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FROM MESSAGING TO MONITORING: THE IMPACT OF SOCIAL MEDIA–BASED INTERVENTIONS ON SELF-CARE BEHAVIOR IN ADULTS WITH TYPE 2 DIABETES

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ABSTRACT

Background: Type 2 diabetes mellitus (T2D) requires sustained self-care for effective management. Social media offers accessible, interactive tools to support patient education and behavior change. This systematic review evaluates the effectiveness of social media interventions in improving self-care behaviors among adults with T2D. **Methods:** A literature search was conducted using PRISMA 2020 guidelines across Web of Science, ProQuest, PubMed, and CINAHL. Included were RCTs, quasi-experimental, and pilot studies published between January 2021 and May 2025. Quality assessment used RoB 2 and ROBINS-E tools. Due to study heterogeneity, narrative synthesis was applied. **Results:** Eight studies met inclusion criteria, utilizing WhatsApp, WeChat, Facebook, and Telegram. Most reported significant improvements in at least one self-care domain—medication adherence, diet, physical activity, or glucose monitoring. Six studies noted reduced HbA1c levels, especially with structured educational content and healthcare provider interaction. High participant satisfaction was found, particularly with culturally adapted, multimedia-based delivery. Peer interaction and interactive features further enhanced engagement and self-efficacy. **Conclusions:** Social media interventions show promise in promoting T2D self-care and glycemic control. Cultural tailoring, regular interaction, and multimedia integration are key success factors. Further research is needed to assess long-term efficacy, scalability, and applicability across diverse populations.

Keywords: social media, interventions, diabetes mellitus, self care, systematic review

Introduction

Type 2 diabetes (T2D) is a progressive metabolic disorder marked by insulin resistance and relative insulin deficiency, comprising over 90% of global diabetes cases (Kim, Park, & Kim, 2022). The International Diabetes Federation (2021) estimates that approximately 537 million adults were living with diabetes in 2021, with this number projected to rise to 643 million by 2030. T2D presents a growing burden to healthcare systems, especially in low- and middle-income countries, due to its chronic nature and the requirement for continuous self-management. Effective diabetes self-care including regular blood glucose monitoring, medication adherence, physical activity, and healthy eating is essential for achieving glycemic control and preventing complications such as cardiovascular disease, nephropathy, and neuropathy (Shrivastava, Shrivastava, & Ramasamy, 2013).

Digital health interventions (DHIs) such as mobile applications, telehealth, and social media platforms have emerged as practical solutions to enhance self-management in adults with T2D (Xue et al., 2025; Kim et al., 2022). Meta-analyses indicate that DHIs can produce clinically significant reductions in glycated hemoglobin (HbA_1c), with mean differences ranging from 0.32% to 1.04%, particularly when interventions include communication, engagement, goal-setting, and remote monitoring components (Xue et al., 2025). These platforms also offer real-time education, reminders, and peer support, helping patients sustain long-term behavior change and increase treatment adherence (Li et al., 2022).

Social media platforms, specifically, present unique opportunities for health education and community building. WhatsApp, Facebook, WeChat, and Telegram have been used in diabetes interventions to deliver culturally tailored content, facilitate patient-provider communication, and promote peer interaction (Gabarron & Årsand, 2016). Studies show that features such as group chats, multimedia messages, and interactive discussions can enhance patients' motivation and self-efficacy (Naslund, Aschbrenner, Marsch, & Bartels, 2016). Social media–delivered interventions are especially promising in underserved or minority populations, where language barriers, stigma, and limited health access may hinder engagement with traditional care models (Hu et al., 2022).

However, the implementation of social media–based health interventions comes with several challenges. These include inconsistent program quality, limited evaluation of long-term outcomes, and risks related to misinformation or data privacy (Chou et al., 2013; Wang et al., 2019). Additionally, heterogeneity in intervention design such as platform used, frequency of engagement, cultural context, and outcome measurement—complicates the synthesis of evidence. Despite these limitations, there is growing consensus that digital and social media platforms can serve as low-cost, scalable, and culturally adaptable tools for diabetes self-management.

Given the global rise of T2D and the growing role of social media in health promotion, a comprehensive and up-to-date synthesis of current evidence is necessary. This systematic review aims to evaluate the effectiveness, implementation strategies, and contextual considerations of social media–based interventions for improving self-care behaviors and glycemic control among adults living with T2D.

