

The Effects of Social Media on Spinal Health

Munir Krifa^{1*}, Noor Elhuda Zagdod², Hiefa Elnaas³

¹Department of Physiotherapy, Faculty of Medical Technology, University of Tripoli, Tripoli, Libya

²Department of Physiotherapy, Private Physiotherapy Center, Tripoli, Libya

³Department of School Health, Shames Al-Marefa Secondary School, Tripoli, Libya

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ABSTRACT

This study investigates the impact of extended social media use on spinal health, concentrating on physical factors. It aims to assess the occurrence of musculoskeletal disorders, particularly those related to the spine, among university students. The study involved 384 health sciences students from various universities. A self-administered questionnaire on demographic data and social media usage was distributed via social media from December 11-16, 2024. Data were analysed using SPSS, focusing on descriptive statistics to summarize participant demographics and social media impact on pain. The data reveals significant trends in social media usage, user engagement, and associated health issues. Facebook leads with 71% of users, followed by Instagram at 44%, and TikTok at 35%. Other platforms like Snap (25%) and Telegram (11%) see moderate use, while Twitter (4%) and WhatsApp (3%) have lower engagement. Notably, YouTube, LinkedIn, and Netflix each have less than 1% user activity. In terms of daily usage, nearly 49% of users spend over 4 hours online, indicating a trend towards significant digital engagement. Mobile devices dominate access at 98%, reflecting a shift away from computers. Health-wise, 67% of individuals report neck or back pain, with moderate pain being the most common. Neck pain is particularly prevalent, likely linked to sedentary lifestyles. Only 35% of respondents have taken measures to alleviate this discomfort, suggesting a lack of awareness about managing the negative effects of prolonged social media use. Common actions include changing sitting positions (46%) and exercising (13%). This data underscores the need for greater awareness and proactive measures to address the physical impacts of social media usage. The results highlight significant social media trends, with Facebook leading user engagement. Nearly half of users spend over four hours online daily, predominantly via mobile devices. Health concerns, particularly neck pain, indicate a need for greater awareness and proactive measures to mitigate discomfort.

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INTRODUCTION

Mastering root canal system morphology is essential for Statistics indicate that the number of internet users in Libya increased by 76.2% over the past decade, rising from 877,000 users in 2012 to 3.7 million in February 2022, representing 49.6% of the total population. According to a report published by the American platform SlideShare on data, statistics, and digital trends in Libya, the number of internet users grew by 10.1% in 2022, adding 320,000 new users. Furthermore, 99.5% of users rely on mobile phones, and data shows that 11.87 million people were connected to the internet by 2022, nearly double the country's population [1]. The rise in Smartphone usage has heightened concerns regarding musculoskeletal disorders, which have become increasingly common. Globally, these disorders are among the most significant occupational health issues, with their prevalence steadily rising. This underscores the need to raise

awareness and adopt preventive measures to reduce physical strain associated with excessive Smartphone use [2].

Recently, neck pain has emerged as a significant public health concern, posing broad social and economic challenges for individuals, families, communities, and healthcare systems [3]. Additionally, smartphones are often held with one hand and operated with a single finger. Such repetitive movements may lead to micro trauma, as in the musculoskeletal system, potentially causing chronic pain and numbness in the neck and upper limbs [4]. A Canadian study found that 84% of students using smartphones reported musculoskeletal pain in at least one body region. Among them, 52% reported pain in the right shoulder, 46% in the left shoulder, 68% in the neck, and 62% in the upper back [5]. In a 2014–2015 study conducted among 2,367 Saudi university

*Corresponding E-mail addresses: m.krifa@uot.edu.ly

students, 27.2% reported using their smartphones for more than 8 hours daily, while 75% spent at least 4 hours daily on their devices [6]. This phenomenon has been linked to several health and social issues, including non-painful musculoskeletal disorders. Smartphone addiction, associated with repetitive joint usage, can result in inflammatory changes in otherwise healthy joints [7].

