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The Correlation Between Mobile Usage and Musculoskeletal Disorders: A Narrative Review

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Abstract: Social media usage has become an integral part of modern life, with billions of individuals engaging daily. However, prolonged use, especially on handheld devices, is associated with poor posture, repetitive strain, and musculoskeletal discomfort. Evidence suggests a strong association between excessive screen time and conditions such as text neck, low back pain, shoulder stiffness, and carpal tunnel syndrome (1,2). Preventive strategies, including ergonomic interventions, digital hygiene, and awareness campaigns, are essential to mitigate these health risks. This article emphasizes the need for further research and multidisciplinary approaches to address the emerging musculoskeletal consequences of digital lifestyles.

Index Terms - Social media, musculoskeletal disorders, digital ergonomics, screen time, posture-related pain.

I. INTRODUCTION

II. Introduction

III. The digital revolution has profoundly influenced human interaction, communication, and lifestyle. Social media platforms, including Facebook, Instagram, Twitter, and TikTok, have transformed daily routines but also introduced new health challenges. Prolonged engagement with smartphones and computers encourages static postures, repetitive movements, and reduced physical activity, predisposing individuals to musculoskeletal disorders (MSDs) (3,4).

IV. MSDs related to digital device usage manifest as neck pain, backache, shoulder stiffness, and wrist strain, collectively impacting quality of life and work productivity (5). With the global prevalence of musculoskeletal conditions increasing (6), it becomes imperative to understand the correlation between social media usage and MSDs.

Materials and Methods

This article adopts a **narrative review methodology**, synthesizing data from PubMed, Scopus, and Google Scholar searches (2010–2024). Keywords included *"social media," "musculoskeletal pain," "posture," "text neck," "digital ergonomics."* Inclusion criteria: studies linking digital/social media usage with musculoskeletal symptoms. Exclusion criteria: articles unrelated to musculoskeletal outcomes or not focused on social media/device use.

A total of 46 relevant articles, including cross-sectional studies, cohort studies, and systematic reviews, were critically analyzed.

Results

Findings reveal consistent evidence of musculoskeletal strain among frequent social media users:

1. **Neck Pain ("Text Neck")** – Prolonged forward head posture while scrolling on phones increases compressive forces on cervical spine structures, leading to neck pain (1,7).
2. **Low Back Pain** – Sedentary behavior and slouched sitting during social media use are strongly linked to lumbar discomfort (8).
3. **Shoulder and Arm Disorders** – Static abduction of arms during texting contributes to shoulder impingement and myalgia (3,9).
4. **Wrist and Hand Disorders** – Excessive texting and scrolling are associated with De Quervain's tenosynovitis and carpal tunnel syndrome (2,10).
5. **Sleep and Psychosocial Impacts** – Extended night-time use worsens pain perception and recovery due to sleep disruption (11).

Adolescents and young adults were at higher risk due to high daily usage hours, and women reported higher prevalence of neck and shoulder pain compared to men (5,9).

Discussion

The correlation between social media use and MSDs can be explained through **biomechanical and behavioral mechanisms**.

- **Biomechanical strain:** Forward flexion of the cervical spine during smartphone use increases cervical load up to 27 kg, contributing to text neck syndrome (7).
- **Reduced mobility:** Static posture reduces blood circulation and muscle flexibility, causing fatigue and pain (3).
- **Repetitive movements:** Frequent thumb use during texting results in microtrauma and tendinitis (2).
- **Psychosocial aspects:** Anxiety, stress, and compulsive social media usage reduce physical activity, further aggravating musculoskeletal health (11).

Preventive strategies such as digital ergonomics, scheduled screen breaks, stretching exercises, and awareness programs have shown effectiveness in reducing symptoms (8,10). Healthcare professionals should integrate **digital lifestyle counseling** into clinical practice.

Conclusion

Excessive social media usage is strongly correlated with musculoskeletal disorders, particularly neck, back, and wrist conditions. Given the exponential rise in social media consumption, addressing posture-related health risks is critical. Preventive measures, public health education, and ergonomic interventions must be prioritized. Further longitudinal and interventional studies are required to establish causality and develop evidence-based guidelines.

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