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Research Article

Neck and Nerves: Public Awareness of Cervical Spondylitis in Kangra District

Dr Akshit Puri[1], Dr. Praveen Kumar Thakur[2] and Dr. Sidhant Korla[3*]

[1]MS Orthopaedics. MO Specialist Orthopaedics at Civil Hospital Thural Distt Kangra, India

[2]MS Orthopaedics. MO Specialist Orthopaedics at Civil Hospital Karsog, District Mandi, India

[3]MS Orthopaedics. MO Specialist Orthopaedics at Civil Hospital Palampur, District Kangra, India

*Corresponding Author

Dr.SidhantKorla

(sidhant.goal@gmail.com)

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Abstract: Background: Cervical spondylitis, a degenerative condition of the cervical spine, is increasingly prevalent due to aging populations and sedentary lifestyles. It significantly impacts individuals' quality of life through chronic pain and neurological symptoms, posing both physical and economic challenges. The primary objective of this study was to assess the awareness and knowledge of cervical spondylitis among the general public in District Kangra, Himachal Pradesh. **Methods**: A descriptive cross-sectional survey design was employed. The study involved 400 adults from District Kangra, selected using a robust sampling method. Data was collected through a pre-tested questionnaire distributed via digital platforms. The questionnaire covered socio-demographic information and 20 structured questions related to cervical spondylitis symptoms, causes, risk factors, prevention, and management. Data analysis was performed using Epi Info V7 Software, and appropriate statistical tests were applied. **Results**: The study revealed that while 78.8% of participants had heard of cervical spondylitis, detailed knowledge of its symptoms, causes, and management was moderate to low. Only 72.3% knew it could cause neck pain, and 64.5% were aware of its neurological implications. Awareness of preventive measures was limited, with only 53.3% knowing that maintaining good posture could help prevent the condition. Knowledge of treatment options was also lacking, with less than half of the participants aware of the benefits of physical therapy and medications. The overall knowledge scores showed a wide distribution, with 17.8% of participants falling into the poor knowledge category. **Conclusion**: The study highlights significant deficiencies in the knowledge and awareness of cervical spondylitis in District Kangra. There is a pressing need for focused educational interventions that address the full spectrum of cervical spondylitis, from symptoms to prevention and treatment. Enhancing public health campaigns, promoting early diagnosis, and leveraging digital platforms for broader outreach are crucial steps in reducing the burden of cervical spondylitis and improving the quality of life for those affected.

Keywords: Cervical spondylitis, public awareness, Kangra district, spine health, knowledge gaps, prevention strategies, public health education.

INTRODUCTION

Cervical spondylitis, also known as cervical spondylosis, is a degenerative condition of the cervical spine that commonly affects middle-aged and older adults. This condition is characterized by the wear and tear of the cervical spine's intervertebral discs and vertebrae, leading to chronic neck pain, stiffness, and, in severe cases, nerve compression that can result in neurological symptoms such as numbness, tingling, and muscle weakness in the upper limbs. As a leading cause of neck pain, cervical spondylitis significantly impacts individuals' quality of life, affecting their daily activities, productivity, and overall well-being.[1-3]

Globally, the prevalence of cervical spondylitis is increasing, paralleling the aging population and the rise in sedentary lifestyles, which are marked by prolonged sitting and poor posture. The condition poses a significant public health challenge, not only because of its physical symptoms but also due to its economic implications, including increased healthcare costs, lost workdays, and the strain on healthcare systems. Despite its growing prevalence, public awareness and understanding of cervical spondylitis, particularly in rural and semi-urban areas, remain limited.[4-7]

In India, cervical spondylitis is becoming increasingly common, especially in regions where occupational hazards, lack of ergonomic awareness, and limited access to healthcare exacerbate the condition. District Kangra in Himachal Pradesh, with its unique demographic and occupational characteristics, presents a critical case for studying the public's awareness and knowledge of cervical spondylitis. The region's diverse population, which includes individuals engaged in various occupations such as agriculture, construction, and office work, provides an opportunity to explore how different occupational groups perceive and manage this condition.[8-10]

Understanding the level of awareness and knowledge about cervical spondylitis among the general public in District Kangra is crucial for developing effective public health strategies. Identifying gaps in knowledge and misconceptions can inform targeted educational interventions, aiming to enhance early diagnosis, appropriate management, and prevention strategies for

cervical spondylitis. Such initiatives are vital for reducing the burden of this condition, improving the quality of life for those affected, and minimizing its economic impact on individuals and the community.