Musculoskeletal disorders are a leading cause of pain, disability, and economic burden worldwide, affecting 1.71 billion people according to the World Health Organization. These conditions result in restricted mobility, reduced work efficiency, and increased demand for rehabilitation services across all age groups. In addition to medical expenses, they also result in indirect costs such as reduced productivity and increased absenteeism, particularly in the working population [8].

The increasing prevalence of neck pain linked to social media usage is a growing concern in health discussions. This study investigates the relationship between social media habits and musculoskeletal discomfort, focusing on how the duration and frequency of use contribute to neck and back pain. Identifying specific risk factors, such as device type and posture, is crucial for addressing this issue. A significant part of the research involves assessing the intensity and duration of pain experienced by users, raising questions about how long the discomfort lasts and its severity. Additionally, the study explores methods individuals use to alleviate pain, including exercise, posture adjustments, and seeking medical care, providing insights into personal and collective strategies for relief. Ultimately, this research not only highlights the potential risks of excessive social media use but also underscores the need for healthier habits and preventive measures. By analysing these factors, the study aims to inform future research and interventions, fostering a deeper understanding of the impact of social media on physical well-being and promoting better health practices among users.

METHODS

Participants

384 students from the health sciences students at the University of Tripoli, Al-Marqab, Gharyan, Al-Shatti, and also the Higher Institute of Health Sciences in Abu Salim and Al-Ajilat participated in the study.

Period

The questionnaire was disseminated through the social media platforms of the participating institutes and colleges from December 11, 2024, to December 16, 2024. This time frame allowed for the collection of responses within a structured and defined period, ensuring a systematic approach to data gathering.

Measures

We designed a self-administered questionnaire specifically for this study, consisting of two main sections: demographic information and social media usage. The questionnaire was created using Microsoft Forms and distributed through the social media platforms of various colleges and institutes.

The first section collects demographic details, including the participant's university or institute, college, specialization, age, and gender. It also gathers information on the social media platforms participants regularly use.

The second section focuses on patterns of social media usage, such as the daily duration of use and the devices employed to access social media. Participants are asked whether they have experienced neck or back pain associated with social media use and to rate the intensity of the pain. Additionally, participants are prompted to identify the specific area where pain is most severe and the duration of pain during social media use. The questionnaire also explores the measures participants take to manage the pain, offering options such as exercising, using pillows or supports, adjusting sitting positions, consulting a doctor, undergoing cupping therapy, or attending physical therapy sessions.

Statistical analysis

The data was analysed and described using percentages and frequencies. Statistical analysis was conducted by using Statistical Package for Social Sciences Version 22 (SPSS) for Windows (SPSS Inc., Chicago, IL, USA).

Descriptive Statistics

To gain insights into the demographic characteristics of the study participants, we will utilize descriptive statistics. This analysis will offer a comprehensive overview of the sample population, detailing aspects such as age, gender, university or institute affiliation, and specialization. We will summarize this information using frequencies and percentages

RESULTS

Table 1 shows a distribution in healthcare specialties. Physiotherapy dominates with 61% (234 individuals), followed by Lab Technicians at 20% (75 individuals). Smaller groups include Anesthesia Technicians (7%), Dental Technologists (5%), Public Health (5%), and Radiology Technologists (2%).

Table 1. Specialties study

Specialties	%	No.
Radiology Technologist	2%	8
Public Health	5%	19
Dental Technologist	5%	20
Anesthesia Technician	7%	28
Lab Technician	20%	75
Physiotherapy	61%	234

Table 2 shows data is predominantly youth-oriented, with 88% aged 18-23, 11% aged 24-29, and only 1% older than 30.

Table 2. Age groups

Age	%	No.
18-23	88%	339
24-29	11%	43
Older than 30 years	1%	2

Table 3 highlights the distribution of social media usage among different platforms. Facebook emerges as the leader with 71% usage, equivalent to 274 users, followed by Instagram with 44% (170 users) and TikTok with 35% (133 users). Moderately adopted platforms include Snap with 25% (95 users) and Telegram with 11% (44 users). Twitter and WhatsApp exhibit lower engagement rates at 4% (16 users) and 3% (13 users), respectively. Minimal user activity is observed for YouTube with 0.3% (6 users), LinkedIn, Netflix, and FC Mobile, each registering below 1%.

