

# Nursing Students' Expectations toward Digital Healthcare Marketing Strategies for Premarital Counseling: A Qualitative Study

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## ABSTRACT

**Background:** Premarital counseling (PMC) represents an essential preventive intervention for promoting healthy marital relationships and family functions. However, its utilization among nursing students remains limited. Digital healthcare marketing strategies offer promising opportunities to enhance awareness and engagement. **Objectives:** This study aimed to examine nursing students' expectations regarding digital healthcare marketing strategies for PMC promotion. **Methods:** A qualitative descriptive design was employed with the following Consolidated Criteria for Reporting Qualitative Research (COREQ) guidelines. Twenty nursing students were purposively selected from Mansoura University, Egypt. Semi-structured interviews were conducted via the WhatsApp messaging platform, using systematic thematic analysis procedures for data analysis. **Results:** Four themes emerged. Students anticipated that both official websites and social media (particularly Facebook) would be used for content delivery. The content type is expected to be concise videos and blog articles that use clear, evidence-based messages and simple language. Students looked forward to daily Arabic-language content with motivational messaging. Teaching methods are expected to include storytelling and practical tips. Nursing students expect digital healthcare marketing for PMC to be culturally responsive, simple, and inspirational. Content anticipated to engage the audience emotionally without compromising its evidence-based nature. **Conclusion:** Targeted digital campaigns can improve PMC awareness and prepare nursing students as future health educators. Academic institutions are recommended to collaborate with health educators to develop student-centered digital campaigns aligned with students' media preferences. Community initiatives should be implemented to enhance digital literacy and awareness of online counseling tools, thereby improving access and engagement.

**Keywords:** Digital Healthcare Marketing Strategies; Nursing Students; Premarital Counseling; Qualitative research

## INTRODUCTION

Premarital counseling (PMC) is a vital public health service that helps couples establish strong, healthy relationships (Sedek *et al.*, 2022). As societal norms evolve and interpersonal relationships become increasingly complex, healthcare professionals continue to recognize the importance of preparing couples for marriage through structured counseling services. An increasing amount of evidence shows that PMC lowers the number of divorces and fights in marriages while also making people healthier mentally and emotionally and helping them make better decisions about their reproductive and family health (Elrayes *et al.*, 2023). Within healthcare education, nursing students represent a significant group. They are not only potential beneficiaries of PMC services but also future healthcare providers who will be responsible for delivering health education, promoting reproductive health awareness, and guiding individuals and families toward informed premarital decisions (Kabbash *et al.*, 2019). Consequently, strengthening nursing students' knowledge and awareness of PMC is essential for improving community health literacy and enhancing the quality of premarital health education programs (Habib *et al.*, 2024).

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Despite the well-documented benefits of PMC, previous research consistently reports inadequate awareness, low engagement, or limited utilization of PMC services among university students. This persistent gap demonstrates the importance of innovative, accessible, and youth-oriented educational approaches that align with students' communication patterns and preferences. In this context, digital technology has transformed the delivery of health education and created new opportunities to promote preventive health services. Digital marketing has been increasingly adopted in health promotion as an effective means of disseminating information, shaping health-related attitudes, and encouraging positive health behaviors, particularly among younger populations (Marcu *et al.*, 2022; WHO, 2020).

Generation Z students, who constitute the majority of current university populations, are highly immersed in digital environments. They actively engage with online platforms, rely heavily on social media for health information, and demonstrate a preference for interactive, visually appealing, and personalized digital content (Schäfer *et al.*, 2021; Tomar *et al.*, 2024). Accordingly, the design of digital PMC campaigns that reflect these expectations is considered crucial for increasing awareness, acceptability, and participation among university students (Klusmann & Radtke, 2024; Tarigan, 2024).

