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Impact of Social Media on Oral Health Knowledge and Behaviours among Pregnant Women

Khaliqa tul Zahra[1], Sheherbano Ali Shah[2], Fizza Nafees[3], Munnawar ul Haque[4], Nimra Manzoor Ahmed[5], Nabeel Khan[6]

[1]Department of Community Oral Health and Clinical Prevention, Faculty of Dentistry, University of Malaya, Kuala Lumpur, Malaysia / de 'Montmorency Institute of Dentistry, Lahore, Punjab, Pakistan.
[2]International School of Islamabad, Pakistan.
[3]Islamic International Dental College, Islamabad, Pakistan.
[4]Indus Hospital and Health Network, Indus University of Health Sciences, Indus College of Family Medicine and Public Health, Karachi, Sindh, Pakistan.
[5]School of Dentistry, Shaheed Zulfiqar Ali Bhutto Medical University, Islamabad, Pakistan.
[6]Department of Oral Biology, Karachi Medical and Dental College, Karachi Metropolitan University, Karachi, Sindh, Pakistan.

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Correspondence to: Khaliqa tul Zahra, BDS, PhD Scholar, Department of Community Oral Health and Clinical Prevention, Faculty of Dentistry, University of Malaya, Kuala Lumpur, Malaysia/ Demonstrator, de 'Montmorency Institute of Dentistry, Lahore, Punjab, Pakistan.
Email: khaliqatulzahra@gmail.com

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ABSTRACT

Pregnancy is a critical period that influences both maternal and fetal health. Oral health often receives little attention during pregnancy, despite increasing vulnerability to issues like gingivitis, periodontics and dental caries. Social media has emerged as a widely used platform for health information, particularly among pregnant women. However, its role in shaping oral health knowledge and behaviours during pregnancy remains under explored. This study aimed to evaluate the impact of social media on the oral health knowledge and behaviours of pregnant women. A cross-sectional study was conducted involving 100 pregnant women aged 18–40 years. Participants were recruited from antenatal clinics and social media platforms in six months study duration. Data were collected through a validated structured questionnaire covering demographics, social media usage patterns, oral health knowledge, and behaviours. Descriptive and inferential statistics, including Chi-square and logistic regression, were used for analysis. Among participants, 65% reported using social media for general pregnancy-related information, and 52% specifically for oral health advice. Women who accessed credible dental content on social media demonstrated significantly better oral health knowledge and were more likely to brush twice daily, floss regularly, and visit the dentist during pregnancy ($p < 0.05$). Social media significantly influences oral health knowledge and behaviours in pregnant women. Targeted educational content delivered via credible social media sources can improve maternal oral hygiene practices and promote timely dental consultations.

INTRODUCTION

Pregnancy is a critical period marked by increased vulnerability to oral health problems, including gingivitis, periodontics and dental caries, due to hormonal changes and dietary modifications (George et al., 2019). Since bad oral health is associated with negative pregnancy results including low birth weight and preterm birth, adequate knowledge and habits regarding oral health during pregnancy are vital (Kadir et al., 2021).

Social media has become a major source of health information (Ventola, 2014), therefore expanding internet's access worldwide. Accessible material on Facebook, Instagram, and YouTube can affect people's behaviour and opinions. Many times, pregnant women use social media for help and guidance, therefore it is a strong instrument for health education (Lupton, 2016).

Particularly during pregnancy, oral health is quite important for general health and welfare. Hormonal fluctuations during pregnancy raise the likelihood of gingival inflammation, periodontal disease, and dental caries, thus increasing the risk of bad outcomes including low birth weight and premature delivery (George et al., 2020). Although these serious health issues exist, oral health is still a disregarded aspect of prenatal care; many women bypass dental appointments because of misunderstandings or ignorance (Kamalabadi et al., 2023).

The most common misconceptions include "Pregnancy causes calcium loss in teeth" and "Dental treatment should be avoided during pregnancy." Almost 89.8% WhatsApp's and 78.9% Instagram's users reported these to be the most often utilized platforms. Social media has changed people's access to medical knowledge recently. For information about prenatal care, food, and wellbeing, expectant women turn more and more to Facebook, Instagram's, and YouTube. This change has also affected oral health, where social media is a source of misinformation as well as a source of health awareness (Alghamdi et al., 2024).

