

#### CONCLUSION:

*The musculoskeletal problems especially neck related pain and fatigability is quite common in cardiac surgeons. NDI score can be used to grade the severity of neck pain.*

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**INTRODUCTION:**

Musculoskeletal disorders in professionals is common. It has been reported <sup>1</sup> to be present in about 50% of the population. Approximately 10% of the absenteeism from work is related to neck pain<sup>2</sup>. Problems related to neck pain needs to be assessed. There are many scoring scales used to assess the musculoskeletal pain but NDI (neck pain index) is easy to use in clinical situations.

NDI consists of 10 questions and measures the severity of neck pain. It has been shown to have a high reliability. A higher NDI value shows greater problem.<sup>2</sup> Correlation between neck pain and NDI has been studied in many previous studies.<sup>3</sup> It is reliable and validated score for clinical problem evaluation.

Neck pain comprises approximately 30% of all musculoskeletal disorders. Barton and Hayes also studied about neck muscle problems by assessing isometric parameters.

In the past the problem of musculoskeletal diseases in professionals has been under estimated. So this study was planned to estimate the frequency of neck pain in cardiac surgeons which can guide about how much work can be done by surgeons.

**MATERIAL AND METHODS:**

This observational, cross sectional case series was carried out in cardiac surgery department of Punjab institute of cardiology, Lahore over a duration of one year in year 2018. A total of 21 working cardiac surgeons were included after their consent. All surgeons included in study regardless of age and gender. Surgeons with previous history of musculoskeletal disorders, rheumatic or connective tissue disorders, on regular analgesics for some disease or previous surgery of neck and diseases like diabetes, hypertension etc. were excluded from the study. All baseline information including age, gender, duration of job, working hours and number of surgeries performed per week were recorded. The posture of neck was recorded while doing surgery. Neck disability index/score (NDI) was used to assess the severity of neck pain and it was divided into mild, moderate and severe according to score. SPSS version 21 was used for analysis of data.

**RESULTS:**

The study showed that 66.7% of the surgeons perform their surgeries in standing posture and rest performed in mixed postures. 19 out 21 (90.4%) had complaints about neck pain. Fatigability was

Table-1: Severity of neck pain with different variables						
Variables		NDI			Total	
		Mild disability ( Score 5 - 14)	Moderate disability ( Score 15 - 24)	Severe disability (Score 25 - 34)		
Age	< 40 years	9	8	2	19	X <sup>2</sup> =2.010 P = .366
		81.8%	100.0%	100.0%	90.5%	
	> 40 years	2	0	0	2	
		18.2%	0.0%	0.0%	9.5%	
Working hours (per week)	< 70 hours / week	3	5	1	9	X <sup>2</sup> = 2.393 P = .302
		27.3%	62.5%	50.0%	42.9%	
	> 70 hours / week	8	3	1	12	
		72.7%	37.5%	50.0%	57.1%	
Surgeries performed (per week)	< 6 / week	10	6	2	18	X <sup>2</sup> =1.326 P = .515
		90.9%	75.0%	100.0%	85.7%	
	> 6 / week	1	2	0	3	
		9.1%	25.0%	0.0%	14.3%	
Duration of Job	< 10 years	9	8	2	19	X <sup>2</sup> =2.010 P = .366
		81.8%	100.0%	100.0%	90.5%	
	> 10 years	2	0	0	2	
		18.2%	0.0%	0.0%	9.5%	
	Total	11	8	2	21	
		100.0%	100.0%	100.0%	100.0%	

Table-2: Frequency of neck pain with age and working hours		
Variables n= 21	Frequency	Percent
<b>Age</b> Mean=32.6667 Std. Deviation=8.45 Min =26.00Max=57.00		
< 40 years	19	90.5
> 40 years	2	9.5
<b>Surgeries performed ( per week)</b>		
< 6 hours / week	18	85.7
> 6 hours / week	3	14.3
<b>Working hours (per week)</b> Mean=70.1429 SD=11.83337 Min= 48.00,Max=90.00		
< 70 hours / week	9	42.9
> 70 hours / week	12	57.1
<b>Number of surgeries</b> Mean=8.0000, SD=3.56371, Min=3.00, Max =16.00		
< 6 / week	18	85.7
> 6 / week	3	14.3
<b>Daily working hours?</b>		
6-8 hours	2	9.5
8-10 hours	14	66.7
12-15 hours	5	23.8
<b>Duration of job</b> Mean=5.4763, SD=5.221, Min=1.00, Max =20.00		
< 10 years	19	90.5
> 10 years	2	9.5

