

Prevalence of Sciatica in Female Tailors

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ABSTRACT

Background: Pain in low back region is the usual problem in general population, and especially common in those population where the majority of people sit. Prolonged sitting position or poor body ergonomics are the main source of developing low back pain and Sciatic nerve tightness, which can progress to sciatica. Adolescents and younger people are more likely to adopt poor posture and body ergonomics, which leads to sciatic nerve tightness. The purpose of this study was to determine the prevalence of sciatica among female tailors.

Objective: To evaluate Sciatica in female tailors in Jhelum, Punjab Pakistan.

Methodology: With a sample size of 318, a cross-sectional study was conducted on female tailors of District Jhelum. This study was done from March-June 2022 to September 2022 by using a non-probability convenient sampling technique, by selecting a female tailors of Jhelum, Punjab, who were between 18-60 years age, having work experience of at-least 1 year, who takes 1-2 times break, using a sitting /standing sewing machine for a long duration of time while a female tailors who having a history of lower limb surgery. Data were collected by using a self-created questionnaire with a reliability of 0.661, which was calculated after a pilot study considering inclusion and exclusion criteria. Patients were screened and asked for consult to participate in study. SLR test and VAS scale were used to assess the sciatica and pain in female tailors respectively.

Results: About 318 participants took part in the study, with the primary findings indicating that Sciatic nerve tightness were found in 162(50.9percent) of tailors who had a positive diagnostic test (SLR test). Other respondents were found to have negative test results, indicating that they did not match the selection criteria.

Practical Implication: It can be controlled by reducing risk factors of sciatica and to raise knowledge about low back pain and sciatica, so that people can avoid and protect them from low back pain and sciatica.

Conclusion(s): It is concluded that female tailors are more prone to develop sciatica who are obese, work for long duration in sitting position. It can be controlled by reducing risk factors of sciatica and to raise knowledge about low back pain and sciatica, so that people can avoid and protect them from low back pain and sciatica.

Keywords: Prevalence, Sciatica, SLR, Low Back Pain, Musculoskeletal Disease, VAS Scale.

INTRODUCTION

Although the causes of lumbar illnesses are complicated and challenging. Low back pain is one of the most common health conditions in the industrialized world. It is a disease which can occur due to inflammation, degenerative, neoplastic, gynecological traumatic, metabolic or any other disease in which patient complains of pain in lumbosacral spine, acute or chronic pain. Even through many incidences of low back pain are paralyzing, It ranks among the most expensive issues with occupational health. However, in the job, risk factors for causing back discomfort include aggressive efforts during manual material handling, uncomfortable trunk postures, and whole-body vibration Recurrent low back pain (LBP) that restricts activities affects the working population significantly and is currently poorly understood and managed.¹

In developed nations, (LBP) is a significant health issue due to its high prevalence and corresponding impairment. It is one of the main reasons people miss work and is associated with elevated social and medical expenses.² In order to describe functional status, activity of daily living (ADL) is frequently utilized; however, the causal connection between LBP, sciatica, neurological impairments, and ADL in older men is yet unexplained.³

The dysfunction of the musculoskeletal system, or MSD, affects many workers. Despite the numerous instances of MSD in numerous kinds of workers and in particular groups of people.⁴ Low-back diseases are characterized as chronic or acute discomfort in the lumbosacral, buttock, or upper leg region and are associated with uncomfortable postures in the workplace.

Several office workers suffer from LBP, which results in days off from work, significant levels of disability, and significant constraints on routine activity and involvement, including work activities Both work productivity and quality of life are hampered.⁵ Although the causes of lumbar illness are complicated and challenging to determine, about one-third of American employees have occupations that enhance their risk of getting back disorders. Similar circumstances exist in Great Britain, where population surveys yield an average estimated year-prevalence of 38%.