Studies have shown that interventions through social media channels such Snapchat and WhatsApp can significantly improve oral health knowledge and influence health behaviours (Aboalshamat et al., 2023). However, there is limited empirical research assessing the natural use of social media for oral health information among pregnant populations.

Although these well-known dangers, oral hygiene is sometimes overlooked throughout pregnancy due to poor awareness, myths, and little access to reliable sources (Ramalho et al., 2018). Recently, social media has become a powerful instrument for affecting health behaviors and sharing of health-related knowledge. Facebook, Instagram's, YouTube, and Tiktok are becoming more and more used by individuals including expectant mothers. Fast, occasionally peer reviewed or experience-based content on these channels is quite accessible and finally alters attitudes, opinions, and oral health-related habits (Ventola, 2014).

Many women who are pregnant look from online communities and influences for advice on prenatal care, including oral health practices (Marrs et al., 2016). As such, they are a specific active group of social media users. This tendency offers both opportunities and difficulties. On the one hand, social media can be a helpful instrument for promoting good oral hygiene habits, regular dental appointments, and awareness of pregnancy-related oral diseases. Furthermore helps to spread false information that could lead to bad habits or lack of knowledge of essential dental treatment (Singh et al., 2021).

Though its volume is great, research indicates that the veracity, reliability, and origin of online content vary widely. Lack of scientific evidence or commercial interests drive many social media posts, which could lead expectant women to use unsuitable or even hazardous oral health remedies (Basch et al., 2018).

Many investigations draw attention to the link between health behaviour changes and social media involvement. Recent research contended that social media encourages interactive health promotion by allowing for quick dissemination of health information (Moorhead et al., 2013).

Social media serves as an educational resource and a support system in maternal health. Research revealed that expectant mothers who consume social media exhibit more knowledge of prenatal care, including oral health (Sayakhot & CarolanOlah's, 2016).

Not all material on social media is correct, though. Emphasizing the need of professional monitoring and intervention (Chou et al., 2013), the previous literature warns about the risks of misinformation. However, social media still plays a major and a crucial role in enhancing maternal oral health.

Rising levels of estrogen and progesterone, which can promote disorders like pregnancy gingivitis and periodontal (Silk et al., 2008), are among the several physiological changes brought on by pregnancy. Low birth weight, gestational diabetes, and preterm birth are related to poor maternal oral health (George et al., 2020).

Many pregnant women have mistaken ideas about oral health, including the idea that dental treatments can harm the baby or that oral issues are a normal aspect of pregnancy. (Kamalabadi et al., 2023) discovered that these myths frequently keep women from obtaining dental treatment.

Social media platforms are rather well-used among women of reproductive age. More than 70% of pregnant women in Saudi Arabia sought oral health guidance on social media (Alghamdi et al., 2024). Consistent improvement in knowledge about oral hygiene has been shown by projects carried out on Snapchat and WhatsApp—two of the social media platforms (Aboalshamat et al., 2023).

According to (Hausmann et al., 2017), women who interacted with pregnancy-related content online were more likely to have superior oral hygiene, intake more water, and see a doctor often. Digital health literacy is known as the capacity to search for, grasp, analyze, and use health information found on digital sources. Poor digital health literacy, which is linked to unfavorable oral health outcomes, has been linked to less use of professional dental services among pregnant women (Chesser et al., 2016). Restricted access to formal health education in low- and middle-income countries like Pakistan aggravates this problem further. Only 39% of pregnant women in Lahore could properly judge whether the content was reliable or scientifically proven, even though 72% of them used smartphones to get health information (Khan et al., 2022).

Though social media has downsides, if utilized wisely it presents chances for oral health promotion. These forums can be used by health professionals, government agencies, and charities to distribute pertinent, fascinating, and culturally sensitive content. Facebook-based educational films, for instance, have been shown to increase brushing frequency and reduce gingival inflammation among expectant moms (MohdDom et al., 2019). As such, especially in resource-poor contexts, including social media into mother oral health promotion initiatives might prove to be a cheap and far-reaching solution. This study investigates how social media influences pregnant women's knowledge of oral health as well as their behaviors in an urban Pakistani setting.

METHODOLOGY

This study employed a cross-sectional design to evaluate the influence of social media on oral health knowledge and behaviours among pregnant women. A cross-sectional approach was suitable for assessing associations between variables at a single point in time across a defined population.

The study was conducted over a six-month period. Participants were recruited from both clinical and digital settings to ensure diversity and representativeness. Online platforms selected for the study included WhatsApps and Facebook maternal health groups, and pregnancy-related forums. This hybrid recruitment strategy facilitated access to both urban and digitally active populations.