Methods

Study Design

This systematic review was conducted following the PRISMA 2020 guidelines to ensure transparency and reproducibility in the review process (Page et al., 2021).

Eligibility Criteria

Studies were included based on the following criteria:

- Population: Adults (≥18 years) diagnosed with type 2 diabetes mellitus.

- Intervention: Use of social media platforms (e.g., Facebook, Instagram, WhatsApp, YouTube, online forums) aimed at supporting self-care or diabetes management.
- Comparator: Usual care, non-social media interventions, or other digital tools.
- Outcomes: Diabetes self-care behaviors (e.g., medication adherence, diet, physical activity, glucose monitoring), patient engagement, self-efficacy, or glycemic control (e.g., HbA1c).
- Study Types: Randomized controlled trial (RCT), 1 pilot RCT, 1 quasi-experimental design, and 1 single group pretest and post-test study.
- Language: Articles published in English.
- Publication Period: [Specify range, e.g., 2010 to 2024].

Information Sources

Electronic databases were searched, including:

- PubMed/MEDLINE
- Proquest
- Web of Science
- CINAHL

Additional studies were identified through manual searches of reference lists and relevant grey literature sources (e.g., dissertations, conference abstracts, WHO reports).

Search Strategy

A comprehensive search strategy was developed using combinations of keywords such as: "Type 2 diabetes," "self-care," "self-management," "social media," "Facebook," "digital health," "patient education," and "online support." Boolean operators (AND, OR) were used to combine search terms. A sample search string for PubMed:

("Type 2 Diabetes "[MeSH] OR "T2DM]") AND ("Self Care"[MeSH] OR "Self-Management") AND ("Social Media"[MeSH] OR "Facebook" OR "Instagram" OR "YouTube" OR "Online Communities")

Study Selection

All search results were imported into a reference management software for duplicate removal. Two independent reviewers screened titles and abstracts, followed by full-text screening based on eligibility criteria. Discrepancies were resolved through discussion or consultation with a third reviewer.

Data Extraction

Data were extracted using a standardized form, including:

- Author(s), year, and country
- Study design and sample size
- Population characteristics
- Type of social media intervention
- Outcome measures
- Key findings

Quality Assessment

The methodological quality of included studies was assessed using appropriate tools for RCT Cochrane Risk of Bias Tool (RoB 2) and The Risk Of Bias In Non-randomized Studies - of Exposure (ROBINS-E) for non-randomized studies.

Quality appraisal was performed independently by reviewer.

Data Synthesis

Due to heterogeneity in study design and outcomes, a narrative synthesis will be conducted. If data are sufficient and comparable, Subgroup analysis will be performed based on intervention type and study quality, if applicable.

Results

Study Characteristics

A total of eight studies were included in this systematic review, encompassing randomized controlled trials (RCTs) and quasi-experimental designs conducted between 2022 and 2025. These studies explored the impact of social media-based interventions on self-care behaviors and clinical outcomes among individuals with type 2 diabetes (T2D). Interventions were delivered through various platforms including WhatsApp, WeChat, Facebook, and Instagram, with durations ranging from 4 weeks to 6 months.

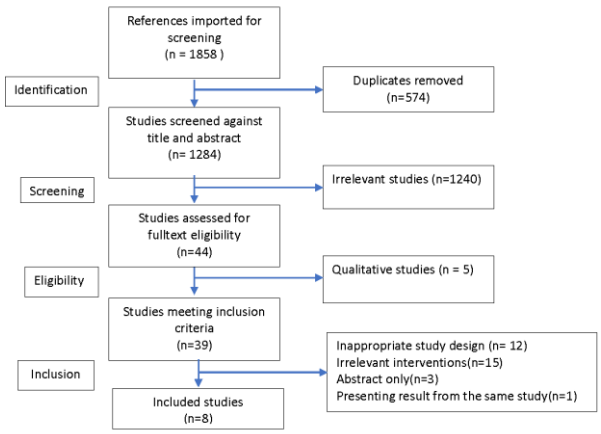

Figure 1. Flow chart of study selection process.

Improvements in Self-Care Behaviors

Across all eight studies included in this review, social media interventions consistently demonstrated positive impacts on diabetes self-care behaviors. Participants exposed to platforms such as WhatsApp, Facebook, WeChat, LINE, and Telegram reported improvements in multiple self-care domains, including dietary adherence, physical activity, medication compliance, blood glucose monitoring, and foot care. Several interventions that integrated daily reminders, instructional videos, and interactive chats showed statistically significant gains in self-reported self-care scores. These improvements were more pronounced when the intervention content was culturally adapted, structured, and reinforced over several weeks.