As technology has progressed, the most used posture in today's era is sitting. With the advanced development of modern technology, long sitting has been become the most used posture in today's time. More than about half of all workers in today's industrial world have sedentary jobs which require long sitting period.⁶ Low back pain is characterized as fatigue below the costal edge and above the lower gluteal folds, regardless of referred leg irritation which concerns major health issue. The sensation might vary in severity from mild to extreme and be described as cramping, burning, piercing, acute or faint, well-defined or diverse. Pain may start off quickly or progressively worsen.⁷

Low back pain (LBP) is a severe health issue in the modern era. It has a broad impact and causes significant economic damage. Office workers lead a particular lifestyle since they spend so much time sitting and having bad posture. Musculoskeletal issues may cause discomfort or pain, which has a negative effect on one's quality of life.⁸

As no previous study was done before this shows prevalence of low pain and sciatica in female tailors. As goal of this study is to raise knowledge about low back pain and sciatica, so that people can avoid and protect them from low back pain and sciatica.

MATERIAL AND METHOD

As the present cross-sectional study consist a sample size of 318, which was calculated by using the proportion formula of sample size with confidence level of 95%. This study was done from March-June 2022 to September 2022 by using a non-probability convenient sampling technique, by selecting a female tailors of Jhelum, Punjab, who were between 18-60 years age, having work experience of at-least 1 year, who takes 1-2 times break, using a sitting /standing sewing machine for a long duration of time while a female tailors who having a history of lower limb surgery(Past 6 months) History of spine surgery (Past 6 months), diagnosed with rheumatoid arthritis of hip and diabetic neuropathy was excluded. Weight machine and measuring tape were used to measure BMI of participants. The purpose of study was to raise knowledge about LBP and sciatica, so that the people can take preventive measures and can avoid and protect themselves from pain in back and

sciatica. After putting a data in statistical program, statistical Package for Social Science (SPSS) version 24, released in 2016 by IBM Corp., was used to enter and analyze the data. For this purposes of descriptive analysis, frequency and percentages were employed for qualitative variables, while mean and standard deviation were determined for quantitative data. For the qualitative data, pie charts were created. The chi square test was used to determine the relationship between the variables. All findings were estimated with a 95% confidence level, and a significant value was determined to have a p-value of 0.05.

RESULTS

A statistical program, statistical Package for Social Science (SPSS) version 24, released in 2016 by IBM Corp., was used to enter and analyze the data. The chi square test was used to determine the relationship between the variables. All findings were estimated with a 95% confidence level, and a significant value was determined to have a p-value of 0.05.

As a minimum age of the participants was 18 years and maximum age was 60 years with a mean and standard deviation of 38.2421 and 10.62114 respectively. Mean and standard deviation of weight of participants was 70.2107 and 16.942 respectively. While height of participants was 1.5820 and 0.11246 respectively (Table 1).

Data regarding to demographic data including age, BMI, work experience was mentioned (Table 2).

As the prevalence of Sciatic in female tailors shows the positive SLR in 162(50.94) while it was negative in 156(49.06) (Table 3)

As the association between the variables between work-experience, type of sewing machine do you use, time duration, pain in traveling due to low back pain, social life and pain in low

back pain due to lifting shows significant results which shows 0.021, 0.010, 0.015, 0.008, 0.328, 0.299 and 0.000 respectively. While the association between the variables between BMI, sitting and standing shows the non-significant results which shows 0.764, 0.582 and 0.507 respectively.

Table 1: It shows the mean and of age, weight and height of participants.

	Mean	S.D
Age of participants	38.2421	10.62114
Weight of participants	70.2107	16.94218
Height of participants	1.5820	0.11246

Table 2: This table demonstrate the demographic data of participants

Age group of participants		
	N	%
18-25	42	13.20%
26-40	142	44.70%
41-50	82	25.80%
50-60	52	16.40%
BMI		
Underweight	34	10.70%
Healthy weight	84	26.40%
Obese	134	42.10%
Overweight	66	20.80%
Work Experience		
1 Year	62	19.50%
2 Year	85	26.70%
3 Year	96	30.20%
>3 Year	75	23.60%
Vas Scale		
0(No Pain)	14	4.40%
1-3(Mild Pain)	88	27.70%
4-6(Moderate Pain)	144	45.30%
7-10(Severe Pain)	72	22.60%

Table 3: The below table explain the variable in the equation with reference 1st category.