The target population included pregnant women aged 18-40 years, as this age group represents the typical childbearing period. Women in all trimesters of pregnancy were included with access to at least one social media platform.

A non-probability convenience sampling technique was employed, The total sample size was 100, where eligible participants who met the inclusion criteria and consented to participate were included in the study. This method was practical for recruiting from both clinical and online settings.

Inclusion Criteria

Participants were added in the study if they lived in Pakistan, were pregnant women between 18 and 40 years old, and were presently in any trimester of pregnancy. Moreover, to receive health-related information, would-be candidates had to frequent users of at least one social media channel including Facebook, Instagram, or WhatsApp. Being able to read and understand either Urdu or English was absolutely necessary to make sure the questionnaires and study papers were understood. Finally, only those who provided informed written agreement made up the population of participants.

Exclusion Criteria

Participants with previous professional experience in dentistry, medicine, or nursing were barred from the study since it might affect their knowledge of oral health. Moreover, women were eliminated if they had a diagnosed cognitive impairment or mental illness that might hinder their ability to completely grasp or answer the questionnaire. Excluded were those with high-risk pregnancies or medical conditions requiring intensive monitoring such as preeclampsia or gestational diabetes requiring insulin in order to prevent confounding variables. Those with systematic diseases known to affect oral health, like Sjögren's syndrome or uncontrolled diabetes, were not included. Excluded from the research as well were women already enrolled in an oral health intervention program during their current pregnancy and those who gave incomplete or identical answers.

Data Collection Tools and Procedure

Data were collected using a structured, pre-validated questionnaire, developed based on previous studies and expert consultation. The tool was available in both English and Urdu and divided into four sections.

1. **Sociodemographic Profile**: Age, education level, income, employment status, marital status, parity, trimester, and frequency of antenatal visits.
2. **Social Media Usage**: Platforms used, frequency of use (daily/weekly/monthly), type of content accessed, reliance on dental professionals vs influencers, and trust in the content.
3. **Oral Health Knowledge**: 10 multiple-choice questions covering brushing techniques, dental diseases in pregnancy, safety of dental treatments during pregnancy, and preventive measures.
4. **Oral Health Behaviours**: Brushing frequency, flossing and mouthwash use, sugar intake, dental visits during pregnancy, and self-perceived oral health.

Administration

The questionnaire was administered in both digital format (Google Forms shared via WhatsApp/Facebook) and printed format at clinics. Assistance was provided for participants with literacy challenges.

Validity and Reliability

Content validity was ensured through expert review by two dentists and one public health professional. Reliability testing was conducted via a pilot study with 15 participants (Cronbach's alpha = 0.85), confirming internal consistency of the knowledge and behaviour sections

Ethical Considerations

Written informed consent was conducted from all participants prior to data collection. Confidentiality and anonymity were strictly maintained. No personal identifiers were collected, and participation was entirely voluntary.

Statistical Analysis

Data were analyzed using IBM SPSS version 26. Descriptive statistics: Means, standard deviations, frequencies, and percentages for demographic variables, social media usage, knowledge scores, and behaviours.

Chi-square test: To assess associations between categorical variables (frequency of social media use and brushing habits).

Binary logistic regression analysis: To identify predictors of positive oral health behaviours (e.g., brushing ≥2 times/day, dental visits during pregnancy), with independent variables including social media usage frequency, education level, and trimester. A p-value of <0.05 was considered statistically significant.

RESULTS

This section presents the findings of the study evaluating the impact of social media on oral health knowledge and behaviours among pregnant women. A total of 100 females aged 18–40 years were included. The majority of participants were aged between 26–33 years (45%), followed by 18–25 years (30%), and 34–40 years (25%). This reflects a predominantly younger population of pregnant women actively engaging in antenatal care. A significant proportion of the participants had attained higher education (45%), while 35% had completed secondary education. Only 20% of the women reported having primary education or less, suggesting that most participants were relatively well-educated.At 40%, participants in their second trimester were the most followed by those in their third trimester (38%). Twenty two percent of the remainder were in their first trimester. This distribution provided a wide-ranging portrayal of oral health behaviors across several phases of pregnancy. Regarding social media engagement, 40% of participants reported using social media frequently (5 or more times per week). 35% used it moderately (3–4 times per week), and 25% accessed it occasionally (1–2 times per week). These results show a high degree of digital involvement in the research group, therefore giving a solid basis for evaluating how internet's material affects oral health knowledge and actions.