Although the effectiveness of both PMC programs and digital healthcare marketing strategies has been supported in the literature, existing studies have mainly focused on general populations or broad groups of university students. There remains a notable lack of evidence on how nursing students specifically perceive and expect digital healthcare marketing strategies to be used to promote PMC services. This gap is significant, as nursing students uniquely combine the digital behaviors of Generation Z with professional responsibilities as future health educators and counselors. Current research offers little clarity regarding which digital platforms, content types, messaging styles, and engagement strategies are most suitable and motivating for this group (Amizuar *et al.*, 2024; Murni *et al.*, 2023). The absence of such evidence restricts the development of targeted, effective, and sustainable digital PMC campaigns within higher education settings.

To address this gap, the present study aims to explore nursing students' expectations regarding digital healthcare marketing strategies for PMC services. By identifying these expectations, the study seeks to inform the design of tailored, student-centered digital health campaigns that enhance awareness, acceptance, and engagement with PMC services, ultimately supporting stronger relationships and improved long-term emotional health among future healthcare providers (Orsolini *et al.*, 2024).

## **METHODOLOGY**

### **Study Design**

This study employed a descriptive qualitative design to explore nursing students' expectations regarding digital healthcare marketing strategies for premarital counseling. The study was guided by a constructivist paradigm, which assumes that reality is socially constructed and that individuals generate meaning through interaction within social, cultural, and contextual environments. This approach is particularly well-suited for examining complex, experience-based phenomena, such as students' expectations and preferences regarding digital healthcare marketing strategies (Burns *et al.*, 2022). The study focused on nursing students' interpretation and response to digital healthcare marketing approaches for premarital counseling in relation to their informational, cultural, and emotional needs. The Consolidated Criteria for Reporting Qualitative Research (COREQ) checklist was followed to ensure methodological rigor and transparency throughout the research process (Tong *et al.*, 2007).

### **Participants and Setting**

The study was conducted at the Faculty of Nursing, Mansoura University, Egypt. A purposive sampling technique was used to recruit 20 unmarried nursing students aged 18–25 years from different academic levels.

Participants of both genders who had access to the internet and email and were willing to participate were included. Prior exposure to digital healthcare marketing or premarital counseling was not required, allowing the inclusion of diverse perspectives. Students who withdrew during the study were excluded.

The sample size was guided by data saturation. Saturation was assessed through iterative analysis conducted alongside data collection. It was defined at the code and theme level and considered achieved when two consecutive interviews yielded no new analytical insights. This criterion is appropriate for focused qualitative studies with relatively homogeneous samples. In the present study, saturation was reached by the 18<sup>th</sup> interview. Data collection continued afterward to confirm analytic stability. This approach aligns with established standards for thematic analysis and empirical guidance on saturation assessment (Braun & Clarke, 2006; Hennink & Kaiser, 2022).

### **Semi-Structured Interview Guide**

A semi-structured interview guide was developed based on an extensive review of the literature and aligned with the study objectives. The guide consisted of open-ended questions designed to elicit detailed insights into students' expectations and preferences. It was pilot tested with two nursing students to ensure clarity and comprehensibility. Additionally, five experts reviewed the guide to confirm its relevance, content validity, and completeness.

### **Data Collection**

Data was collected through semi-structured interviews conducted via WhatsApp by trained qualitative researchers. Invitations were distributed through official student communication groups, and interested students were contacted individually to maintain confidentiality. Electronically informed consent was obtained prior to participation, and each participant received a detailed explanation of the study aims and procedures. Interviews were conducted using audio-recorded voice messages, with each interview lasting approximately 60 minutes. Data collection occurred between September and November 2024. Interviews were scheduled outside instructional hours to avoid interference with academic activities. Participants also completed a brief demographic questionnaire prior to the interviews, including age, gender, educational level, and prior exposure to digital health or premarital counseling. Semi-structured interviews were selected to allow flexibility while ensuring alignment with the study focus (Smith, 2024).