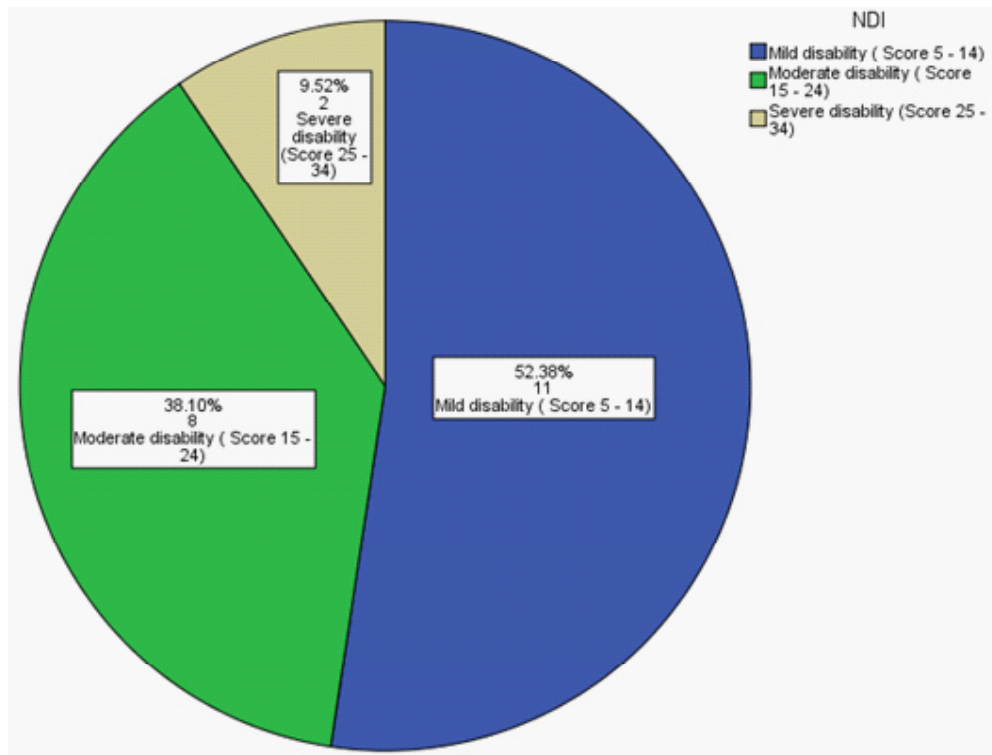


Figure-1:

reported in 52.4% and they also complained of neck muscle stretch. Use of NSAIDs was reported in 19.9% while muscle relaxant intake and need for physiotherapy was reported in 9.5% each. According to NDI score 9 had mild disability, 8 had moderate while severe disability was present in only 2 patients. There was no significant relationship between study variables and NDI score. (Table 1,2)

#### **DISCUSSION:**

This is cross sectional investigation to watch neck torment and Cervical Muscle strenght in Cardiac Surgeons. A few investigations have analyzed the pervasiveness of MSD in other fields ( dentistry, general medical procedure, ophthalmology, and urology) to decide chance factors and to relieve such work related danger. Neck Pain is fundamentally assoiated with draw out standing work pose that stance forward head twist act prompts neck muscle firmness which clearly prompts neck torment. Prevalence of neck torment in the all inclusive community is roughly 20%, and around 66% of the general population encounter neck torment at laest

once a lifetime<sup>8</sup>. In a metaanalysis ,aggreagted analysis showed that there was 68 % incidence of general pain in surgeons, 71% experienced fatigue after surgeries,back pain 50 % , neck pain 48% arm and shouldrer pain 43 %.<sup>9</sup> Similar sort of findings were observed in our study.

The study was conducted in a view to estimate the workrelated muscular disability to improve cardiac surgery ergonomics. From this study we found that majority of cardiac surgeons suffer these problems. A lack of awareness about surgical ergonomics may contributes to aggravation of problem . As one meta analysis showed that 59-99% of surgeons were unaware of ergonomic recommendation and none had obtained any mandotaory training of ergonomics.<sup>9,10</sup>

Limitation of this study was that only male cardiac surgens were studied and electromyography (EMG) asseesments were not done.

#### **CONCLUSION:**

Cardiac Surgeons are at high risk for neck pain. Mild disability was commonly observed. NDI score was significantly higher in Cardiac Surgeons.

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