Table 1

Demographic Characteristics of Participants

Variable	Category	Frequency (%)
Age Group	18–25 years	30 (30%)
	26–33 years	45 (45%)
	34–40 years	25 (25%)
Education Level	Primary or less	20 (20%)
	Secondary	35 (35%)
	Higher education	45 (45%)
Trimester	First	22 (22%)
	Second	40 (40%)
	Third	38 (38%)
Social Media Use Frequency	Occasionally (1–2 times/week)	25 (25%)
	Moderately (3–4 times/week)	35 (35%)
	Frequently (5+ times/week)	40 (40%)

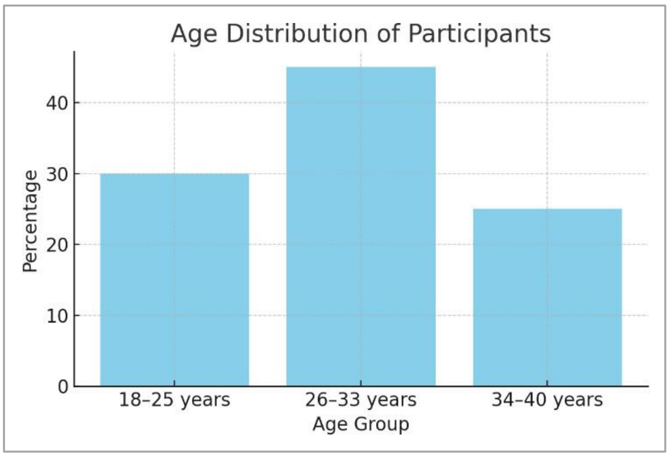


Table 2

Oral Health Knowledge Scores by Social Media Use Frequency

Social Media Use Frequency	Mean Knowledge Score (out of 10)	p-value
Occasionally	6.5 ± 1.1	—
Moderately	7.2 ± 1.3	—
Frequently	8.0 ± 1.0	0.01

This table shows a positive relationship among frequency of social media use and knowledge score, showing that social media use may improve knowledge levels, with significant results for frequent users.

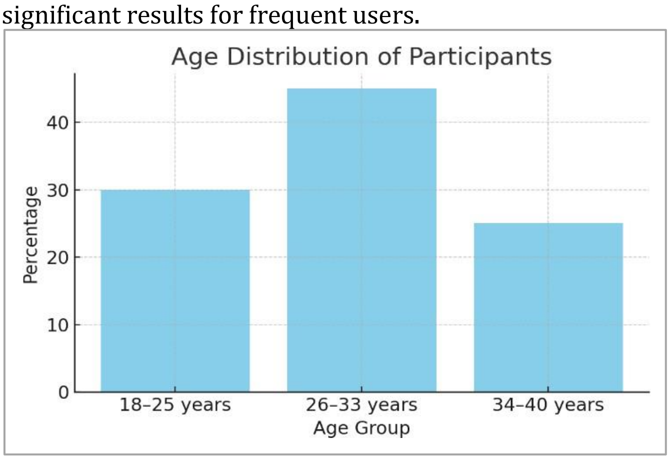


Table 3

Oral Health Behaviours by Social Media Use

Behaviour	Low Use (%)	High Use (%)	p-value
Brushing ≥2 times/day	55%	80%	0.02
Used floss or mouthwash regularly	35%	70%	0.01
Visited dentist during pregnancy	20%	45%	0.01

The results suggest regular brushing, flossing, and visits, indicate better oral health, are associated with high social media usage.

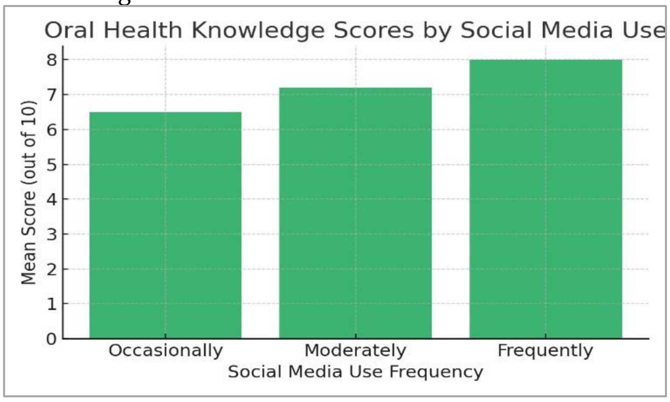


Table 4

Chi-Square Test Results for Associations Between Social Media Use and Oral Health Variables