Table 3. The use of social media

Social Media Usage	No.	%
Facebook	274	71
Instagram	170	44
TikTok	133	35
Snap	95	25
Telegram	44	11
Twitter	16	4
WhatsApp	13	3
YouTube	6	0.3
LinkedIn	1	3
Netflix	1	0.3
FC Mobile	1	0.2

Nearly half of the users (49%) spend over 4 hours daily, indicating a significant portion of heavy users. Moderate usage (3-4 hours) accounts for 32%, while 17% dedicate 1-2 hours daily. Minimal usage, under 1 hour, is rare at only 2% (Table 4).

Table 3. Daily Time on Social Media

Time of use	%
More than 4 hours	49%
3-4 hours	32%
1-2 hours	17%
Less than 1 hour	2%

The table (5) indicates a significant preference for mobile phone usage, which stands at 98%, making it the main device for accessing digital content. In contrast, computers make up only 1%, with another 1% of users utilizing both devices. This trend underscores a strong inclination towards mobile devices, likely because of their portability, convenience, and multi-functionality.

Table 4. Device Usage

Type of device	%
Mobile Phone	98%
Computer	1%
Both	1%

The table (6) highlights a significant prevalence of pain, with 67% of individuals experiencing neck or back pain, while 33% report no pain. Among those affected, moderate pain is most common at 60%, followed by low pain (31%) and severe pain (9%). Pain distribution indicates that neck pain is predominant (76%), whereas back pain is less frequent (24%). This suggests that neck pain is a primary concern, potentially linked to prolonged sedentary activities or poor posture, especially given modern digital lifestyles. Addressing these issues may involve ergonomic interventions, physical activity, and awareness campaigns.

Table 5. Pain present, severity of pain, pain distribution

Pain present	Experienced	%
Severity of Pain	Pain	67%
	No Pain	33%
	Moderate Pain	60%
Pain Distribution	Low Pain	31%
	Severe Pain	9%
	Neck	76%
	Back	24%

In Figure 1, the data set provided shows that 65% of respondents have not taken any measures to alleviate the pain of using social media, while 35% have taken some form of action.

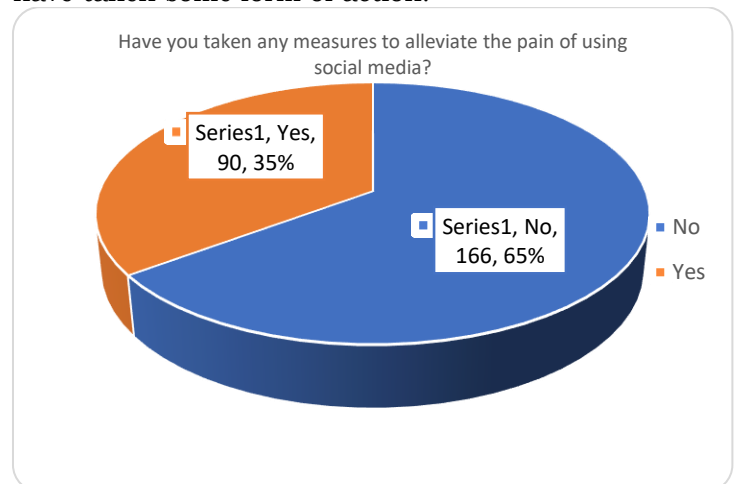


Figure 1. Measures to alleviate the pain of using social media

The data presented in Figure 2 showcases the actions undertaken by respondents to mitigate the discomfort associated with social media usage. Among these actions, the most common one, accounting for 46% of respondents, is changing sitting positions to alleviate pain. Additionally, 13% of respondents have chosen to exercise, while the same percentage have opted for using pillows or supports and performing cupping.