### **Data Analysis**

Qualitative data were analyzed using thematic analysis following the six-phase framework described by Braun and Clarke (2006). This involved familiarization with the data, generation of initial codes, identification of potential themes, review and refinement of themes, definition and naming of themes, and synthesis of findings supported by illustrative participant quotations. The analytic process emphasized reflexivity, iterative comparison, and in-depth interpretation to capture participants' perspectives accurately (El-Gazar *et al.*, 2024).

NVivo software was used solely as a data management tool to facilitate systematic coding, data segment organization, and theme retrieval. It did not replace the researchers' analytical role. Regular peer debriefing meetings were held to review coding decisions and resolve discrepancies, enhancing credibility and dependability in line with Lincoln (1985) trustworthiness criteria.

### **Demographic Data Collection and Analysis**

Descriptive demographic data were analyzed using basic descriptive statistics, including frequencies, percentages, means, and standard deviations, to characterize the study sample and support interpretation of the qualitative findings.

## Ethical Considerations

Ethical approval was obtained from the Ethics Committee, Faculty of Nursing at Mansoura University with approval number 439 on 15<sup>th</sup> January, 2024. Participation was voluntary, informed consent was secured electronically, and confidentiality and anonymity were maintained throughout the study.

## RESULTS

**Table 1: Summary of the Main Themes for Qualitative Findings of Students' Expectations Regarding the Criteria for Digital Healthcare Marketing Strategies Intended for Premarital Counseling**

Themes	Subthemes	Details
<b>Theme 1: Content Delivery Channels and Platforms</b>	Preferred channels for disseminating digital healthcare marketing content	Website Social media platforms
	Most utilized social media platforms for engaging in digital healthcare marketing.	Facebook
<b>Theme 2: Content Design and Format</b>	The preferred format for consuming digital content	Video content (less than 5 minutes) Long articles (more than 500 words) Short articles (less than 500 words)
	Desirable features integrated within digital healthcare marketing content	Clarity of information Data and statistics-supported information Easy-to-understand language
	Optimal content presentation styles in digital healthcare marketing initiatives	Visual presentation with videos and animations Simple text display
	Types of digital content most valued by the target audience	Explanatory videos Blog articles Social media posts
<b>Theme 3: Audience Engagement and Personalization</b>	Optimal frequency for receiving digital healthcare marketing content	Daily
	Preferred language for engagement with digital healthcare marketing content	Arabic
	Preferred messaging tone in digital healthcare marketing content	Inspirational and motivational
	Key criteria influencing subscription to digital healthcare marketing content	Relevance of the content to my life Content updates
<b>Theme 4: Learning and Educational Preferences</b>	The preferred instructional methods in the context of digital content delivery	Storytelling Tips and guidance

Note: PMC = Premarital Counseling; N = participant number; F = female; M = male

The participants in this qualitative study were nursing students, with a mean age of 19.88 ( $\pm 1.5$ ) years, and 60% of them were female (n=12). Fourth-year students represented the largest academic group (60%, n=12). Rural residents accounted for 65% (n=13) of the population. Regarding parental education, 60% of fathers (n=12) and 55% of mothers (n=11) had completed secondary education. Most students (75%, n=15) reported a moderate socio-demographic level.

Table 1 illustrates the thematic analysis of nursing students' expectations concerning digital healthcare marketing strategies for premarital counseling. Four primary themes emerged: (1) content delivery channels and platforms, (2) content design and format, (3) audience engagement and personalization, and (4) learning and educational preferences.

### Theme 1: Content Delivery Channels and Platforms

#### *Preferred Channels for Digital Healthcare Marketing Content*

Nursing students preferred social media platforms for rapid and accessible updates, while official websites were trusted for credibility and in-depth information (Table 1). Some interview examples in sub-theme 1 were as follows:

*“I mostly encounter educational content on social media—it is quick and part of my daily routine” (N3.M).*

*“Whenever I want to be sure the information is accurate, I go straight to the official website” (N1.F).*

### *Most Utilized Social Media Platforms*

Facebook was identified as the primary platform for exposure to digital health and educational content, mainly through university and community pages (Table 1). This was reflected in the statement in sub-theme 1.

