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Awareness Of Cervical Derangement Syndrome in Smartphone Users

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ABSTRACT

BACKGROUND- *Overindulgence in mobile device usage is a prevalent lifestyle habit among young people and working professionals. It tends to produce poor posture, more so forward head position, which in turn causes Cervical Derangement Syndrome (CDS). CDS is a condition characterized by pain and stiffness in the neck, decreased mobility, and sometimes referred pain as a result of stress on the spine. Repetitive strain from viewing the screen of a phone adds to mechanical load on the cervical spine. Though its prevalence continues to rise, the awareness level of CDS is low. Early education about posture, ergonomics, and interventions based on physiotherapy can prevent long-standing spinal disorders.*

OBJECTIVE- *1. To evaluate the awareness of cervical derangement syndrome in smart phone users. 2. To find out the awareness of cervical derangement syndrome in smart phone users.*

METHODOLGY- *This three-month cross-sectional study was conducted in Karad among 150 individuals aged 18–45 years, selected through simple random sampling. Inclusion criteria included smartphone use for over 5 years, more than 4 hours daily, and symptoms like neck pain, stiffness, or poor posture. Individuals with pre-existing cervical conditions or surgery history were excluded. Data were collected via a standardized Google Form assessing demographics, smartphone habits, CDS awareness, and symptoms. Informed consent was obtained, and data were analyzed using descriptive statistics.*

RESULT- *64% of the 150 participants reported having neck pain, and only 24% knew about CDS and its association with the use of smartphones. Slouching or bending heads to phones for a prolonged period were bad ergonomic practices. About 64% of the participants did not make breaks a habit while using smartphones, and 70% Were unfamiliar with preventive exercises or making ergonomic adjustments.*

CONCLUSION- *The research concludes that excessive, inappropriate use of smartphones is a major contributor to cervical pain and associated musculoskeletal problems. But there exists a significant lack of knowledge regarding CDS and its prevention. The analysis revealed that strongly stress the necessity of educational campaigns on ergonomic practices and early intervention protocols for averting the long-term effects of CDS.*

KEYWORDS- *Cervical Derangement Syndrome, Smartphone Overuse, Mechanical Neck Pain, Forward Head Posture, Postural Awareness, Musculoskeletal Disorders, Neck Pain, Mechanical Diagnosis and Therapy, Ergonomics, Youth Smartphone Habits.*

INTRODUCTION:

Cervical Derangement Syndrome (CDS) is a mechanical neck pain condition that arises from displacement or obstruction within the cervical spine, causing symptoms such as neck pain, stiffness, and radiating discomfort. This syndrome is often responsive to specific treatments like Mechanical Diagnosis and Therapy (MDT), which includes approaches like the McKenzie Method. MDT has shown to be highly effective, offering pain relief and improving functional mobility comparable to more traditional methods. Additionally, it encourages active patient participation, which has been a key factor in its success in managing chronic neck pain.

In recent years, the dramatic increase in smartphone usage has introduced new risk factors for developing CDS, especially due to prolonged neck flexion and forward head posture. These postural habits are common among individuals who use smartphones for long periods and can significantly alter cervical spine alignment. The constant forward bending of the neck increases stress on the cervical spine, reduces muscle pain thresholds, and leads to degenerative changes over time. As the smartphone has become a ubiquitous part of daily life, this shift in postural habits has emerged as a significant contributor to the rise in neck pain and related musculoskeletal disorders, including CDS.

The connection between smartphone addiction and musculoskeletal disorders, particularly neck disability, is well-documented in the literature. University students and young adults are especially

vulnerable to these issues, as they tend to spend long hours using smartphones for communication, studying, and entertainment. Studies have shown that improper posture during smartphone use is directly linked to neck pain, with an increasing number of young people reporting musculoskeletal complaints related to their smartphone habits. This demographic's susceptibility highlights the urgent need for better awareness and prevention strategies.

Furthermore, clinical research has explored various methods for diagnosing and managing CDS. These methods often involve a combination of clinical decision-making and therapeutic techniques, such as neural mobilization paired with directional preference exercises. The clinical emphasis is on restoring proper alignment and function of the cervical spine, which can often be disrupted by poor posture and excessive screen time. Early detection of maladaptive cervical posture is crucial to preventing the progression of CDS and reducing its long-term impact on patients' health.