This study aims to assess the awareness and knowledge of cervical spondylitis among adults in District Kangra, Himachal Pradesh. By conducting a comprehensive cross-sectional survey, this research seeks to provide valuable insights into the public's understanding of cervical spondylitis, including its causes, symptoms, risk factors, prevention, and management. The findings from this study will contribute to the development of more informed healthcare practices and community-level strategies to address the growing challenge of cervical spondylitis in this region. Through this research, we hope to bridge the knowledge gap, promote better health outcomes, and enhance the overall well-being of the population in District Kangra.

Objectives of the Study:

The primary objective is to gauge awareness and knowledge about Cervical Spondylitis among general public of District Kangra, Himachal Pradesh.

RESEARCH METHODOLOGY

- Research Approach -Descriptive
- Research Design- Cross-sectional survey design
- Study area: District Kangra, Himachal Pradesh
- Study duration- between January 2024 to May 2024
- Study population: The study's target population encompassed all adults aged 18 and above who had been residents of District Kangra Himachal Pradesh for a minimum of 12 months
- Sample size- A robust sample size of 400 adults was determined using a 95% confidence level, an estimated knowledge level of 50% regarding Cervical Spondylitis, a precise 5% absolute error margin, and a conservative 5% non-response rate.
- Study tool: A google form questionnaire consisting of questions regarding socio-demography and knowledge regarding Cervical Spondylitis was created. The questionnaire was initially pre-tested on a small number of participants to identify any difficulty in understanding by the respondents.
- Description of Tool-
  a) Demographic data survey instrument: The demographic form elicited information on participants' background: age, gender, marital status, religion, employment, education and many more.
  b) Questionnaire: The questionnaire contains 20 structuredknowledge related questions regarding Cervical Spondylitis. One mark was given for each correct answer and zero for incorrect answer. The maximum score was 20 and minimum score was zero. Scoring was done on the basis of marks as >80%(16-20)=very good,60-79%(12-15) =Good,41-59% (8-11)=Fair,<40% (< 8)=poor
- Validity of tool - by the experts in this field
- Data collection- Data was collected under the guidance of supervisors. The google form questionnaire was circulated among the residents of District Kangra Himachal Pradesh for responses using online modes like e-mail and social media platforms like Whatsapp groups, Facebook, Instagram and Linkedin till the 400 responses were collected.
- Data analysis- Data was collected and entered in Microsoft excel spread sheet, cleaned for errors and analyzed with Epi Info V7 Software with appropriate statistical test in terms of frequencies and percentage.
- Ethical Considerations- Participants confidentiality and anonymity was maintained.

RESULTS

This study involved 400 participants from District Kangra, Himachal Pradesh, and provided detailed insights into their socio-demographic characteristics and levels of knowledge regarding cervical spondylitis, a condition that affects the cervical spine.

The participants were distributed across various age groups, with 30.3% aged 18-30 years, 25.5% aged 31-40 years, 23.0% aged 41-50 years, and 21.3% aged above 50 years. Gender distribution was balanced, with 49.0% males and 51.0% females. In terms of marital status, the majority were married (57.3%), followed by single individuals (39.3%), and a small percentage (3.5%) categorized as others. The religious composition of the sample showed that 83.3% were Hindu, 7.0% Muslim, 7.8% Sikh, and 2.0% belonged to other religions. Employment status revealed that 49.5% were employed, 26.5% were unemployed, and 24.0% were students. Regarding education levels, 34.0% were graduates, 27.3% had completed high school, 25.0% had postgraduate or higher education, and 13.8% had education below high school.