*“Most nursing updates or educational promotions reach me through Facebook pages I follow” (N9.F).*

*“Facebook is the platform I check most often, so health information shared there is more likely to catch my attention” (N13.M).*

## **Theme 2: Content Design and Format**

### *Preferred Formats for Digital Content Consumption*

Facebook was identified as the primary platform for exposure to digital health and educational content, mainly through university and community pages (Table 1). This assumption was reflected in the statement in sub-theme 1 as follows:

*“Short videos help me grasp the message quickly without feeling overwhelmed” (N12.M).*

*“If the topic interests me, I do not mind reading a long article—I prefer it when I want to understand something in depth” (N17.F).*

### *Desirable Features within Digital Content*

Nursing students highlighted the importance of simple language and evidence-based content, primarily when supported by statistics (Table 1). Some interview examples in sub-theme 2 were as follows:

*“If the content is too technical or complex, I quickly lose interest” (N4.F).*

*“It is easier to remember statistics and figures—they give the content weight and make it more convincing” (N11.F).*

### *Optimal Content Presentation Styles*

Dynamic visuals, such as videos and animations, enhanced engagement, while text-based posts were significant for quick reference and easy saving (Table 1). Some interview examples in sub-theme 2 were as follows:

*“Scrolling through content is easier when there is motion—it stops me, makes me watch, and keeps me interested” (N16.F).*

*“I often save or screenshot simple text posts because I can read them silently and revisit them later” (N2.F).*

### *Valued Types of Digital Content*

Blog articles were preferred for depth, social media posts for quick insights, and explanatory videos for clarity. These formats aligned well with students' digital habits and learning styles, combining clarity, accessibility, and engagement (Table 1). Some interview examples in sub-theme 2 were as follows:

*“Blogs allow for deeper learning, while social media posts give me quick and useful insights” (N5.F).*

*“A good explanatory video with clear narration and visuals sticks with me longer than any text” (N7.M).*

## **Theme 3: Audience Engagement and Personalization**

### *Frequency and Language Preferences*

Students preferred daily content to maintain interest, with Arabic identified as the most relatable and culturally appropriate medium (Table 1). Some interview examples in sub-theme 3 were as follows:

*“Arabic is more comfortable for me—I can grasp the message faster and relate to it better” (N20.M).*

*“I like getting daily content—it keeps me engaged and helps me not miss anything important” (N6.F).*

#### *Preferred Messaging Tone in Digital Healthcare Marketing*

An overwhelming majority of students favored an inspirational, motivational tone that encouraged exploration and engagement (Table 1). This preference was reflected in the statement in sub-theme 3.

*“Motivational content pushes me to explore and engage more—it gives me the energy to keep going” (N18.M).*

*“When the message feels positive and encouraging, I am more willing to follow the page and keep reading the content” (N10.M).*

#### *Key Drivers for Subscribing to Digital Healthcare Marketing Content*

Relevance and innovation of content were the main drivers for engagement (Table 1). This was reflected in the statements in sub-theme 3.

*“I only engage with what speaks directly to my interests or needs” (N19.F).*

*“I want to know the latest, not something from the last few months” (N14.F).*

### **Theme 4: Learning and Educational Preferences**

#### *Preferred Educational and Instructional Methods*

Storytelling was described as the most memorable approach, with students also valuing practical guidance and actionable tips (Table 1). This was reflected in the statements in sub-theme 4.