Despite the growing evidence linking smartphone overuse to neck pain, there remains a significant gap between clinical research findings and public awareness. Most smartphone users, particularly younger individuals, are unaware of the risks associated with prolonged smartphone use, including the development of CDS. Recent systematic reviews have underscored the strong association between smartphone overuse and neck pain, reinforcing the need for increased public education and early intervention. This study aims to assess the awareness of CDS among smartphone users and bridge the gap between clinical evidence and public understanding, ultimately promoting better prevention strategies and healthier smartphone habits.

AIM: To study the awareness of cervical derangement syndrome in smart phone users.

OBJECTIVE:

1. To assess the knowledge of cervical derangement syndrome among smartphone users.
2. To identify the correlation of patterns of the **relationship between smartphone use and symptoms of** cervical derangement.
3. To evaluate postural behaviour and preventive measures in smartphone users for CDS.

MATERIAL AND METHODOLOGY:

An observational cross- sectional research was conducted spanning three months. in Karad to evaluate the knowledge of Cervical Derangement Syndrome (CDS) among smartphone users. 150 participants were chosen through a simple random sampling technique. Candidates between 18 to 45 years, who have been smartphone Subjects with usage exceeding five years and use their phones for over four hours a day, were recruited. Patients reporting neck pain, stiffness, pain radiating to the upper limbs, or postural defects were eligible for the study. Those with limited smartphone use (fewer than one hour a day), smartphone Participants engaged in use for fewer than five years, children under 15 years, persons aged more than 46 years, and those with prior cervical spine disease or history of cervical spine surgery were excluded. Data were gathered using a standardized questionnaire prepared in Google Forms, covering demographic information and awareness questions for CDS. Consent was secured from all respondents before gathering data, the questionnaire was distributed online, and the replies were counted in a master chart Statistical processing was conducted with the help of a statistician to interpret results.

RESULT:

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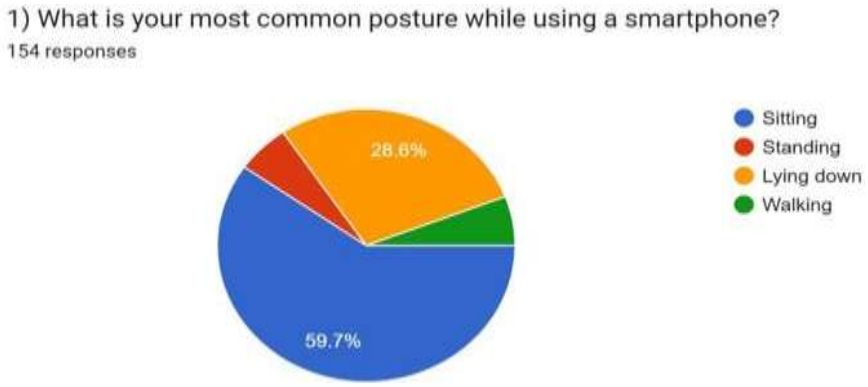
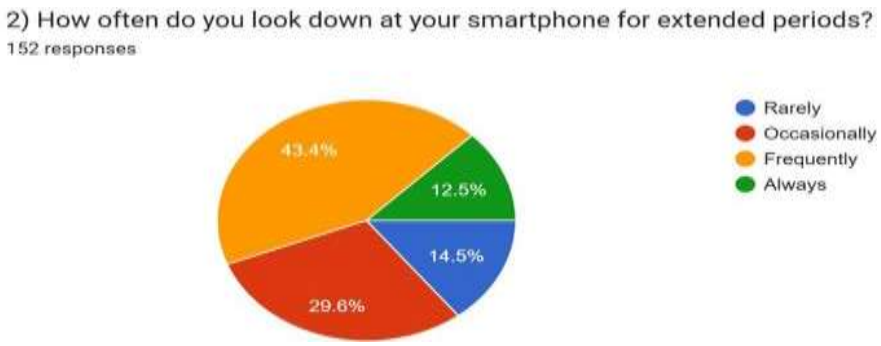
Figure no.1



