

Sciatica pain in Saudi population: Knowledge and awareness assessment

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To Cite:

Alqahtani Z, Alghamdi B, Alharthi T, Alzriri O, Azab E, Al-Hunaif A, Alzahrani KT. Sciatica pain in Saudi population: Knowledge and awareness assessment. *Medical Science* 2022; 26:ms361e2433. doi: <https://doi.org/10.54905/diss/v26i127/ms361e2433>

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Peer-Review History

Received: 06 August 2022
Reviewed & Revised: 09/August/2022 to 29/August/2022
Accepted: 01 September 2022
Published: 08 September 2022

Peer-review Method

External peer-review was done through double-blind method.

URL: <https://www.discoveryjournals.org/medicalscience>



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ABSTRACT

Background: Sciatica defined as a pain that radiates, the sciatic nerve travels from the lower back to the back of the thigh and down to the leg. Sciatica most commonly caused by compression or irritation of lumbosacral nerve root. *Aim:* To evaluate Saudi citizens' knowledge and awareness regarding sciatica. *Methods:* A questionnaire (online survey), a research project was carried among the Saudi population. The study was involved both male and female with age of 18 and older. The questionnaire was used to assess public knowledge and awareness of sciatica symptoms, causes, risk factors, complications and treatment. Data will be collected through medical students. Data was analyzed using the Statistical Package of Social Science Software (SPSS). *Results:* Among 2269 respondents, 62.7% was female and 37.3% being male. Regarding sciatica pain, 66.9% of participants defined it as discomfort in the lower-back that extends to the leg and foot, whereas just 5.7% had a history of sciatica. A family history of sciatica affects 25.8% of the population. Sciatica was known to 83.7% of the respondents and 36% were aware that the majority of cases of sciatica are caused by a herniated disc in one of the spine's vertebrae. *Conclusion:* Saudi populations have moderate knowledge of sciatica, its causes and the nature of pain. Patient education is crucial to treating sciatica. Sciatica can have a variety of reasons. Most instances of sciatica are treated most effectively with conservative measures unless there is an immediate compression of the spinal nerves.

Keywords: Sciatica, Sciatic pain, Saudi Population, Knowledge, Awareness.

1. INTRODUCTION

Sciatica, or Ischias (Greek), was a name used by the ancient-Greeks to describe discomfort in the hip or thigh (Siddiq et al., 2020). Moreover, Sciatica is a symptom, not a medical condition. The nerve root must experience both irritation and compression in order to be symptomatic, according to the available information from elementary science and experimental research (Valat et al., 2010). In addition, Sciatica is one of the most prevalent natures of low-back pain (LBP) and a more chronically debilitating disease than other LBP syndromes (Ashworth et al., 2011; Shiri et al., 2017).

According to a 2017 Lancet study of the prevalence of (LBP) in the adult general population, prevalence was higher in high income nations (30%) than in low-income countries (18.2%) and in females was more frequent than males (Aldera et al., 2020). Lasègue described a test in 1864 for sciatica pain that was eventually named after him (Siddiq et al., 2020). In the general public, the prevalence of clinically confirmed sciatica is between 2% and 5% (Shiri et al., 2017). A lumbar column ruptured intervertebral disc is thought to cause around 90% of instances of sciatica (Grøvle et al., 2013). Low back pain (LBP) is a widespread health condition that is one of the leading causes of impairment in people of all ages. LBP affects about 10% of people by the age of twenty, and 19.6% of people between the ages of twenty and fifty-nine. In previous study, the majority of individuals with lower back pain had little understanding of their illness and the problems that come with it (Awwad et al., 2017).

Sciatica is a highly prevalent condition, with lifetime incidence rates ranging from 13% to 40%. The associated yearly incidence of a sciatica attack ranges from 1-5% (Stafford et al., 2007). The Saudi population needs to be aware of such a prevalent disorder. There are several studies have evaluated the awareness of low-back pain and spinal-disorders in multiple countries (Alobari et al., 2020; Kuligowski et al., 2015; Maciel et al., 2009; Murshid et al., 2020). However, neither of these studies focused sciatica specifically. This triggered the attention of the researchers to investigate the Saudi population knowledge and awareness toward sciatica. The objective of the study was to assess knowledge & awareness of sciatica among Saudi population of different areas of Saudi Arabia.

2. METHODS

This study is a cross-sectional survey was performed November 2021- May 2022. The study consists of adult Saudi society as a whole 18 years and bigger. The sample size was estimated using the Raosoft (sample-size) calculator with a confidence level of 97%, and 3% margin of error. The minimum recommended sample size was 384 and our sample size is 1309. Our study includes all Saudi population adults of both genders whose ages are 18 or above and agrees to participate. Other population who is younger than 18 years old or disagrees to participate was excluded.