Interactive features, such as group discussions, feedback from healthcare providers, and peer support within the social media environment, were particularly influential in promoting behavioral changes. Interventions grounded in educational theory or behavior change models (e.g.,

microlearning or goal setting) also yielded better engagement and higher self-care adherence scores. These findings suggest that both content design and delivery method play key roles in supporting lifestyle modification among patients with T2D.

Effects on Glycemic Control (HbA1c Reduction)

Six of the eight studies measured changes in glycated hemoglobin (HbA1c) as a clinical outcome. The majority reported statistically significant reductions in HbA1c levels, particularly among participants who received structured education via WhatsApp or WeChat platforms. Reported reductions ranged from modest (0.2%) to clinically meaningful (>0.5%), especially when interventions lasted at least 12 weeks and included follow-up support.

Culturally tailored interventions targeting specific ethnic groups (e.g., Mandarin-speaking Chinese immigrants in the U.S.) demonstrated notable improvements in HbA1c, suggesting the importance of language, relevance, and personalization. However, one pilot study with a shorter intervention period (6 weeks) observed only minimal HbA1c reduction, indicating that duration and intensity of engagement are critical factors for achieving measurable glycemic outcomes.

User Engagement and Acceptability

Participant engagement, satisfaction, and intervention feasibility were reported in most studies. High levels of engagement were observed in studies using instant messaging platforms (e.g., WhatsApp, WeChat), where participants interacted regularly with health educators or peer groups. Factors contributing to sustained engagement included simple messaging formats, multimedia use (videos, infographics), and culturally appropriate language. These elements enhanced motivation and self-efficacy and reduced dropout rates.

Acceptability was particularly high in interventions tailored to underserved populations, such as immigrants or low-income individuals, where social media helped bridge gaps in access to traditional healthcare. Participants valued the convenience, privacy, and real-time interaction afforded by these digital tools.

Health Literacy, Self-Efficacy, and Psychosocial Outcomes

Several studies assessed secondary outcomes such as health literacy, diabetes-related knowledge, self-efficacy, and patient attitudes. Notably, social media interventions led to significant improvements in diabetes health literacy and perceived competence in self-management tasks. Participants reported increased confidence in setting goals, solving problems, and engaging in preventive behaviors.

Improvements in psychosocial outcomes were also noted, including reduced feelings of isolation and greater perceived social support. Studies that embedded peer interaction and healthcare provider involvement observed stronger psychosocial effects. These benefits are important mediators of long-term behavior change and treatment adherence.

Platform-Specific Differences and Cultural Tailoring

The effectiveness of interventions varied depending on the social media platform used and how well the content was culturally tailored. WhatsApp and WeChat emerged as the most frequently used and effective platforms, particularly in regions where these are dominant communication tools. Interventions that aligned with the cultural norms and language preferences of participants—such as using Mandarin for Chinese immigrants or Arabic for Middle Eastern participants—saw greater improvements in both engagement and outcomes. These findings highlight the need to consider sociocultural context and digital habits in the design of future interventions.

Moreover, interventions that provided two-way communication—such as group chats or provider-moderated discussions—were more successful than those that delivered unidirectional content. The opportunity for real-time interaction and feedback appeared to enhance learning, accountability, and patient satisfaction, reinforcing the value of interactivity in digital health strategies.

Table 1. Studies on the use of social media among patients for self-care

No	Reference, year	Country	Study design	Target Population (N)	Objectives(length of intervention)	Social media intervention	Comparison	Measure	Result
1.	Leong et al ,2022	Taiwan	RCT	- patients with type 2 diabetes recruited from a clinic	assess changes in HbA1c levels, diabetes knowledge, attitudes, and self-care activities among participants (12 weeks)	The intervention group received educational videos and care messages via LINE (n = 91)	Diabetes health education for the control group comprised provision of the usual diabetes health care(n=90)	SDSCA	The intervention group showed significant improvements in attitudes (mean difference 0.2) and self-care (mean difference 0.3)
2.	Safdari et al. 2025	Iran	Quasi-experimental pre-post intervention study	diabetic patients visiting the diabetes clinic in Arak, Iran.	assess the effect of social media education on health literacy, self-care, and HbA1c levels in type 2 diabetes patients	Necessary self-care instructions from credible and up-to-date sources were shared daily through telegram channel	Patients in the control group did not receive any educational materials during the study. To adhere to ethical principles, an educational package was provided to these patients after the completion of the study	self-care questionnaire developed by researcher, contained 16 questions related to diabetes self-care behaviors, compliance diet, exercise, monit	the scores for self care questionnaire for control and prevention of complications differed significantly between the groups, with the intervention group showing higher scores than the control