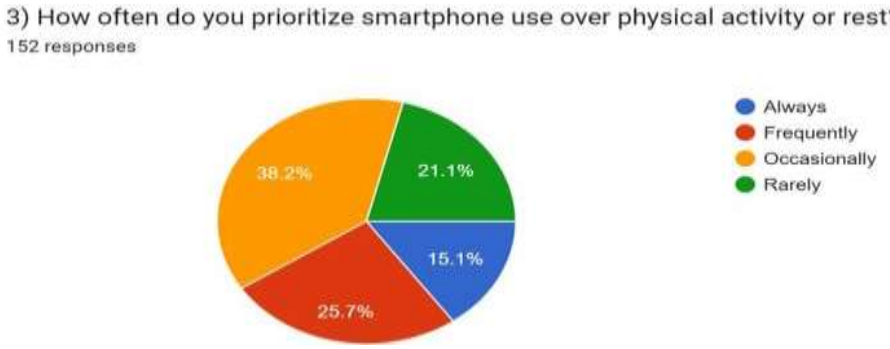
Interpretation -: The most common smartphone posture among 154 people is shown in the pie representation above. The majority of people, or 59.7% of the population, use smartphones when sitting. 28.6% of people use their smartphones while they are lying down. whereas 5.9% and 5.8% of people, respectively, use their smartphones when standing and walking.

Figure no.2



Interpretation -:above pie chart shows how often people look down at smartphone for extended periods . out of 154 participants 43.4%that is almost 65 people frequently look down for extended period . However 44 individulas occasionly look down to see smartphone . 14.5% of the individuals rarely look down to see smartphone .whereas 12.5% that is 19 individulas always look down to see smartphone . Figure no.3

FIGURE 3



Interpretations:- The pie chart shows that 38.2% of respondents occasionally prioritize smartphone use over physical activity or rest. About 25.7% do so frequently, while 15.1% always choose smartphones over healthier habits. Only 21.1% rarely let smartphones interfere with their physical activity or rest. This indicates that a majority of users tend to prioritize screen time over physical well-being. Such behavior may increase the risk of musculoskeletal issues like cervical derangement syndrome.

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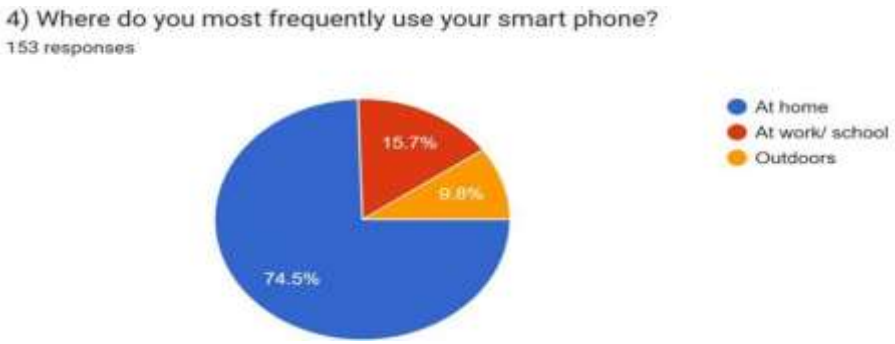
Figure no.4

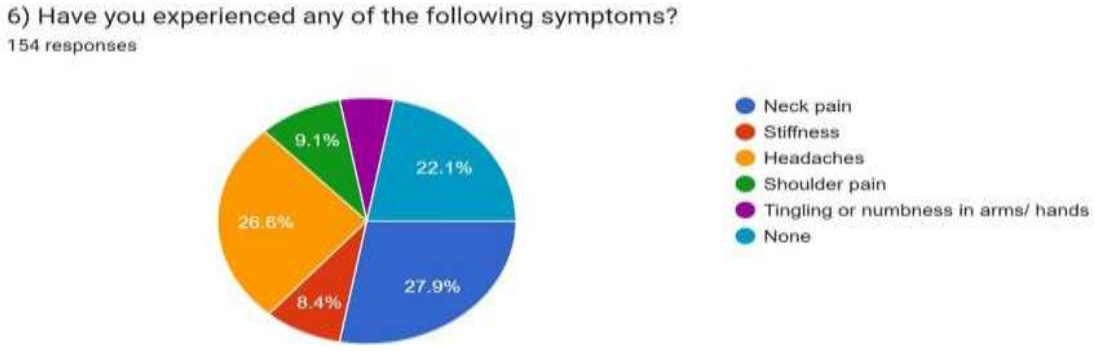


The pie chart shows that 74.5% of respondents most frequently use their smartphones at home. About 15.7% use them mainly at work or school, while only 9.8% use them outdoors. This suggests that smartphone usage is highest in relaxed or sedentary environments. Prolonged use at home may contribute to poor posture and related conditions like cervical derangement. Encouraging balanced use and posture awareness at home is essential.