Variable	Chi-square Value (χ^2)	Degrees of Freedom (df)	p-value
Brushing ≥2 times/day	6.88	1	0.009
Use of floss/mouthwash	8.44	1	0.004
Dental visit during pregnancy	7.36	1	0.007

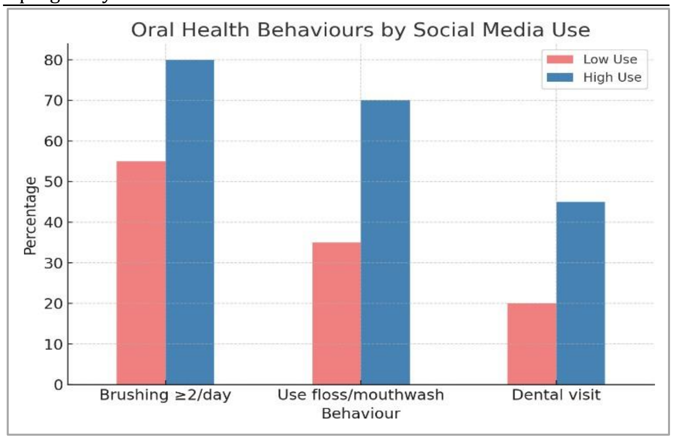
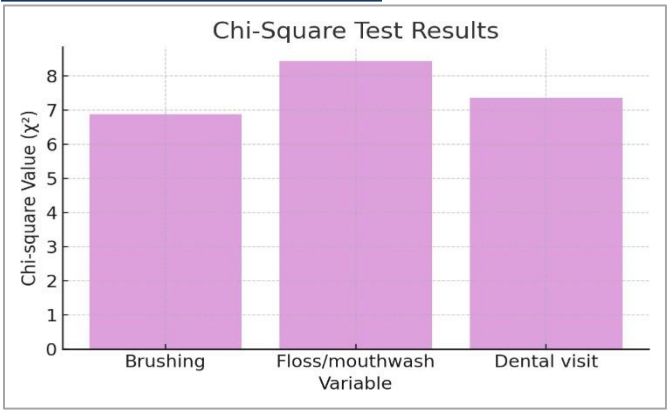


Table 5

Binary Logistic Regression Analysis – Predictors of Positive Oral Health Behaviours

Predictor Variable	Odds Ratio (OR)	95% Confidence Interval (CI)	p-value
Frequent Social Media Use (≥5 times/week)	2.85	1.33 – 6.10	0.007
Higher Education Level (≥12 years)	2.30	1.12 – 4.72	0.023
Third Trimester	1.65	0.82 – 3.31	0.156

According to the findings, better levels of education and frequent social media use are major predictors of good oral health habits.



DISCUSSION

This study finds among pregnant women a strong link between social media usage and awareness of oral health and behaviours. Individuals who got oral health information through social media performed better on knowledge tests and showed better hygiene habits. These results support earlier studies on digital health promotion (Aboalshamat et al., 2023).

Social media helps one to get health information, but content credibility is absolutely critical. To fight false information and advance evidence-based methods, platforms have to ally with dental experts. Additional regression analysis reveals how social media exposure to dental knowledge significantly increases the possibility of dental visits during pregnancy even taking socioeconomic factors into consideration. This research looked at the influence of social media on oral health knowledge and behavior among Pakistani pregnant women. The findings showed that social media sites, especially WhatsApp, Facebook, and Instagram, were sought by many people for health-related advice during pregnancy. This trend is consistent with past studies showing expectant mothers are using digital channels as their main sources of information on prenatal care, including dental hygiene (Lupton, 2016; Alghamdi et al., 2024).

One of the most obvious results was the high degree of oral health awareness exhibited by people often engaging with health information on social media. Women who visited dental health websites, viewed educational videos, or engaged in online parenting groups had a better grasp of pregnancy-related oral conditions including gingivitis, twice daily brushing, and the demand for regular dental examinations. This fits with the (MohdDom et al., 2019) study, which discovered Facebook-based oral hygiene education greatly enhanced pregnant women's oral cleanliness habits.