								oring, treatment, and prevention of complications	group ($p < 0.05$)
3.	Rahbar et al, 2024	Iran	RCT	Patients with T2D receiving care at a hospital-based diabetes clinic in Zahedan, Iran	Investigate the impact of social media-based microlearning (SMBM) on enhancing the knowledge, self-care, and self-efficacy behaviors of T2D	The intervention group received additional support through a two-week intervention delivered via a private WhatsApp group	Both groups received usual care and training, including a three-hour workshop on healthy eating, medication adherence, and blood sugar monitoring.	Diabetes self-care questionnaire 2 (DSCQ-2)	After the intervention, the levels of self-care, and self efficacy in the intervention group were significantly higher than those in the control group
4.	Yaagoob et.al.,2024	Saudi Arabia	RCT	T2D diagnosed at the largest diabetes center in Jazan, Southwest Saudi Arabia	Evaluate the effectiveness of DSMES delivered via WhatsApp. Primary outcomes include self management capabilities and diabetic knowledge	the intervention group received DSMES via WhatsApp. Intervention content was based on the National Standards for Diabetes Self-Manageme	control groups received usual care at the diabetes center, including nurse assistance, general healthcare and consultation with healthcare	DSMES-UK DKT2	a significant increase in self-efficacy, self-management, and education in the WhatsApp based intervention

							nt Education and Support, developed by researchers, and supported by diabetes self-management national care strategies of Saudi Arabia.	professionals when required		support group compared with the control group at 6 and 12 weeks (follow-up).
5.	Alhazmy et.al.,2024	Saudi Arabia	quasi-experimental design	female adults with T2DM who could read and write Arabic and use WhatsApp on their cellphones. Data were gathered from the medical outpatient clinic of the Rabigh	1. Assessing the level of self-care and HbA1c among type 2 diabetic female patients. 2. Providing diabetes self-care-related instruction through Whats	Instructions regarding diabetes self-care were provided through the WhatsApp group in the form of pictures, videos, and daily messages	self-care profiles of the participants pre- and post-intervention. HbA1c samples were also collected at baseline and three months after receiving instructions from the WhatsApp group	Diabetes Self-Care Scale	The post-test mean score of total self-care was higher than the pretest mean score (t-value = 12.359, P-value <0.001), indicating a highly significant difference.	

			General Hospital in the Western region of Saudi Arabia.	3. App group. Measuring the effect of instructional Whats App group on self-care and level of HbA1c among type 2 diabetic patients.				
6.	Hu et.al, 2022	United states	single group pretest and posttest study	Chinese immigrants with T2D in New York City	Examine the feasibility and acceptability and to pilot test the potential efficacy of a social media–based DSME intervention among low-	24 brief (~5 minutes) diabetes videos in Mandarin Chinese. Each week, 2 video links were sent to the participants via WeChat,	measurement at baseline, 3 months, and 6 months	-The intervention group showed a significantly greater increase in fruit intake compared to the control group (0.15 cups vs. −0.44 cups, adj_p = 0.023) at 3 months and reduced starchy food

income Chinese immigrants with T2D	with one video focusing on diabetes education (eg, basics of diabetes care, diet, physical activity) and the second one focusing on social cognitive theory–based behavioral change techniques (eg, goal setting, self-reward, problem solving)	intake (−0.33 cups, adj_p = 0.033) at 6 months.