Table 1: Socio-Demographic Characteristics of Study Participants (N=400)

Variable	Category	Frequency (n)	Percentage (%)
Age	18-30	121	30.3
	31-40	102	25.5
	41-50	92	23.0
	>50	85	21.3
Gender	Male	196	49.0
	Female	204	51.0

Marital Status	Single	157	39.3
	Married	229	57.3
	Others	14	3.5
Religion	Hindu	333	83.3
	Muslim	28	7.0
	Sikh	31	7.8
	Others	8	2.0
Employment Status	Employed	198	49.5
	Unemployed	106	26.5
	Student	96	24.0
Education Level	Below High School	55	13.8
	High School	109	27.3
	Graduate	136	34.0
	Postgraduate & Higher	100	25.0

The awareness of cervical spondylitis symptoms among participants was relatively high. About 78.8% had heard of cervical spondylitis, and 72.3% knew that it could cause neck pain. Additionally, 69.0% recognized that it could lead to stiffness, 66.8% were aware that it could cause headaches, and 64.5% understood that nerve pain could be a symptom. These findings suggest that while a majority of participants are aware of the condition and its primary symptoms, there is still room for improving awareness, particularly regarding the neurological implications of the disease.

Table 2: Knowledge Regarding Symptoms of Cervical Spondylitis (N=400)

Question No.	Awareness Question	Correct Answer Frequency (n)	Correct Answer Percentage (%)
1	Have you heard of Cervical Spondylitis?	315	78.8
2	Do you know that Cervical Spondylitis can cause neck pain?	289	72.3
3	Do you know that Cervical Spondylitis can cause stiffness?	276	69.0
4	Do you know that Cervical Spondylitis can cause headaches?	267	66.8
5	Do you know that Cervical Spondylitis can cause nerve pain?	258	64.5

Knowledge about the causes and risk factors of cervical spondylitis was moderate. About 60.8% of participants knew that poor posture could lead to cervical spondylitis, and 59.0% were aware that aging increases the risk. Furthermore, 58.0% understood that heavy lifting could worsen the condition, and 55.3% recognized that lack of exercise could contribute to its development. Interestingly, only 52.5% were aware that cervical spondylitis could be hereditary. These findings highlight the need for public health efforts to emphasize the role of modifiable risk factors, such as posture and exercise, in preventing cervical spondylitis.

Table 3: Knowledge Regarding Causes and Risk Factors of Cervical Spondylitis (N=400)

Question No.	Awareness Question	Correct Answer Frequency (n)	Correct Answer Percentage (%)
6	Do you know that poor posture can lead to Cervical Spondylitis?	243	60.8
7	Do you know that aging increases the risk of Cervical Spondylitis?	236	59.0
8	Do you know that heavy lifting can worsen Cervical Spondylitis?	232	58.0
9	Do you know that lack of exercise can contribute to Cervical Spondylitis?	221	55.3
10	Do you know that Cervical Spondylitis can be hereditary?	210	52.5

Participants' knowledge of preventive measures for cervical spondylitis showed some gaps. While 53.3% knew that maintaining good posture could help prevent the condition, only 51.8% were aware of the benefits of regular neck exercises. Additionally, 50.3% recognized that taking breaks during prolonged sitting could be preventive, and 48.5% understood the importance of a proper ergonomic setup at work. However, only 45.0%

were aware that avoiding heavy lifting could help prevent cervical spondylitis. These results suggest a need for targeted educational interventions focusing on practical preventive strategies, particularly in workplace settings where ergonomics play a crucial role.