Method for data collection and instrument

Structured questionnaire, online distributed, was used as study tool to collect the data based on a structured questionnaire that was developed by the authors and tested for validity. This tool is being developed after consulting relevant studies conducted in Saudi Arabia and elsewhere and it was documented by three professors of neurology, orthopedic and family medicine. The final version of the questionnaire consisted of 2 sections. The first Section contained personal and social questions. The second section contained questions on almost all aspects of sciatica knowledge and awareness. Medical students collected the information's using an online survey.

Pilot test

The questionnaire was distributed on 20 individuals and asked to fill it. This was done to test the simplicity of the questionnaire and the feasibility of the study. Data of the pilot study was excluded from the final data of the study.

Analysis and entry of data

The "Microsoft Office Excel Software" software (2016) for Windows was used to enter data on the computer. The data was statistically analyzed using the Statistical Package of Social Science Software (SPSS) program, version 20. Both descriptive and analytical statistics were employed. Chi square test was utilized to test the association between variables. P value considered significant if less than 0.05

3. RESULTS

Table 1 shows the socio-demo-graphic characteristics of participants. The study included 2269 participants, 62.7% of them were females and 37.3% were males. 52.8% of participants aged between 20- 30 years old while 14.5% were less than 20 years old. 96.3% were Saudi. 53.9% of participants were students and 27.8% were employed. 74.5% of participants were highly educated as collage and above.

Table 2 illustrates the knowledge of participants about sciatica and the prevalence of sciatica among them. Only 5.7% of participants had past or current history of sciatica. 25.8% have family history of sciatica. 83.7% had knowledge of sciatica. Only 36% knew that greatest cases of sciatica are caused by a herniated disc in one of the vertebrae of the spine. 10.4% knew that the pain doesn't get worse by sneezing, coughing or setting for long period of time (Figure 1). 61.9% believed that obesity, advanced age and

hard work for a long time are risk factors that lead to an exacerbation of the disease.68% think it is possible to cure sciatica with exercise or physical therapy.

Table 1 Socio-demo-graphic characteristics of participants (n=2269)

Parameter	No.	Percent
Gender	Male	847 37.3
	Female	1422 62.7
Age	Less than 20	329 14.5
	20 - 30 years old	1198 52.8
	31 - 40 Years old	254 11.2
	41 – 50 years old	326 14.4
	51 - 60years old	139 6.1
	More than 60	23 1.0
Occupation	Student	1222 53.9
	Employee	631 27.8
	Unemployed	416 18.3
Region	Southern area	240 10.6
	Eastern province	335 14.8
	The northern area	216 9.5
	Western region	1213 53.5
	Central region	265 11.7
Education level	Primary	14 6.
	Middle	45 2.0
	Secondary	520 22.9
	College and above	1690 74.5
Nationality	Saudi	2184 96.3
	Non-saudi	85 3.7

Table 2 Knowledge of participants about sciatica (n=2269).

Parameter's	Yes	No	I don't know
Past or current history of sciatica	129 5.7%	2140 94.3%	0 0%
Family history of sciatica	585 25.8%	1684 74.2%	0 0%
Having a knowledge about sciatica	1899 83.7%	370 16.3%	0 0%
Most cases of sciatica are caused by a herniated disc in one of the vertebrae of the spine.	817 36.0%	187 8.2%	1265 55.8%
The pain does not get worse when you sneeze, cough, or sit for a long period of time.	245 10.8%	963 42.4%	1061 46.8%
Jobs that require rolling ofthe back, carry heavy objects, or drive a car for a long time plays a role in sciatica.	1326 58.4%	92 4.1%	851 37.5%
Sitting for long periods or lead a more sedentary lifestyle more liable to sciatica than active people.	1046 46.1%	201 8.9%	1022 45.0%
Complications of the disease may lead to permanent nerve damage	823 36.3%	102 4.5%	1344 59.2%
(Obesity, advanced age and hard work for a long	1404	68	797

time) are risk factors that lead to an exacerbation of the disease.	61.9%	3.0%	35.1%
Thinking it is possible to cure sciatica with exercise or physical therapy	1542 68.0%	99 4.4%	628 27.7%

Table 3 shows the knowledge of participants about the nature of sciatica pain. Regarding knowledge of nature of sciatica pain, 66.9% described it as pain is in the lower back and extends to the leg and foot, 6.7% pain in the lower-back, 4.2% pain in any part of the back, from the neck to the pelvis and 1.7% pain in the abdomen, lower part of the pelvis, or kidneys.