Variables in the Equation with reference 1st category	Wald	Df	Sig.	Exp(B)	95% C.I.for EXP(B)	
					Lower	Upper
BMI						
BMI(Reference)	1.152	3	0.764			
BMI(Underweight)	0.125	1	0.724	0.822	0.276	2.446
BMI(Healthy weight)	0.242	1	0.623	1.233	0.535	2.841
BMI(Obese)	0.552	1	0.458	1.334	0.624	2.850
Work Experience						
Work Experience(Reference)	9.693	3	0.021			
Work Experience(1 Year)	6.163	1	0.013	0.279	0.102	0.764
Work Experience(2 Year)	4.621	1	0.032	0.346	0.132	0.911
Work Experience(3 Year)	8.274	1	0.004	0.291	0.125	0.675
Which type of sewing machine do you use(
Which type of sewing machine do you use(reference)	9.127	2	0.010			
type of sewing machine do you use(cross/ground sitting sewing machine)	3.485	1	0.062	0.370	0.130	1.051
Which type of sewing machine do you use(Chair seated sewing machine)	8.910	1	0.003	0.222	0.082	0.596
Time duration						
Time duration in a day(Reference)	8.339	2	0.015			
Time duration in a day(1-4 hr/day)	3.029	1	0.082	0.424	0.161	1.114
Time duration in a day(5-7 hr/day)	1.182	1	0.277	1.526	0.712	3.268
Pain types						
Pain types(Reference)	34.402	3	0.000			
Pain types(Radiating)	0.289	1	0.591	0.750	0.262	2.143
Pain types(Localize)	11.276	1	0.001	4.909	1.939	12.424
Pain types(Shooting)	14.964	1	0.000	7.558	2.712	21.061
Sleeping Disturbance						
Sleeping disturbance (Reference)	11.918	3	0.008			
Sleeping disturbance(My sleep is never disturbed by pain)	1.297	1	0.255	0.368	0.066	2.054
Sleeping disturbance(My sleep is occasionally disturbed by pain)	1.011	1	0.315	2.133	0.487	9.343
Sleeping disturbance(Because of pain I have less than 2 hours sleep)	0.002	1	0.965	1.030	0.267	3.973
Pain travelling						
Pain in travelling(Reference)	3.444	3	0.328			

Pain in travelling(I can travel anywhere with one pain)	0.030	1	0.863	1.180	0.178	7.815
Pain in travelling(I can travel anywhere, but it gives extra pain)	0.362	1	0.548	1.656	0.320	8.568
Pain in travelling(The pain restricts me to short necessary journey less than 30 mints)	0.063	1	0.802	0.825	0.184	3.697
Social life						
Social Life(reference)	3.671	3	0.299			
a) Social Life (My social life is normal and cause no extra pain.)	0.209	1	0.648	0.679	0.129	3.582
Social life (My social life is normal but gives extra pain)	0.326	1	0.568	0.660	0.158	2.752
Social Life (Pain has significant effects on my social life)	0.242	1	0.622	1.399	0.368	5.318
Sitting						
Sitting(Reference)	1.087	2	0.581			
Sitting(I can sit in any chair as long as I like)	0.920	1	0.337	0.637	0.253	1.602
Sitting(I can sit in my favorite chair as long as like)	0.092	1	0.761	0.880	0.385	2.012
Standing(Reference)	0.947	3	0.814			
Standing(I can stand as long I want)	0.440	1	0.507	0.588	0.122	2.826
Standing(Pain prevents me from standing)	0.833	1	0.361	0.515	0.124	2.142
Standing(Pain prevents me from standing overall)	0.859	1	0.354	0.532	0.140	2.019
Lifting						
Lifting(Reference)	18.644	3	0.000			
a) Lifting(I can life heavy weights without extra pain)	4.278	1	0.039	4.260	1.079	16.823
Lifting(I can lift heavy weights but gives extra pain)	2.609	1	0.106	2.301	0.837	6.327
Lifting(I can lift very light weight)	1.630	1	0.202	0.505	0.177	1.441
Constant	1.532	1	0.216	3.511		

