

# PREVALENCE, AWARENESS, AND WILLINGNESS OF SOCIAL MEDIA USAGE AMONG ORTHODONTIC PATIENTS: A CROSS-SECTIONAL SURVEY AT AYUB MEDICAL COLLEGE, ABBOTTABAD

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## ABSTRACT

**Objectives:** To assess the prevalence, awareness, and willingness of orthodontic patients at Ayub Medical College, Abbottabad, regarding the usage of social media for accessing orthodontic information and their inclination to integrate it into their treatment.

**Methodology:** A prospective cross-sectional study was conducted at the Department of Orthodontics, Ayub Medical College, Abbottabad from June 2023 to July 2023. This study involved 255 consecutive patients who sought orthodontic care at the department. The inclusive sample encompassed individuals of varying ages and genders, including both existing and new patients undergoing orthodontic treatment. Exclusions were made for bloggers and social media influencers. A validated questionnaire was used to gauge their social media engagement. Data analysis employed SPSS version 23, computing descriptive statistics and using the Chi-square test for variable associations ( $p < 0.05$ ).

**Results:** The study encompassed 255 patients, with a significant female majority (78%). Most were receiving braces treatment (71.4%), predominantly aged 11-20 (49.8%), followed by 21-30 (35.7%) and 31-40 (14.5%). Results demonstrated noteworthy awareness regarding the usefulness of social media for orthodontic information (64.7%), although the prevalence of usage was comparatively lower (33.7%), with 62.7% expressing willingness to use a developed social media site. Notably, Instagram exhibited significant growth potential (19.6% to 35.3%) compared to Snapchat (3.9% to 13.7%). Statistical analysis suggested no substantial disparities between genders and age groups regarding social media use and platform preferences.

**Conclusion:** In conclusion, this study reveals significant potential for orthodontic patient education through social media, with notable awareness and willingness, despite the lower prevalence of usage. Tailored communication strategies are essential for enhancing patient engagement.

**Keywords:** Digital platforms, Orthodontics, social media

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## INTRODUCTION

In the modern age of communication, the swift and effective exchange of information is propelled by the widespread use of social media platforms. <sup>1</sup> These platforms not only serve as avenues for personal interactions but also harbor the potential for bolstering health-related promotional and educational endeavors. Patients now frequently resort to social media as a means of seeking solutions to their health concerns and accessing medical resources. <sup>2</sup> The dynamic nature of social media, supported by the omnipresence of smartphones, tablets, and computers, allows for the dissemination of versatile healthcare information globally and at any time. Consequently, this evolution in social media has

revolutionized the healthcare landscape, opening up unconventional channels for engaging with patients and improving treatment outcomes.<sup>3</sup>

A substantial body of research highlights the pivotal role of social media in shaping the relationship between orthodontists and their patients, serving as both a marketing tool and a platform for dispensing educational resources.<sup>4,5</sup> The prevalence of social media usage (89%) among orthodontic patients and parents has been consistently on the rise, indicating its burgeoning significance in the domain of healthcare.<sup>6</sup>

Former studies have delineated a growing interest among orthodontic patients in harnessing social media for orthodontic-related information, with platforms like YouTube, Facebook, blogs, Instagram, Twitter, and Pinterest serving as popular repositories of such content. In a 2015 cross-sectional study of 130 orthodontic patients, it was discovered that 6.7% of them had contemplated using social media for information.<sup>7</sup> Subsequently, another study exhibited a notable rise to 21% of orthodontic patients seeking relevant orthodontic treatment material on social media using platforms like YouTube, Facebook, Instagram, etc.<sup>8</sup> In 2021, a cross-sectional study of 125 orthodontic patients indicated that 30% of them utilized social media, primarily favoring Snapchat and Instagram for orthodontic information.<sup>3</sup>

The study addresses a critical gap in research by exploring whether orthodontic patients are aware of using social media for treatment information and if they are open to incorporating it into their care. Despite the widespread use of social media, there is limited understanding of patients' attitudes in the context of orthodontic treatment in the local population. Investigating the prevalence of awareness and willingness to integrate social media in orthodontic procedures provides valuable insights, contributing to improved communication strategies and enhancing the overall treatment experience for orthodontic patients.