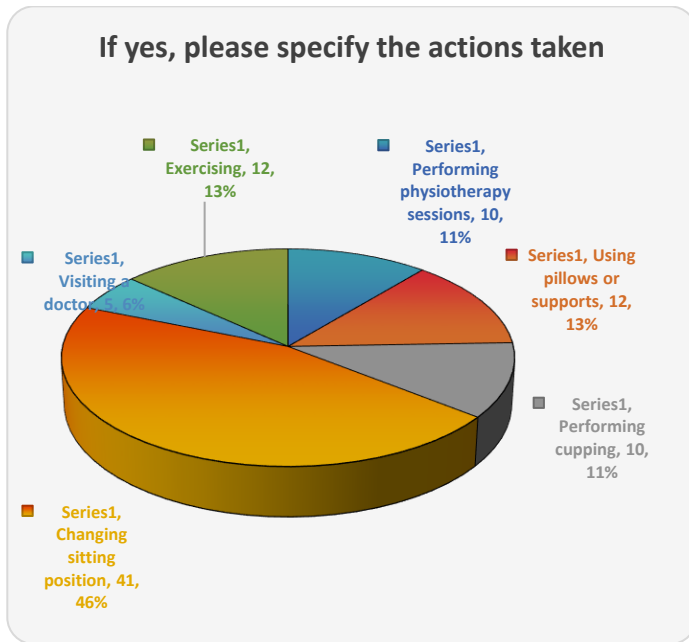


Figure 2. Action taken to alleviate pain

DISCUSSION

The rise of social media has dramatically reshaped communication, entertainment, and information sharing in contemporary society. As these platforms become deeply ingrained in daily life, understanding their usage patterns and associated behaviors is crucial for assessing their impact on users. The data presented offers a detailed examination of social media usage across various platforms, revealing significant insights into user preferences, engagement levels, and the implications of prolonged use on physical health.

The findings from our recent analysis of social media usage and its associated impacts resonate strongly with existing literature on musculoskeletal disorders and smartphone use. A systematic review highlights the biomechanical consequences of smartphone usage, noting that frequent use can lead to awkward postures that increase the risk of musculoskeletal disorders [9]. This aligns with our data, which revealed that 67% of individuals experience neck or back pain, with neck pain being particularly prevalent (76%). The implications of prolonged smartphone use, as discussed in this review, suggest that our findings regarding user discomfort may be linked to similar biomechanical stresses.

Furthermore, an investigation into ergonomic interventions illustrates that modifications in how users interact with their devices can significantly reduce discomfort [10]. Our results suggest that a substantial number of users are not taking measures to alleviate their pain, with 65% reporting no actions taken. This highlights a gap in awareness and proactive behavior that could benefit from the ergonomic strategies proposed in previous studies. The relationship between time spent on mobile applications and psychological distress adds another layer to our understanding of social media usage [11].

While our data indicates that nearly 49% of users spend over 4 hours daily on social media, the mixed findings regarding the connection between screen time and psychosocial outcomes suggest a nuanced relationship. The identification of distinct user profiles with varying levels of distress underscores the importance of considering individual differences in social media engagement, a factor that warrants further investigation.

Additionally, research points to the addictive nature of certain platforms, particularly TikTok, during the COVID-19 pandemic [12]. Our findings support the notion that specific platforms may contribute more significantly to social media addiction, which could correlate with the physical discomfort reported by users. The interplay between addiction and physical health issues remains an area ripe for further exploration. Moreover, studies focusing on university students emphasize the prevalence of neck and shoulder pain associated with smartphone usage in educational contexts [13,14]. The significant predictors of pain identified in these studies, including time spent on devices and prior history of pain, resonate with our findings and suggest that educational institutions should prioritize ergonomic education and interventions to mitigate these risks.

CONCLUSION

The convergence of our data with existing studies illustrates a pressing need for greater awareness and proactive measures regarding the physical and psychological impacts of social media and smartphone usage. The patterns emerging from this discussion highlight the importance of addressing both the ergonomic and psychological dimensions of digital engagement, particularly as mobile device usage continues to rise. Future research should aim to further dissect these relationships, providing insights that can inform interventions and promote healthier usage habits among diverse populations.

Conflict of interest. Nil

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