Table 4: Knowledge Regarding Prevention of Cervical Spondylitis (N=400)

Question No.	Awareness Question	Correct Answer Frequency (n)	Correct Answer Percentage (%)
11	Do you know that maintaining good posture can help prevent Cervical Spondylitis?	213	53.3
12	Do you know that regular neck exercises can help prevent Cervical Spondylitis?	207	51.8
13	Do you know that taking breaks during prolonged sitting can help prevent it?	201	50.3
14	Do you know that a proper ergonomic setup at work can help prevent it?	194	48.5
15	Do you know that avoiding heavy lifting can help prevent Cervical Spondylitis?	180	45.0

Awareness of treatment and management options for cervical spondylitis was relatively low. Only 47.0% of participants knew that physical therapy could help manage the condition, and 45.3% were aware that medications could relieve symptoms. Even fewer participants (42.8%) understood the benefits of exercises targeting the neck, and 40.0% were familiar with hot/cold therapy as a management option. Awareness of surgical intervention as a potential treatment for severe cases was the lowest, at 37.5%. These findings indicate a need for better dissemination of information regarding both conservative and surgical treatment options for cervical spondylitis to ensure that individuals are well-informed about the full range of available management strategies.

Table 5: Knowledge Regarding Treatment and Management of Cervical Spondylitis (N=400)

Question No.	Awareness Question	Correct Answer Frequency (n)	Correct Answer Percentage (%)
16	Do you know that physical therapy can help manage Cervical Spondylitis?	188	47.0
17	Do you know that medications can relieve symptoms of Cervical Spondylitis?	181	45.3
18	Do you know that exercises targeting the neck can help manage Cervical Spondylitis?	171	42.8
19	Do you know that hot/cold therapy can alleviate symptoms of Cervical Spondylitis?	160	40.0
20	Do you know that surgical intervention may be necessary in severe cases?	150	37.5

The overall knowledge scores for cervical spondylitis revealed a varied distribution among participants. About 25.5% of participants demonstrated very good knowledge (scoring 16-20 points), while 29.5% had good knowledge (12-15 points). A notable 27.3% had fair knowledge (8-11 points), and 17.8% fell into the poor knowledge category (scoring below 8 points). This distribution indicates that while a portion of the population has a solid understanding of cervical spondylitis, a significant percentage still requires better education and awareness regarding this common condition.

Table 6: Overall, Knowledge Score Categories for Cervical Spondylitis (N=400)

Score Category	Score Range	Frequency (n)	Percentage (%)
Very Good	16-20	102	25.5
Good	12-15	118	29.5
Fair	8-11	109	27.3
Poor	<8	71	17.8

DISCUSSION

This study provides a comprehensive assessment of the awareness and knowledge regarding cervical spondylitis among the general public in District Kangra, Himachal Pradesh. The findings reveal both strengths and gaps in the public's understanding of this common yet often debilitating condition. Despite the increasing prevalence of cervical spondylitis, particularly in regions where sedentary lifestyles and occupational hazards are prevalent, significant portions of the

population still lack adequate knowledge about its symptoms, causes, prevention, and management.

The study sample was well-distributed across various demographic categories, providing a representative snapshot of the population in District Kangra. The balanced gender distribution (49.0% males and 51.0% females) and the wide age range, with the majority of participants between 18-50 years, reflect the general population's characteristics. This diverse demographic spread allows for a nuanced understanding of how knowledge and awareness of cervical spondylitis vary across different groups. Interestingly, a significant portion of the sample had higher education levels, with 34.0% being graduates and 25.0% having postgraduate or higher education. This demographic insight suggests that educational attainment could influence the level of awareness and knowledge about cervical spondylitis, highlighting the importance of targeted educational interventions that address all segments of the population.[5,6]

The study found that while a large majority of participants (78.8%) had heard of cervical spondylitis, detailed knowledge of its symptoms was somewhat lower. For instance, while 72.3% knew that cervical spondylitis could cause neck pain, fewer participants recognized that it could lead to stiffness (69.0%), headaches (66.8%), or nerve pain (64.5%). This indicates that although the general concept of cervical spondylitis is well-known, the full range of its symptoms, particularly the neurological implications, is not as widely understood. This gap in knowledge may contribute to delayed diagnosis and inadequate management, as individuals might not associate their symptoms with cervical spondylitis or seek timely medical intervention.[7,8]