## METHODOLOGY

At the Department of Orthodontics, Ayub Medical College, Abbottabad, a cross-sectional survey was conducted. Following approval from the ethical board committee (Approval Code/Ref.No.RC-2023/EA-01/049), data was collected over a period of two months i.e., from June 2023 to July 2023. A sample size of 255 patients using "OpenEpi sample size calculator" with a 95% significance level and taking an expected percentage of exposed outcome i.e., 21%.<sup>8</sup> 255 consecutive patients, encompassing individuals of all genders and ages, were incorporated, comprising both new and existing orthodontic treatment patients, excluding bloggers and social media influencers. A validated questionnaire<sup>3</sup>

was employed to assess the participants' awareness of orthodontics-related information on social media and their propensity to incorporate social media into their orthodontic treatment process. The data collection from the patients was conducted by two faculty members. As no specific age limitations were applied, and in cases where patients were too young to independently complete the questionnaire, their parents were invited to assist them in doing so.

## Data Analysis

The data was analyzed using SPSS version 23. Descriptive statistics were obtained for percentages and frequencies for the quantitative variables like age and gender. Association between variables was carried out by using the Chi-square test at a 5% level of significance and p-value <0.05.

## RESULTS

In a total of 255 patients' data was collected and analyzed, 56 (22%) were males and 199 (78%) were females. 182 patients (71.4%) were undergoing braces treatment while 73 patients (28.6 %) had not started yet. Figure 1 represents the age distribution of patients, along with the frequency and percentages. The data was segmented into three groups: 11-20, 21-30, and 31-40. These groups represented different age ranges of patients.

Figure 2 shows the data provided in a tabular format representing the responses. According to the data, the majority of the patients (n=165, 64.7%) were aware that social media could be used to find information about braces treatment but only 86 patients (33.7%) used social media to obtain information. Furthermore, 71 patients (27.8%) found it useful and 160 patients (62.7%) agreed to use a social media site if it was developed.

In Figure 3 the trends in platform usage and the projected shift in usage based on the intentions provided were markedly seen for Instagram (n=50, 19.6% to n=90, 35.3%) followed by Snapchat (n=10, 3.9% to n=35, 13.7%).

Age and gender have insignificant effects on the use of various social media platforms (Table 1 & 2). Furthermore, there is no significant effect of age and gender in terms of the preference for accessing different social media platforms (Table 3). Figure 4 shows patients' feedback on using social media as an informative and beneficial tool.

## DISCUSSION

The prevalence and awareness of social media use among orthodontic patients is a critical area of investigation, especially considering the increasing influence of digital platforms in healthcare communication. This