7.	Kargar shuroki et.al,2023	Iran	RCT	Patients with type 2 diabetes, who referred to the YDRC	Evaluate the effect of training through two popular social networks in Iran ("Telegram" and "Soroush") and the metabolic control of people with Type 2 diabetes.	Training package that delivered to the intervention group via social media for 45 days.	control groups received usual care at the diabetes center	IPAQ-SF	there were significant improvements at 3 months in self-efficacy, while no changes were observed in dietary and physical activity behaviors. Between baseline
8.	Shi et al.,2025	USA	Pilot RCT	Chinese Americans diagnosed T2D	evaluate the feasibility, acceptability, and potential efficacy of a social media-based intervention to improve glycemic control among Chinese Americans with type 2 diabetes.	Culturally and linguistically tailored diabetes videos (two videos/week for 12 weeks) delivered via social media and support calls from community health workers.	control groups received usual care	- retention rate - 9-item participant satisfaction scale	The intervention group showed a significantly greater increase in fruit intake compared to the control group

Table 2. Risk of Bias Assessment Using RoB 2.0

Study	Randomization Process	Deviations from Intended Interventions	Missing Outcome Data	Measurement of the Outcome	Selection of the Reported Result	Overall Risk of Bias
Kargarshuroki et al. (2023)	Low	Low	Low	Low	Low	**Low**
Leong et al. (2022)	Low	Low	Low	Low	Low	**Low**
Rahbar et al. (2024)	Low	Low	Low	Low	Low	**Low**
Shi et al. (2025)	Low	Low	Low	Low	Some concerns (pilot trial)	**Some concerns**
Yaagoob et al. (2024)	Low	Low	Low	Low	Low	**Low**

Note: Studies rated "some concerns" were primarily due to quasi-experimental or feasibility study designs, or lack of pre-registered protocols for pilot studies.

Table 3.ROBINS-E Risk of Bias Summary Table (Non-Randomized Studies)

Study	Bias due to Confounding	Selection of Participants	Classification of Exposure	Departures from Exposure	Missing Data	Outcome Measurement	Selection of Reported Result	Overall Risk
Alhazmy et al. (2024)	Moderate	Low	Low	Low	Moderate	Low	Moderate	**Moderate**
Hu et al. (2022)	**Serious**	Moderate	Low	Low	Moderate	Low	Moderate	**Serious**
Safdari et al. (2025)	Moderate	Low	Low	Low	Low	Low	Moderate	**Moderate**

Discussion

This systematic review highlights the growing body of evidence supporting the use of social media as a viable platform for enhancing self-care and clinical outcomes in individuals with type 2 diabetes mellitus (T2DM). Across the eight included studies, social media interventions—delivered through platforms such as WhatsApp, WeChat, and other mobile-based applications—consistently demonstrated improvements in diabetes self-care behaviors, glycemic control (as measured by HbA1c), health literacy, and patient engagement.

One of the most notable findings is the positive impact of WhatsApp-based interventions. Alhazmy et al. (2024) and Yaagoob et al. (2024) both utilized WhatsApp to deliver structured diabetes education, resulting in statistically significant improvements in participants' self-care practices and reductions in HbA1c levels. These findings suggest that WhatsApp's accessibility and real-time interaction capabilities may effectively foster sustained behavioral changes in diabetic patients.

Similarly, culturally tailored interventions also showed promise, particularly among ethnic minority populations. Studies by Hu et al. (2022) and Shi et al. (2025) targeted Mandarin-speaking Chinese immigrants in the U.S. using WeChat and other social platforms. These interventions not only enhanced diabetes-related knowledge and self-management practices but also addressed cultural barriers to care. The use of participants' native language and culturally relevant content likely contributed to the observed improvements in glycemic control and engagement.

The efficacy of social media in supporting diabetes management was further underscored by Kargarshuroki et al. (2023), who reported significant enhancements in metabolic control among participants receiving diabetes education via social networks. Likewise, Leong et al. (2022) demonstrated the effectiveness of social media-delivered patient education during the COVID-19 pandemic, showing improved attitudes toward disease management and adherence to treatment.

Moreover, the study by Safdari et al. (2025) confirmed that social media-based education not only improved self-care status but also significantly enhanced health literacy and reduced HbA1c levels. This finding reinforces the role of social media in bridging gaps in health knowledge, particularly in populations with limited access to traditional healthcare resources.

Interestingly, Rahbar et al. (2024) highlighted the added value of microlearning—short, focused educational modules—delivered via social media. This approach led to significant improvements in knowledge, self-efficacy, and self-care behaviors, emphasizing the importance of content format and delivery style in influencing learning outcomes.

Collectively, these studies illustrate that social media interventions are particularly effective when they incorporate key components such as personalized content, cultural sensitivity, frequent engagement, and multimedia elements (videos, text

messages, infographics). They also emphasize the importance of interactivity and peer support, features that are often embedded in social media platforms and appear to enhance motivation and accountability.