Table 3 Knowledge of participants about the nature of sciatica pain (n=2269)

Parameter	No.	Percent
Nature of sciatica pain	Pain is in the lower back and extends to the leg and foot.	1518 66.9
	Pain in the lower-back.	152 6.7
	Pain in the abdomen, lower part of the pelvis, or kidneys.	33 1.5
	Pain in any part of the back, from the neck to the pelvis.	96 4.2
	I don't know	470 20.7

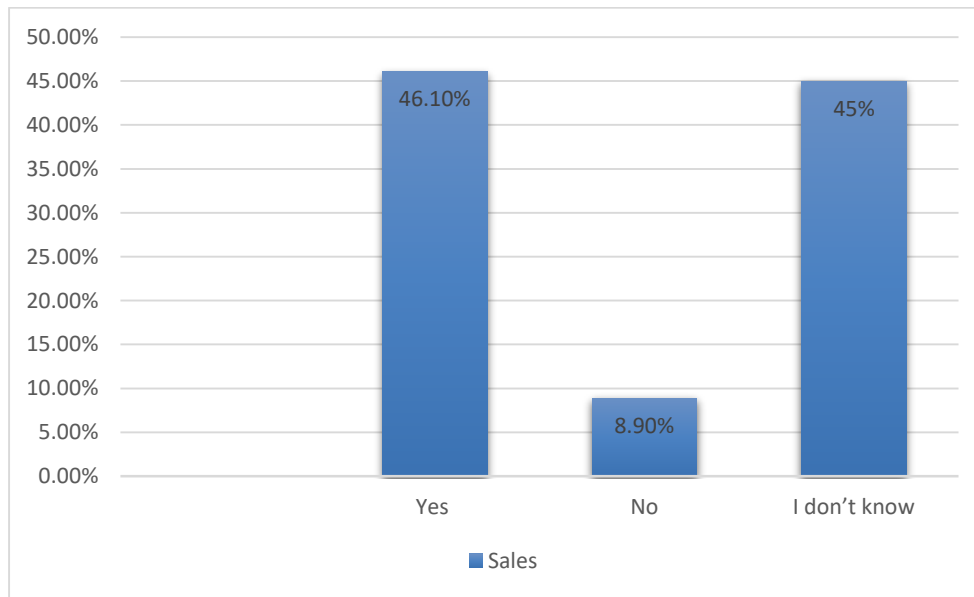


Figure 1 Knowledge of participants about Sitting for long periods or lead a more sedentary lifestyle more liable to sciatica than active people.

Table 4 illustrates the relationship between having knowledge about sciatica and socio-demographic data of the participants. A significant association was found between having knowledge of sciatica with age (P= 0.001), gender (P= 0.013), working status and residence region (P= 0.001).

Table 4 The relationship between having a knowledge about sciatica and socio-demographic data of the participants (n=2269).

		Having a knowledge about sciatica		Total (N=2269)	P value
		Yes	No		
Gender	Male	730 38.4%	117 31.6%	847 37.3%	0.013
	Female	1169 61.6%	253 68.4%	1422 62.7%	

Age	Less than 20	207	122	329	0.001
		10.9%	33.0%	14.5%	
	20 - 30 years old	983	215	1198	
		51.8%	58.1%	52.8%	
	31 - 40 years old	238	16	254	
		12.5%	4.3%	11.2%	
	41 – 50 years old	315	11	326	
16.6%		3.0%	14.4%		
51 - 60 years old	134	5	139		
	7.1%	1.4%	6.1%		
More than 60	22	1	23		
	1.2%	0.3%	1.0%		
Work	Student	938	284	1222	0.001
		49.4%	76.8%	53.9%	
	Employee	586	45	631	
		30.9%	12.2%	27.8%	
	Unemployed	375	41	416	
		19.7%	11.1%	18.3%	
Nationality	Saudi	1833	351	2184	0.124
		96.5%	94.9%	96.3%	
	Non-saudi	66	19	85	
		3.5%	5.1%	3.7%	
Region	Eastern	256	79	335	0.001
		13.5%	21.4%	14.8%	
	Western	1056	157	1213	
		55.6%	42.4%	53.5%	
	Central	218	47	265	
		11.5%	12.7%	11.7%	
	South	208	32	240	
		11.0%	8.6%	10.6%	
	North	161	55	216	
		8.5%	14.9%	9.5%	
Education level	Primary	13	1	14	0.469
		0.7%	0.3%	0.6%	
	Middle	39	6	45	
		2.1%	1.6%	2.0%	
	Secondary	426	94	520	

	22.4%	25.4%	22.9%
	1421	269	1690
College and above	74.8%	72.7%	74.5%

4. DISCUSSION

Numerous of individuals suffer from sciatica. The most significant symptoms are radiating leg pain and associated disabilities. While this is frequently part of the pathological process, inflammation and neural sensitization are important (Trelle, 2007; Weinstein et al., 2006). This study was done in the KSA to evaluate awareness & knowledge of sciatica among Saudi population.