Figure no. 5

Interpretation -:Above pie chart shows the graphic representation of alterations in sleep quality related to neck discomfort due to use of smartphone . 18.5%that is 28 people out of 150 has significantly worst sleep quality due to neck discomfort caused by smartphone use . 47.7% of the total population that is 72 people have slight alterations whereas 33.8%that is 50 participants doesn't have any alterations in sleep quality .

Figure no. 6



The chart shows that 27.9% of respondents experienced neck pain, making it the most common symptom. Headaches (26.6%) and no symptoms (22.1%) follow closely. Stiffness (8.4%), shoulder pain (9.1%), and tingling or numbness (5.8%) were less common but still present. This indicates a high prevalence of musculoskeletal and neurological symptoms linked to smartphone overuse. The findings highlight the importance of awareness and preventive measures for conditions like cervical derangement syndrome.

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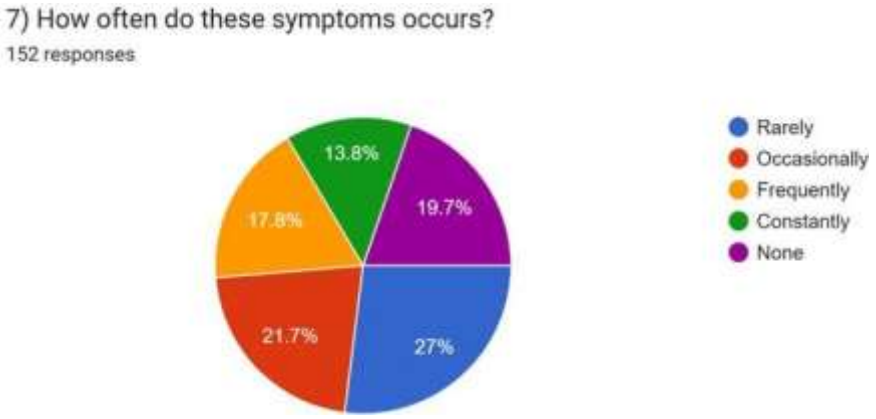
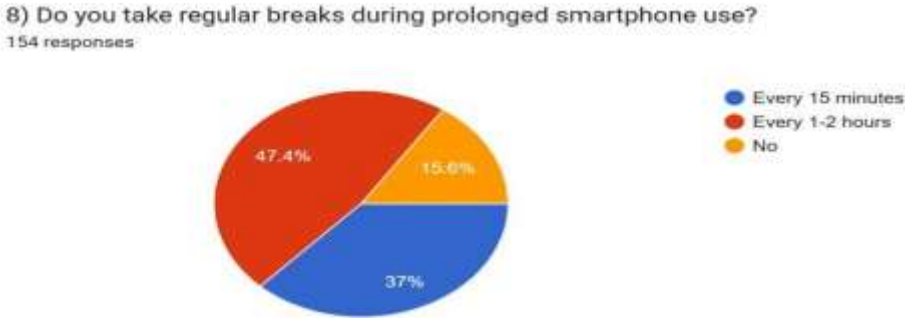
Figure no. 7



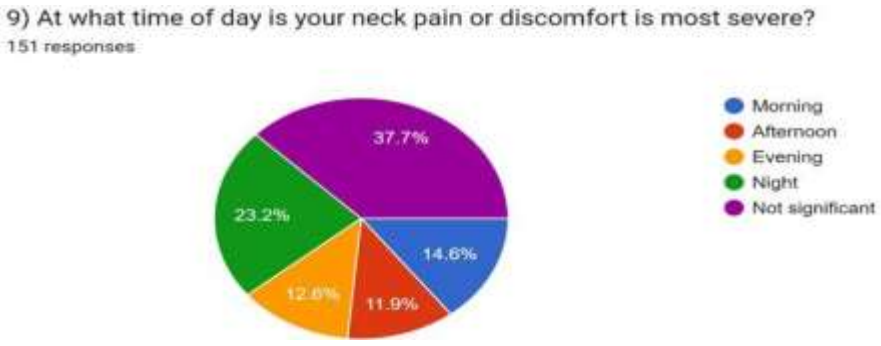
The chart shows that 27% of respondents experience symptoms rarely, while 21.7% face them occasionally. 17.8% report experiencing symptoms frequently, and 13.8% have them constantly, indicating persistent discomfort. Only 19.7% reported no symptoms. This suggests that a majority experience symptoms at varying levels, with some facing them regularly. These results emphasize the growing impact of prolonged smartphone use on physical health.