However, despite these encouraging outcomes, several challenges must be acknowledged. The heterogeneity of study designs, intervention durations, outcome measures, and population characteristics limits the ability to make definitive conclusions about the long-term efficacy and generalizability of these interventions. Moreover, issues related to digital literacy, data privacy, and unequal access to technology remain critical considerations for future implementation.

This systematic review synthesized evidence from eight studies examining the effects of social media-based interventions on self-care behaviors and glycemic control in individuals with type 2 diabetes (T2D). Overall, the findings consistently demonstrate that social media platforms—particularly WhatsApp, WeChat, and Facebook—can effectively enhance self-care practices, improve health literacy, and contribute to better glycemic outcomes.

Across most studies, structured educational content delivered via social media led to significant improvements in self-care behaviors, including dietary adherence, physical activity, blood glucose monitoring, and medication compliance. Notably, interventions that incorporated interactive features (e.g., group discussions, health educator feedback, peer sharing) reported higher engagement and stronger behavioral outcomes. This supports prior evidence suggesting that peer support and real-time feedback are key drivers of digital health intervention success.

Several studies also reported statistically significant reductions in HbA1c levels, indicating that improved self-care behaviors translated into measurable clinical benefits. WhatsApp-based programs (Alhazmy et al., 2024; Yaagoob et al., 2024) and culturally tailored WeChat interventions (Shi et al., 2025) were particularly effective in this regard. However, the extent of HbA1c reduction varied depending on intervention intensity, duration, and baseline patient characteristics.

Feasibility and acceptability were consistently high, especially among populations with cultural or language barriers, such as Mandarin-speaking immigrants (Hu et al., 2022). This suggests that social media platforms can serve as scalable, culturally adaptable tools for reaching underserved or hard-to-reach populations.

Limitations

While this systematic review provides valuable insights into the effectiveness of social media-based interventions for self-care in patients with type 2 diabetes mellitus (T2DM), several limitations should be acknowledged.

First, the included studies exhibited considerable heterogeneity in terms of intervention design, duration, platform used (e.g., WhatsApp, WeChat, Facebook), and outcome measures. This variability limited the ability to conduct a meta-analysis and

may affect the comparability and generalizability of findings.

Second, the majority of studies had relatively small sample sizes and were conducted over short durations, ranging from a few weeks to a few months. As a result, the long-term sustainability of the observed improvements in self-care behaviors and glycemic control remains unclear.

Third, most studies relied on self-reported measures of behavior change and health literacy, which are subject to reporting bias and may not accurately reflect actual practices or clinical outcomes.

Fourth, some interventions were culturally tailored to specific populations (e.g., Mandarin-speaking Chinese immigrants), which, while beneficial for targeted efficacy, may limit generalizability to broader or more diverse patient groups.

Fifth, digital literacy, access to mobile devices, and internet connectivity were rarely reported or controlled for, despite being important factors that could influence participant engagement and intervention effectiveness, especially among older adults or individuals from low-resource settings.

Finally, the rapid evolution of social media platforms and communication technologies means that some findings may become outdated as newer platforms and tools emerge. Future studies should consider evolving trends in technology use and patient preferences.

Conclusion

In conclusion, the evidence synthesized in this review indicates that social media-based interventions represent an effective, scalable, and culturally adaptable tool to support self-care and glycemic control in individuals with T2D. Future research should aim to standardize intervention protocols, assess long-term impacts, and explore the integration of social media strategies into routine clinical care, particularly in underserved populations.

References

Alhazmy, R. S., Khalil, A. H., & Almutary, H. (2024b). Effects of an instructional WhatsApp group on self-care and HbA1c among female patients with Type 2 diabetes mellitus. *PLoS ONE*, *19*(9), e0305845. https://doi.org/10.1371/journal.pone.0305845

American Diabetes Association. (2022). Standards of medical care in diabetes—2022. Diabetes Care, 45(Supplement_1), S1–S264. https://doi.org/10.2337/dc22-S001

Arambepola, C., Ranathunga, I., & de Silva, A. (2022). The effectiveness of social media interventions in chronic disease management: A systematic review. Health Informatics Journal, 28(1), 1–15. https://doi.org/10.1177/14604582221074651