There is a dearth of precise statistics on the incidence and prevalence of sciatica. Sciatica affects an estimated 5%-10% of people with low back pain, while the reported lifetime prevalence of low-back-pain ranges from 49% to 70%. In the general population, the yearly frequency of disc-related sciatica is calculated to be 2.2% (Miranda et al., 2002). Our study results indicated that 5.7% of participants had past or current history of sciatica. 25.8% have family history of sciatica.

Approximately 90 percent of the time, a disc herniation with spinal nerve pressure is the root cause of sciatica. In the elderly population, lumbar spinal stenosis may cause these symptoms as well. Sciatic symptoms could also be brought on by spondylolisthesis or a relative misalignment of one vertebra in relation to another. Moreover, sciatic pains may be brought on by lumbar or pelvic muscle spasm, inflammation, or impingement on a lumbar or sacral nerve root. A vertebral or paraspinal mass, such as a tumor, epidural-hematoma, or epidural-abscess, may also produce sensations similar to those of sciatic (Devillé et al., 2000; Maruszak & Sheridan, 2017). In our study, only 36% knew that greatest cases of sciatica are caused by a herniated disc in one of the vertebrae of the spine. Ong et al explored patient beliefs in a 'sciatica' population. The identification of a cause (such as an event or behaviour) and the use of medical terms to describe and legitimise their pain were important to people because they provided an explanation of why they were in pain (Ong et al., 2011). In the current study, 66.9% of participants described it as pain is in the lower back and extends to the leg and foot and 6.7% pain in the lower-back.

After excluding specific diseases on the basis of red flags, sciatica is diagnosed on the basis of history taking and physical examination. The lumbar spine is typically the site of pain for sciatica patients, and the pain is virtually always unilateral. The possibility of pain radiating to the ipsilateral afflicted extremity is a prevalent trait. Patients typically experience loss of sensation that goes along with the discomfort as well as soreness or a burn feeling deeper in the buttock. There is occasionally contralateral leg discomfort present. The afflicted leg of these individuals may be described as "feeling-heavy" (Jna & Waddell, 2007; Vroomen et al., 2000).

Initial treatment is conservative, with a strong focus on patient education, advice to stay active, continuing daily activities, and adequate treatment for pain. In this phase imaging has no role. Patients whose symptoms do not improve after receiving conservative treatment for at least 6-8 weeks should be sent to a medical expert, such as a neuro-logist, rheumatologist, or spine surgeon. These recommended instances could have surgery explored. Cauda equina syndrome instances need for an immediate referral. Other causes for referral include acute severe paresis or gradual paresis within a days (Korhonen et al., 2005; Miranda et al., 2002). In our study, 68% think it is possible to cure sciatica with exercise or physical therapy.

Our study found an association was found between having knowledge of sciatica with age, gender, working status and residence region.

5. CONCLUSION

Saudi population has moderate knowledge of sciatica, its causes and the nature of pain. Patient education is the key to treating sciatica. Sciatica can have a variety of reasons. Most instances of sciatica are treated most effectively with conservative measures except there is an acute com-pression of the spinal-nerves. Clinicians want to think about educating the public with more thorough explanations of sciatica pathophysiology that take inflammatory and neuropathic pain pathways into account. Future studies with larger sample size are required to assess Saudi public awareness of sciatica.

Acknowledgement

We thank the participants who were all contributed samples to the study.

Author Contributions:

Conceptualization: ZA, TA, and KTA. Methodology: TA, OA, BA, EA, NB. Formal Analysis: KTA, AA, Investigation: KTA, TA, BA, EA, NB. All contributors reviewed the manuscript and Writing Original Draft Preparation.

Ethical approval:

Ethical approval was obtained from the Research Ethical Committee at Faculty of Medicine in King Khalid University, Abha City, Saudi Arabia (Ethical approval number: ECM# 2021-5825). Participants were informed that their participation is voluntary and filling the questionnaire indicates their consent to participate.

Funding

This study has not received any external funding.

Conflicts of interest

The authors declare that there are no conflicts of interests.

Data and materials availability

All data associated with this study are present in the paper.

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