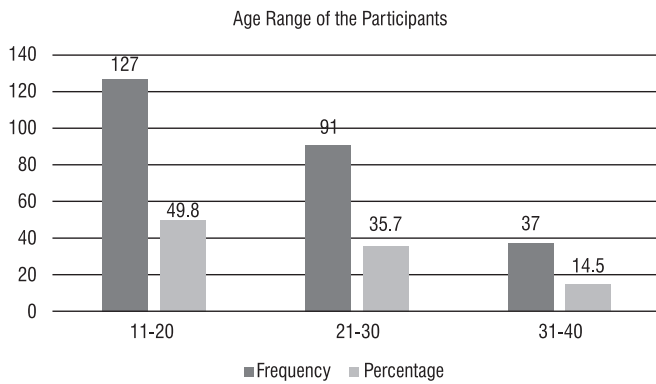


Fig 1: Age Range of the Participants

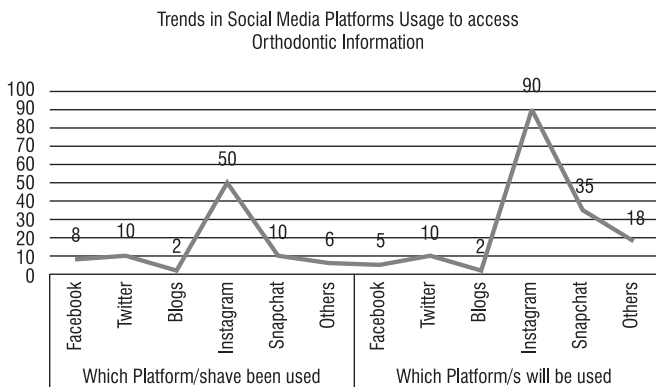


Fig 2: Prevalence of patients using social medical platforms

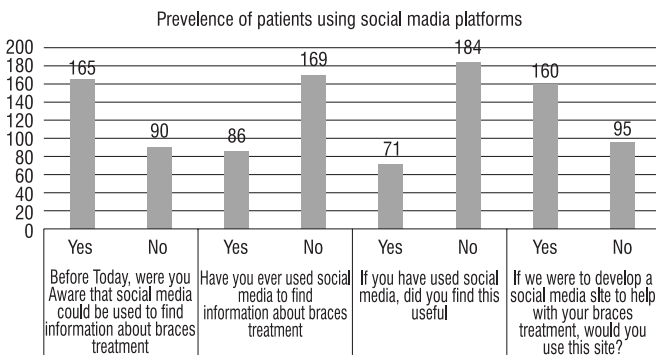


Fig 3: Trends in Social Media Platform Usage

Patient feedback on social media information seeking

- "Learned about the time needed for braces treatment on social media. #Treatment duration"
- "Easily found braces info on social media. #Info Access"
- "Found different types of braces on social media, making my choice easier. #Easy Decision"
- "Found aftercare tips for braces on social media. #After care help"
- "Got tips on dealing with braces pain through social media. #Pain Relief Tips"
- "Got tips on keeping my braces clean from social media. #Colorful Braces"
- "Picked my favorite braces colors with help from social media. #Colorful Braces"
- "Saw real people's results with braces on social media. #Real Results"
- "Watched how braces are put on through social media, easing my worries. #Braces Procure Dure"
- "Learned why I might need braces and what they do through social media. #Understanding Braces"

Patient feedback who discovered social media to be useful

- "Discovered which products are best for cleaning my teeth. #Effective Products"
- "Found answers and solutions for my concerns without the need to contact the hospital. #Helpful Solutions"
- "Found informative videos and tips from patients and orthodontists on social media, explaining everything about braces. #Braces Insights"
- "Helped me how to care for my teeth and braces, making me a aware of do's and don'ts. #Teeth Care Tips"
- "Learned the proper way to brush my teeth through social media. #Brushing Techniques"
- "Saw examples of the potential end result of braces through social media. #Braces Results"
- "Used social media insights to make my decision about getting braces. #Informed Decision"

Fig 4: Patient Feedback on using social media

study conducted at Ayub Medical College Abbottabad aimed to comprehend the engagement and preferences of patients undergoing orthodontic treatment, particularly regarding the usage of social media for obtaining information related to braces treatment.

The demographic distribution of the patients revealed interesting trends. A significant majority were females, indicating a potential gender inclination towards seeking orthodontic treatment. Many previous studies have reported this gender inclination like a study by Saccomanno et al.<sup>9</sup> and also by Khan and Horrocks' investigation.<sup>10</sup> The sample Pabari et al.<sup>11</sup> studied in 2011 also had a female majority. As female patients are more concerned about their esthetics they constitute a major percentage of patients.<sup>12</sup>

The analysis of age groups from the current study further highlighted distinct patterns. The majority of the patients fell within the 11-20 years age group. Similar results were supported by Siddiqui et al.<sup>3</sup> and Sharif et al.<sup>8</sup> in which the majority of the participants were aged between 11-18 years. The data from the current study underscored the significance of targeting younger age cohorts for social media-based information dissemination and engagement strategies related to orthodontic treatment.

The study's exploration of patient awareness and utilization of social media for gathering information about braces treatment uncovered noteworthy findings. While a significant proportion of patients were aware that social media could be utilized for this purpose, the actual utilization percentage was relatively lower. Similar findings were presented by Siddiqui et al.<sup>3</sup> who found that just 30% had used social media for orthodontics, whereas the majority were aware that these platforms were available to find information on orthodontic treatment. According to Sharif et al.<sup>8</sup>, only 21 % had looked up information on social media. However, an encouraging aspect was the high proportion of patients (62.7%) who perceived social media as a useful tool for obtaining information related to their orthodontic treatment, indicating the potential of leveraging these platforms for patient education and engagement.