Though, the study drew attention to a major problem: the reliability and accuracy of the acquired data's variation. Many people believed that differentiating between commercially or anecdotal recommendations and scientifically credible data was challenging. This finding confirms the worries made by (Ventola, 2014 ; Basch et al., 2018), who underlined how the absence of content moderation on social media could lead to incorrect health choices and misleading information. Some study participants, for instance, said they were avoiding dental care because online posts said it could hurt the unborn; this is a false myth that still circulates.

The research also showed another key component: the behavioral difference between knowledge and action. Less of a number of people who showed great comprehension of oral hygiene rules transformed this knowledge into consistent activities including annual dental appointments or reduced sugary food consumption. Financial constraints, cultural beliefs, and insufficient access to dental care in certain areas may all be connected to this knowledge behaviour gap (George et al., 2011; Ramalho et al., 2018). It also highlights the drawbacks of passive information absorption on social media without active support or guidance from medical professionals.

Additionally, the research indicated that digital health knowledge was needed to manage how well people employed social media. People with strong online information evaluation abilities were more inclined to have good oral health practices. This backs prior research indicating that digital health literacy is a primary driver of good health outcomes in the digital age (Chesser et al., 2016; Khan et al., 2022).

The findings of this study have significant implications for maternal health promotion. Given the widespread use of social media among pregnant women, these platforms can be leveraged more effectively for targeted oral health interventions. Government health departments, dental associations, and non-governmental organizations should collaborate to produce and disseminate culturally sensitive, evidence-based content through popular social media channels. In addition, programs aimed at improving digital health literacy should be integrated into antenatal care education to empower women to critically evaluate the information they encounter online.

However, it is important to acknowledge the limitations of this study. The self-reported nature of the data may have introduced social desirability bias, and the cross-sectional design restricts causal inference. Moreover, the findings are based on a sample limited to urban and semi-urban populations with internet's access, which may not be representative of all pregnant women in Pakistan. Future research using longitudinal designs and more diverse samples could provide deeper insights into the long-term impact of social media on maternal oral health behaviors.

CONCLUSION

This study highlights the positive role of social media in improving oral health awareness and behaviours among pregnant women. It underscores the potential for social media to serve as an accessible, scalable health promotion tool particularly in low-resource settings.

Healthcare providers should integrate social media strategies into antenatal care programs, emphasizing credible sources and interactive engagement. Further longitudinal and interventional studies are recommended to strengthen causal inference.