Chou, W. Y. S., Hunt, Y. M., Beckjord, E. B., Moser, R. P., & Hesse, B. W. (2013). Social media use in the United States: Implications for health communication. Journal of Medical Internet Research, 11(4), e48. https://doi.org/10.2196/jmir.1249

Gabarron, E., & Årsand, E. (2016). Social media use in interventions for diabetes: Rapid evidence-based review. Journal of Medical Internet Research, 18(8), e187. https://doi.org/10.2196/jmir.5761

Hu, L., Islam, N., Trinh-Shevrin, C., Wu, B., Feldman, N., Tamura, K., Jiang, N., Lim, S., Wang, C., Bubu, O. M., Schoenthaler, A., Ogedegbe, G., & Sevick, M. A. (2022). A Social Media–Based Diabetes Intervention for Low-Income Mandarin-Speaking Chinese Immigrants in the United States: Feasibility study. *JMIR Formative Research*, *6*(5), e37737. https://doi.org/10.2196/37737

International Diabetes Federation. (2021). IDF Diabetes Atlas (10th ed.). https://www.diabetesatlas.org

Kargarshuroki, M., Sadeghian, H. A., Fatehi, F., Martini, M., Rahmanian, M., & Tafti, A. D. (2023). The effect of diabetes training through social networks on metabolic control of individuals with type 2 diabetes; a randomized controlled trial. *PubMed*, *64*(4), E499–E506. https://doi.org/10.15167/2421-4248/jpmh2023.64.4.3158

Laranjo, L., Arguel, A., Neves, A. L., Gallagher, A. M., Kaplan, R., Mortimer, N., & Lau, A. Y. S. (2015). The influence of social networking sites on health behavior change: A systematic review and meta-analysis. Journal of the American Medical Informatics Association, 22(1), 243–256. https://doi.org/10.1136/amiajnl-2014-002841

Leong, C. M., Lee, T., Chien, Y., Kuo, L., Kuo, Y., & Chen, H. (2022). Social Media–Delivered Patient Education to Enhance Self-management and Attitudes of Patients with Type 2 Diabetes During the COVID-19 Pandemic: Randomized Controlled Trial. *Journal of Medical Internet Research*, *24*(3), e31449. https://doi.org/10.2196/31449

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

Naslund, J. A., Aschbrenner, K. A., Marsch, L. A., & Bartels, S. J. (2016). The future of mental health care: Peer-to-peer support and social media. Epidemiology and Psychiatric Sciences, 25(2), 113–122. https://doi.org/10.1017/S2045796015001067

Page, M. J., McKenzie, J. E., Bossuyt, P. M., Boutron, I., Hoffmann, T. C., Mulrow, C. D., ... & Moher, D. (2021). The PRISMA 2020 statement: an updated guideline for reporting systematic reviews. *BMJ*, 372, n71. https://doi.org/10.1136/bmj.n71

Rahbar, S., Zarifsanaiey, N., & Mehrabi, M. (2024). The effectiveness of social media-based microlearning in improving knowledge, self-efficacy, and self-care behaviors among adult patients with type 2 diabetes: an educational intervention. *BMC Endocrine Disorders*, *24*(1). https://doi.org/10.1186/s12902-024-01626-0

Safdari, A., Nejat, N., Abolfathi, A., Mehrabi, F., & Rafiei, F. (2025). Effect of social media-based education on self-care status, health literacy, and glycated hemoglobin in patients with type 2 diabetes. *Frontiers in Public Health*, *13*. https://doi.org/10.3389/fpubh.2025.1507726

Shi, Y., Sevick, M. A., Tang, H., Wang, C., Zhao, Y., Yoon, S., Li, H., Jiang, Y., Bai, Y., Ong, I. H., Yang, X., Su, L., Levy, N., Tamura, K., & Hu, L. (2025). Culturally Tailored Social Media Intervention Improves Health Outcomes in Chinese Americans with Type 2 Diabetes: Preliminary Evidence from a Pilot RCT. *Journal of*

Shrivastava, S. R., Shrivastava, P. S., & Ramasamy, J. (2013). Role of self-care in management of diabetes mellitus. Journal of Diabetes & Metabolic Disorders, 12, 14. https://doi.org/10.1186/2251-6581-12-14

Wang, Y., McKee, M., Torbica, A., & Stuckler, D. (2019). Systematic literature review on the spread of health-related misinformation on social media. Social Science & Medicine, *General Internal Medicine*. https://doi.org/10.1007/s11606-025-09430