The study investigation into the specific social media platforms used by the patients revealed a shifting trend, with Instagram (19.6% to 35.3%) and Snapchat (3.9% to 13.7%) gaining prominence over other platforms. Our findings are consistent with a cross-sectional study of 477 orthodontic patients conducted in Saudi Arabia that found that patients between the ages of 13 and 20 chose Instagram over other social media sites.<sup>13</sup> This is because nowadays people prefer apps that allow focused content and provide immediate engagement. In contrast to Al Gunaid et al., who found that Snap-



chat was the most popular app for finding information about orthodontics, followed by Instagram (23.7%) and WhatsApp (22.3%), the results of our study showed that Instagram (19.6%) is the most popular social media platform.<sup>1</sup> In a different study, Gunaid et al.<sup>14</sup> sought to determine how orthodontic patients' characteristics affected their use of and preferences for social media. The results showed that while individuals aged 21–30 used Twitter, Snapchat, and YouTube significantly more than the other groups, contrary to our findings, those aged 13–20-year-olds favored Instagram among orthodontic patients. A study by Nelson et al.,<sup>6</sup> showed that 49.5% of the patients used YouTube to gain information about braces but in our study, this included only 18% of the patients who used YouTube along with WhatsApp which was included in other groups. Additionally, our study finds no significant difference (p-value 0.758) in the usage of social media platforms to find information regarding braces treatment among the different age groups. As indicated by our study, the substantial increase in the intention to use these platforms suggests the need for orthodontic practitioners to prioritize these channels for effective communication and information dissemination.

Furthermore, in contrast to a study by Gunaid et al.,<sup>14</sup> where females used Instagram ( $P < 0.05$ ) and WhatsApp applications ( $P < 0.001$ ) more than males, our study found no significant difference between genders (with a p-value of 0.758) in terms of the social media platforms used for finding information about braces treatment. This implies that orthodontic practitioners can adopt a uniform approach to engage patients through social media, irrespective of their gender or age group.

Patients' feedback has shared various experiences of utilizing social media to obtain information related to their brace's treatment. Some mentioned learning about the duration of treatment, while others found helpful tips for managing pain and maintaining their braces. Social media also assisted some in making informed decisions about the types and colors of braces, as well as providing insights into the procedure and real-life results. They also emphasize how social media provided comprehensive insights on braces, including care tips, brushing techniques, and treatment outcomes. This is under remarks made by orthodontic patients on Twitter and Instagram, which were categorized by Graf et al.,<sup>15</sup> who studied 361 posts over 30 days.

Orthodontic practitioners and healthcare institutions can utilize these insights to tailor their communication strategies and develop patient-centric social media initiatives that effectively cater to the information needs of orthodontic patients. While the study provided valuable insights into patient behaviors and

preferences, certain limitations should be acknowledged. The data was collected from a single medical college, limiting the generalizability of the findings to a broader population. Additionally, the study primarily focused on the utilization and preferences related to social media and did not delve into the specific content preferences or patient satisfaction levels concerning the information accessed through these platforms.

## CONCLUSION

In conclusion, this cross-sectional study underscores the significant potential of social media for orthodontic patient education and engagement. With a predominant age group of 11-20 years and a notable female majority, the study reveals substantial awareness and willingness of social media as a source of orthodontic information, although the actual prevalence of usage remains relatively lower.