REFERENCES

1. Alghamdi, L. A., Khan, M. Y., & Zahid, M. (2024). The role of social media in shaping health behaviors: A cross-sectional study among pregnant women. International Journal of Digital Health, 6(2), 145–152. https://doi.org/10.1016/j.ijdh.2024.03.004.
2. Aboalshamat, K., Alharbi, J., Alharthi, S., Alnifaee, A., Alhusayni, A., & Alhazmi, R. (2023). The effects of social media (Snapchat) interventions on the knowledge of oral health during pregnancy among pregnant women in Saudi Arabia. *PLOS ONE*, *18*(2), e0281908. https://doi.org/10.1371/journal.pone.0281908
3. BinHamdan, R. H., Alsadhan, S. A., Gazzaz, A. Z., & AlJameel, A. H. (2025). Social media use and oral health–related misconceptions in Saudi Arabia: Cross-sectional study. *JMIR Formative Research*, *9*, e70071. https://doi.org/10.2196/70071
4. Basch, C. H., Hillyer, G. C., MacDonald, Z. L., Reeves, R., & Basch, C. E. (2014). Characteristics of YouTube™ videos related to mammography. *Journal of Cancer Education*, *30*(4), 699-703. https://doi.org/10.1007/s13187-014-0769-9
5. Chesser, A., Burke, A., Reyes, J., & Rohrberg, T. (2015). Navigating the digital divide: A systematic review of eHealth literacy in underserved populations in the United States. *Informatics for Health and Social Care*, *41*(1), 1-19. https://doi.org/10.3109/17538157.2014.948171
6. Chou, W. S., Prestin, A., Lyons, C., & Wen, K. (2013). Web 2.0 for health promotion: Reviewing the current evidence. *American Journal of Public Health*, *103*(1), e9-e18. https://doi.org/10.2105/ajph.2012.301071
7. George, A., Johnson, M., Duff, M., Dahlen, H., Blinkhorn, A., Ellis, S., Ajwani, S., Bhole, S., Yeo, A., & Devine, S. (2020). Maintaining oral health during pregnancy: Current evidence and implications for practice. Australian and New Zealand Journal of Obstetrics and Gynaecology, 60(2), 175–180.
8. George, A., Duff, M., Johnson, M., Dahlen, H., Blinkhorn, A., Ellis, S., & Ajwani, S. (2019). Piloting of the Midwifery Initiated Oral Health-Dental Service protocol: Evaluation of oral health in pregnancy. Midwifery, 73, 71–76.
9. Hausmann, J. S., Touloumtzis, C., White, M. T., Colbert, J. A., & Gooding, H. C. (2017). Adolescent and young adult use of social media for health and its implications. *Journal of Adolescent Health*, *60*(6), 714-719. https://doi.org/10.1016/j.jadohealth.2016.12.025
10. Kadir, R. A., Ferguson, M. M., & Cowan, C. M. (2021). Pregnancy and oral health: Periodontal disease and its association with pregnancy outcomes. British Dental Journal, 231(10), 637–640.
11. Khan, H. R., Javed, A., & Sheikh, A. (2022). Digital health information-seeking behavior among pregnant women in urban Pakistan. Pakistan Journal of Public Health, 12(4), 220–225
12. Kamalabadi, Y. M., Campbell, M. K., Zitoun, N. M., & Jessani, A. (2023). Unfavourable beliefs about oral health and safety of dental care during pregnancy: A systematic review. *BMC Oral Health*, *23*(1). https://doi.org/10.1186/s12903-023-03439-4
13. Lupton, D. (2016). The use and value of digital media for information about pregnancy and early motherhood: A focus group study. *BMC Pregnancy and Childbirth*, *16*(1). https://doi.org/10.1186/s12884-016-0971-3
14. Moorhead, S. A., Hazlett, D. E., Harrison, L., Carroll, J. K., Irwin, A., & Hoving, C. (2013). A new dimension of health care: Systematic review of the uses, benefits, and limitations of social media for health communication. *Journal of Medical Internet Research*, *15*(4), e85. https://doi.org/10.2196/jmir.1933
15. Moorhead, S. A., Hazlett, D. E., Harrison, L., Carroll, J. K., Irwin, A., & Hoving, C. (2013). A new dimension of health care: Systematic review of the uses, benefits, and limitations of social media for health communication. *Journal of Medical Internet Research*, *15*(4), e85. https://doi.org/10.2196/jmir.1933
16. Mohd-Dom, T. N., Baharuddin, A. S., & Razali, N. (2019). Facebook as a tool to improve oral health literacy among pregnant women. Malaysian Dental Journal, 41(1), 11–18.
17. Marrs, K., Greene, D. N., & Richardson, J. (2016). The use of social media by women during pregnancy: A qualitative study. BMC Pregnancy and Childbirth, 16, 317. https://doi.org/10.1186/s12884-016-1120-8
18. Ventola, C. L. (2014). Social media and health care professionals: benefits, risks, and best practices. *Pharmacy and therapeutics*, *39*(7), 491. https://pmc.ncbi.nlm.nih.gov/articles/PMC4103576/
19. Ramalho, M. P., de Lima, T. A., Ferreira, E. F. E., & Vargas, A. M. D. (2018). Oral health during pregnancy: The knowledge and perceptions of pregnant women. Revista de Saúde Pública, 52, 42. https://doi.org/10.11606/S1518-8787.2018052000110.
20. Sayakhot, P., & Carolan-Olah, M. (2016). Internet use by pregnant women seeking pregnancy-related information: A systematic review. *BMC Pregnancy and Childbirth*, *16*(1). https://doi.org/10.1186/s12884-016-0856-5
21. Singh, S., Nathani, N., & Jha, A. (2021). The dual-edge role of social media in healthcare during the COVID-19 pandemic: A narrative review. Journal of Education and Health Promotion, 10, 71. https://doi.org/10.4103/jehp.jehp_604_20.
22. Silk, H., Douglass, A. B., Douglass, J. M., & Silk, L. (2008). Oral health during pregnancy. *American family physician*, *77*(8), 1139-1144. https://www.aafp.org/pubs/afp/issues/2008/0415/p1139.html
23. Ventola, C. L. (2014). Social media and health care professionals: benefits, risks, and best practices. *Pharmacy and therapeutics*, *39*(7), 491. https://pmc.ncbi.nlm.nih.gov/articles/PMC4103576/