Figure no. 8



Interpretations:- above pie chart shows the frequency of breaks taken by the participants while using smartphone . 37% of the population take breaks every 15 min. most of the populatation that is 47.4% that is 71 people take break evrey 1-2 hrly while using smartphone . whereas 15.6% of the individulas doesn't take any type of break while using smartphone .

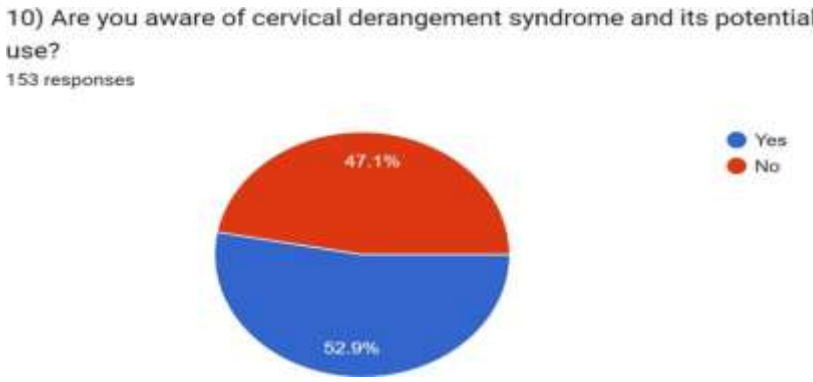
Figure no. 9



The chart shows that 37.7% of respondents feel neck pain is not significantly tied to any specific time of day. However, 23.2% experience the most discomfort at night, followed by 14.6% in the morning, 12.6% in the evening, and 11.9% in the afternoon. Night-time discomfort may relate to poor posture during late smartphone use or sleeping positions. Morning pain could suggest prolonged poor posture

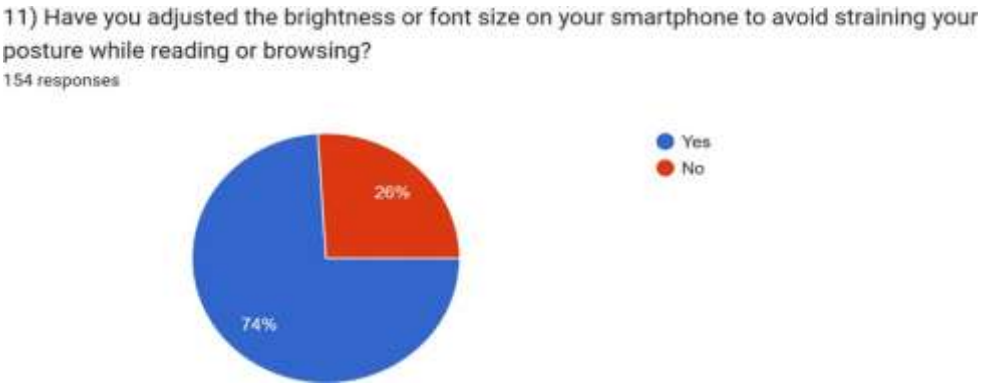
or strain from the previous day. The findings indicate that neck discomfort can be present throughout the day, stressing the need for better ergonomic habits.

Figure no. 10



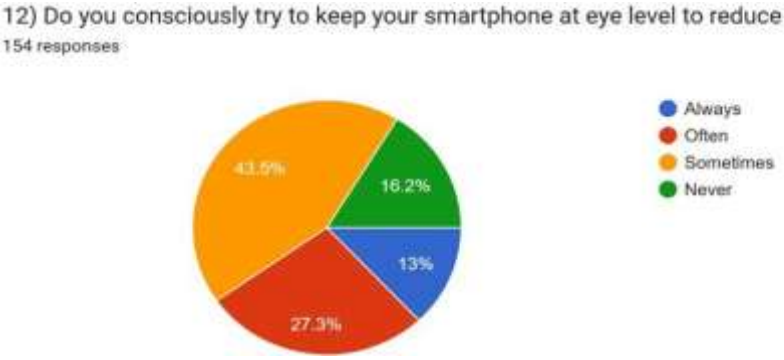
Interpretation -:above pie chart depicts the awareness of cervical derangement syndrome in the population . most of the people 52.9% that is 79 individuals out of 150 are aware of cervical derangemnet syndrome and its connection to the smartphone use .whereas 47.5% that is 71 people out of 150 doesn't know about cervical derangement syndrome .