## REFERENCES

- 1 Al-Gunaid TH, Ibrahim AM, Alhazmi KM, Aljohani AA, Eshky RT, Althagafi N. Impact of social media on patient's decision-making toward orthodontic treatment. *Saudi J Health Sci.* 2021;10(2):132-7. DOI: 10.4103/sjhs.sjhs\_37\_21.
- 2 Papadimitriou A, Kakali L, Pazera P, Doulis I, Kloukos D. Social media and orthodontic treatment from the patient's perspective: a systematic review. *Eur J Orthod.* 2020;42(3):231-41. DOI:10.1093/ejo/cjz029.
- 3 Siddiqui N, Chia M, Sharif MO. Social media and orthodontics: Are our patients scrolling? *J Orthod.* 2022;49(2):179-84. DOI:10.1177/14653125211042025.
- 4 Meira TM, Prestes J, Gasparello GG, Antelo OM, Pithon MM, Tanaka OM. The effects of images posted to social media by orthodontists on public perception of professional credibility and willingness to become a client. *Prog Orthod.* 2021;22:1-8. DOI:10.1186/s40510-021-00353-9.
- 5 Al-Silwadi FM, Gill DS, Petrie A, Cunningham SJ. Effect of social media in improving knowledge among patients having fixed appliance orthodontic treatment: A single-center randomized controlled trial. *Am J Orthod Dentofacial Orthop.* 2015;148(2):231-7. DOI:10.1016/j.ajodo.2015.03.029.
- 6 Nelson KL, Shroff B, Best AM, Lindauer SJ. Orthodontic marketing through social media networks: the patient and practitioner's perspective. *Angle Orthod.* 2015;85(6):1035-41. DOI:10.2319/110714-797.1.
- 7 Henzell M, Knight A, Antoun J, Farella M. Social media use by orthodontic patients. *NZ Dent J.* 2013;109(4):130-3.
- 8 Sharif MO, Siddiqui NR, Hodges SJ. Patient awareness of orthodontic mobile phone apps. *J Orthod.* 2019;46(1):51-5. DOI:10.1177/1465312518821361.
- 9 Saccomanno S, Saran S, Laganà D, Mastrapasqua RF, Grippaudo C. Motivation, Perception, and Behavior of the Adult Orthodontic Patient: A Survey Analysis. *Biomed Res Int.* 2022;2022:2754051. DOI:10.1155/2022/2754051.
- 10 Khan R, Horrocks E. A study of adult orthodontic patients and their treatment. *Br J Orthod.* 1991;18(3):183-94. DOI:10.1179/bjo.18.3.183.
- 11 Pabari S, Moles DR, Cunningham SJ. Assessment of motivation and psychological characteristics of adult orthodontic patients. *Am J Orthod Dentofacial Orthop.* 2011;140(6):e263-e72. DOI:10.1016/j.ajodo.2011.06.022.

- 12 Zhang M-J, Sang Y-H, Tang Z-H. Psychological impact and perceptions of orthodontic treatment of adult patients with different motivations. *Am J Orthod Dentofacial Orthop.* 2023:e64-e71. DOI: 10.1016/j.ajodo.2023.05.021.
- 13 Alalawi A, Aljuaid H, Natto ZS. The effect of social media on the choice of dental patients: a cross-sectional study in the city of Jeddah, Saudi Arabia. *Patient Prefer Adherence.* 2019:1685-92. DOI:10.2147/PPA.S213704.
- 14 Al-Gunaid TH, Aljohani AA, Alhazmi KM, Ibrahim AM. Determining the impact of orthodontic patients' characteristics on their usage and preferences of social media. *J Taibah Univ Medical Sci.* 2021;16(1):16-21. DOI:10.1016/j.jtumed.2020.08.010.
- 15 Graf I, Gerwing H, Hoefer K, Ehlebracht D, Christ H, Braumann B. Social media and orthodontics: A mixed-methods analysis of orthodontic-related posts on Twitter and Instagram. *Am J Orthod Dentofacial Orthop.* 2020;158(2):221-8. DOI:10.1016/j.ajodo.2019.08.012.

**CONTRIBUTIONS BY AUTHORS**

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| <b>1 Wasim Ijaz:</b>           | Conceived and designed the study, analyzed and interpreted the data, and wrote the manuscript |
| <b>2 Eizza Niaz:</b>           | Was responsible for data collection and helped in writing the manuscript                      |
| <b>3 Naveed Iqbal Bangash:</b> | Analyzed and interpreted the data, helped in writing the manuscript                           |
| <b>4 Maidha Jadoon:</b>        | Provided design and data collection   |
| <b>5 Ifham Khan Jadoon:</b>    | Provided design and data collection   |
| <b>6 Madiha Iqbal:</b>         | Provided design and data collection   |