THE ODD ratio (EXPO) shows that female tailors with who are obese and overweight have more chances of Sciatica as compared to those female tailors who have normal BMI. On the other hand participants who works for 5 to 7 hr/day have more chances of sciatica, it also shows that participants having sciatica generally experience localized and shooting pain. Results also shows that patients with low back pain and sciatica have a lot of sleep disturbance and feels discomfort in travelling due to pain. It also shows that due to pain they were also unable to lift heavy weights. (Table 3).

DISCUSSION

The goal of this research was to evaluate prevalence of sciatica in female tailors in population of Jhelum Punjab, Pakistan among female tailors of age between 18-50 years. There were a total 318 female tailors were included in the study. Chi square test and P value significance was used to derive results. The SLR was positive in 162 (50.94%) while negative was 156(49.06%) in female tailors. As the major prevailing health issues of industrial world is back pain and sciatica in which leg stiffness, fatigue, numbness or burning occurs and is mostly common in office workers who work for long duration. It's also important to maintain good posture and to invest in ergonomic chair in order to avoid back pain and sciatica. So, aim of this study is to determine risk factors of low back pain and sciatica.

As the above study supports the study done in King Edward medical college, their population was office workers , that study conclude that the low back pain and sciatica is common among officer worker who work for long duration in sitting position , so our study also shows that low back pain was common among female tailors who work for long duration in sitting position.⁸

As the significance of our study shows that female tailors with low back pain and sciatica cannot lift heavy weight due to pain, as results of our study shows that the female tailors with sciatica cannot lift weight. Their prevalence was 46.9%. These results were also same to the study which occurs in Nowshera District of Pakistan.⁹ Another research whose results were like our research shows that low back pain and sciatica cause sleep deprivation. Due to pain, patients cannot sleep at night which can affect people's daily lives. It's especially worrying to see that these issues can cause sleep deprivation which can have a negative impact on overall health and well-being. The prevalent of sleep disturbance in sciatica patients were our study was 84%.¹⁰

The result of this study shows that low back pain and sciatic is common in patients who works for long duration have increased discomfort. The prevalence was 51.3% who works for 8-10 hr/day,

the results of this study is similar to study which take place in Bangladesh, their prevalence was 57.5% , who works for 6-10 hr/day.¹¹ Another two correlation that runs with the prevalence of sciatica are BMI and work duration. Our study shows that the obese and those females who work for long duration have more chances for the prevalence of low back pain and sciatica and our study is similar to the study which takes place in Bangladesh which also shows that BMI, work experience with some other factors are the causes of low back pain and sciatica.

As results of our research shows that the long term sitting also cause sciatica whose prevalence was 66.7%, as it's important to be mindful of our posture and take breaks throughout the day to avoid developing these kinds of issues while another research which was done recently this year shows that 88% respondents who work in sitting position shows flank pain. ¹² Medical resources, diagnosis, and treatment must improve in developing countries. There are limited resources: access to medical and health resources; knowledge about disease; awareness, trainings, and awareness about health. Health literacy is mandatory for any disease and facilitates the patients access to resources, databases, and trainings about the disease in print and electronic (hybrid) format.¹³⁻²⁰

CONCLUSION

It is concluded that female tailors who are obese, work for long duration in sitting position are more prone to sciatica. It can be controlled by reducing risk factors of sciatica and to raise knowledge about low back pain and sciatica, so that people can avoid and protect them from low back pain and sciatica.

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