Figure no.11



The chart shows that 74% of respondents have adjusted their smartphone's brightness or font size to reduce posture strain. Only 26% have not made such adjustments. This reflects a positive awareness among the majority regarding ergonomic practices. However, over a quarter still neglect basic visual comfort settings. Encouraging proper screen adjustments can further help in preventing neck and eye stra

Figure no. 12



The chart reveals that 43.5% of respondents sometimes try to keep their smartphone at eye level to reduce neck strain. 27.3% do so often, while only 13% make this adjustment consistently (always). 16.2% admit they never follow this ergonomic practice. This suggests that while some users are aware of posture correction, most apply it inconsistently. Promoting regular eye-level use can help minimize neck strain and prevent cervical issues.

INTEPRETATION:

Posture and Usage Habits: Most (54%) hold smartphones when lying down, leading to improper spinal alignment. Approximately 46% frequently look down for extended periods, highlighting constant cervical loading. Lifestyle Impact: 34% see smartphone use as seen as more significant than exercise reflective of a sedentary lifestyle. 64% of users use their devices primarily at home, reinforcing extended static postures. Symptom Frequency: Pain (64%) and stiffness (52%) are the most common symptoms. A substantial percentage (32%) has these symptoms from time to time, and 28% have them frequently. Break Habits: Concerning 64% Refrain from taking breaks while operating smartphones, indicating an important ergonomic issue. Discomfort Timing: The discomfort is highest in the evening (40%), which may relate to cumulative stress from daily use. Awareness & Preventive Measures: 76% unaware of CDS, and 64% haven't optimized brightness/font size to minimize strain. Only 14% always keep their smartphone at eye level, indicative of inconsistent use of ergonomic practices.

DISCUSSION:

This study examined smartphone users' awareness of Cervical Derangement Syndrome (CDS) and the link between phone habits and neck problems. Findings revealed that 76% were unaware of CDS, despite 64% reporting neck pain and 52% experiencing stiffness during phone use. Poor posture was common, with 54% lying down and only 30% sitting upright; 78% frequently looked down at their phones for long periods.

Lack of preventive habits was evident—64% did not take breaks, contributing to shoulder pain (46%), arm tingling/numbness (20%), and sleep disturbances (50%). Few adjusted phone settings (36%) or held devices at eye level (14%). Respondents engaging in stretching, yoga, or regular breaks reported fewer symptoms, highlighting the benefits of activity and posture awareness in reducing neck-related issues from prolonged smartphone use.

CONCLUSION:

The collected data reflected that smartphone users have poor posture and little awareness of Cervical Derangement Syndrome (CDS). Most participants used their phones in bad positions, with 54% often lying down and 46% frequently looking down at their devices for long periods. Even though many experienced necks pain (64%), stiffness (52%), and headaches (40%), only 24% knew about CDS and how it relates to long smartphone use. Additionally, 64% didn't take regular breaks while using their phones, and many hadn't made simple changes like adjusting screen brightness or font size. Symptoms were mostly felt in the evening and at night, suggesting that poor posture throughout daily activities causes strain. The analysis shows a clear gap between symptoms and awareness, highlighting. The urgent need to inform the public about neck care. Overall, the study suggests that bad smartphone habits are causing muscle and joint pain in young adults, and that teaching better ergonomics and prevention is key to avoid long-term neck problems.

LIMITATION:

The study was subject to certain limitations that should be acknowledged. Firstly, all data gathered was based on self-reported information questionnaires, which introduces the possibility of recall bias and subjective inaccuracies in the responses. Participants may have under-reported or over-reported their smartphone usage habits and symptom severity, affecting the accuracy of the observed data. The next limitation is that the study was limited to a specific geographic location (Karad) and a comparatively small group of participants, which restricts the ability to generalize the results to a wider population. Additionally, no participation of any was considered in the study clinical examination or objective assessment to validate the reported symptoms, relying solely on participants' perception of their discomfort. The cross-sectional design of the study also limits the ability to establish causal relationships

between smartphone usage patterns and cervical derangement symptoms. Factors such as occupation type, physical activity levels, and pre-existing musculoskeletal conditions were not controlled or analysed, which could have influenced the results. Lastly, awareness levels were evaluated by means of basic direct questions, without assessing the depth of knowledge or understanding about cervical derangement syndrome, That could have given further comprehensive insights.

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