Knowledge about the causes and risk factors of cervical spondylitis was moderate among the participants. While a majority understood that poor posture (60.8%) and aging (59.0%) could lead to cervical spondylitis, fewer participants were aware of other significant risk factors, such as heavy lifting (58.0%) and lack of exercise (55.3%). Additionally, only 52.5% recognized that cervical spondylitis could be hereditary. These findings highlight a critical area for public health intervention, as awareness of modifiable risk factors like posture, physical activity, and ergonomic practices can play a crucial role in preventing the onset or worsening of cervical spondylitis. Public health campaigns should focus on educating the population about these risk factors, emphasizing the importance of lifestyle modifications to mitigate the risk.[3,7]

The study also identified significant gaps in participants' knowledge about the prevention of cervical spondylitis. While more than half of the participants knew that maintaining good posture (53.3%) and regular neck exercises (51.8%) could help prevent the condition, awareness of other preventive measures was lower. For example, only 50.3% recognized that taking breaks during prolonged sitting could be preventive, and even fewer (48.5%) understood the importance of a proper ergonomic setup at work. The lowest awareness was related to avoiding heavy lifting (45.0%) as a preventive measure. These results suggest that while some preventive strategies are known, there is a need for broader education on the full range of measures that can prevent cervical spondylitis, particularly in workplace settings where ergonomics play a crucial role.[6,8]

The participants' knowledge regarding the treatment and management of cervical spondylitis was relatively limited. Less than half of the participants were aware that physical therapy (47.0%) and medications (45.3%) could help manage the condition. Even fewer understood the benefits of exercises targeting the neck (42.8%) and hot/cold therapy (40.0%). Awareness of surgical intervention as a potential treatment for severe cases was the lowest, at 37.5%. These findings indicate a need for better dissemination of information regarding both conservative and surgical treatment options for cervical spondylitis. Ensuring that individuals are well-informed about the full range of management strategies is essential for improving outcomes and reducing the burden of the condition on both individuals and the healthcare system.[6-9]

The overall knowledge scores for cervical spondylitis revealed a wide distribution among participants. While 25.5% demonstrated very good knowledge, a significant portion of the population still fell into the fair (27.3%) and poor (17.8%) knowledge categories. This variability underscores the fact that while some individuals possess a strong understanding of cervical spondylitis, a considerable percentage of the population still lacks adequate knowledge. These results point to the need for targeted educational interventions that address specific gaps in knowledge, particularly among those with lower overall awareness. Public health initiatives should focus on enhancing understanding of the condition's symptoms, causes, prevention, and treatment options to ensure that all segments of the population are well-informed.[8,10]

Implications For Public Health

The findings of this study have important implications for public health strategies in District Kangra and similar regions. First, there is a clear need for comprehensive educational campaigns that address both the general awareness of cervical spondylitis and the specific knowledge gaps identified in this study. Public health initiatives should prioritize the dissemination of information on modifiable risk factors, prevention strategies, and treatment options, with a focus on practical, actionable advice that can be easily implemented by the general public.

Second, healthcare providers in the region should be equipped with the tools and resources to educate their patients about cervical spondylitis, emphasizing early diagnosis and effective management. Community-based interventions, such as workshops, health camps, and workplace ergonomic assessments, could be effective in raising awareness and promoting healthy practices that prevent and manage cervical spondylitis.

Finally, the use of digital platforms, as demonstrated in this study, can be a powerful tool for reaching a broader audience. By leveraging social media and other online resources, public health campaigns can engage a wide range of individuals and disseminate information more effectively.

Conclusion

This study highlights significant deficiencies in the knowledge and awareness of cervical spondylitis among the general population in District Kangra, Himachal Pradesh. While there is a basic level of awareness, there remains a strong need for focused educational initiatives that cover the full range of symptoms, causes, prevention, and treatment options for cervical spondylitis. Strengthening public health campaigns, encouraging early detection, and promoting evidence-based management through community programs and healthcare professionals are essential steps toward reducing the impact of cervical spondylitis. Additionally, utilizing digital platforms to spread information can enhance outreach efforts and promote a more informed and proactive approach to managing this widespread condition, ultimately improving the quality of life for those affected and reducing its broader societal impact.

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