*“Narratives make the information stick. I remember stories better than plain facts because they connect ideas with real-life situations” (N15.M).*

*“I like when the content gives me clear takeaways—things I can apply immediately in my studies or daily life” (N8.F).*

## **DISCUSSION**

Premarital counseling (PMC) is increasingly recognized as a vital preventive health service aligned with Sustainable Development Goal 3, which emphasizes reproductive health and overall well-being. This focus on prevention and population health is consistent with nursing's commitment to patient safety and high-quality care (El-Gazar *et al.*, 2024). Despite these recognized benefits, nursing students demonstrated limited awareness of PMC, indicating a gap that could hinder future use of such services. This finding is troubling because students are at a point in their lives when decisions about marriage and reproductive health are very important (Gomaa *et al.*, 2025; WHO, 2018).

Limited awareness among nursing students suggests a systemic educational gap rather than an individual lack of interest or motivation. The absence of structured educational content may reduce students' readiness to promote PMC in their future professional roles. These findings extend existing evidence by demonstrating that even future healthcare providers may lack adequate exposure to premarital counseling, highlighting a critical gap within nursing education programs (Habib *et al.*, 2024). From an educational perspective, these findings indicate that limited curricular exposure to premarital counseling may limit students' preparedness for future roles as health educators and advocates, underscoring the need for complementary approaches to enhance awareness and understanding beyond traditional classroom instruction. This educational gap is also relevant to broader public health and preventive care contexts, where future professionals contribute to community-based health promotion.

In this context, digital healthcare marketing emerged as a promising strategy to address this gap. Social media platforms and official health websites enable the dissemination of tailored, confidential, and easily accessible information. Using digital channels that are already embedded in students' daily routines enhances reach and reduces sociocultural barriers that often limit engagement with reproductive health services (Santos, 2024). This approach reflects core principles of digital health communication, including accessibility, interactivity, and user-centered design (Eysenbach, 2001). Analytically, these findings suggest that while

digital access expands reach, effective digital health communication requires not only information availability but also content strategies that promote comprehension and informed decision-making (WHO, 2025). This distinction is particularly relevant to digital public health initiatives, where increased exposure does not always translate into behavior change.

The demographic profile of participants provides important insight into these preferences. The majority of participants were young, female, and from rural backgrounds, consistent with prior findings (Attia & El-Sayed, 2023). These demographic variables are analytically pertinent, as gender and rural residence are known to influence health information-seeking behaviors, perceptions of privacy and confidentiality, and preferences for culturally congruent communication and trusted information sources. Rural residents, in particular, may increase reliance on digital platforms due to limited access to face-to-face premarital counseling services, cultural sensitivity surrounding reproductive health discussions, and fewer educational resources. Together, these contextual factors help explain students' preference for confidential and flexible digital approaches over traditional service delivery models. This interpretation extends prior evidence by situating reliance on digital technologies within the specific context of premarital counselling (WHO, 2025).

Highlighting these demographic insights is essential, as rural students may benefit most from digitally delivered health education. Digital healthcare marketing offers a practical way to bridge geographical and educational gaps by providing consistent, credible, and culturally sensitive information regardless of location. However, digital exposure alone should be interpreted cautiously, as it does not automatically ensure informed decision-making. Online campaigns can reduce transportation barriers, lessen stigma associated with seeking reproductive health services in small communities, and provide privacy that encourages engagement. Moreover, mobile-friendly content, interactive videos, and social media messaging can accommodate rural students' learning preferences and varying levels of internet literacy. Consequently, digital healthcare marketing has the potential to promote more equitable access to premarital counselling information, a principle that is also applicable to other youth-focused digital health promotion programs (Amon *et al.*, 2025; WHO, 2020).

Regarding content delivery, students preferred social media, particularly Facebook, for rapid, engaging updates, whereas official websites were valued for detailed, reliable information. This pattern aligns with the World Health Organization's Global Strategy on Digital Health (2020–2025), which emphasizes user-centered design, culturally responsive messaging, and the integration of multiple digital platforms to enhance reach and engagement. Similar findings have been reported in previous studies, highlighting the effectiveness of combining social media for rapid dissemination with official institutional websites to ensure information credibility and depth (Butt, 2020; WHO, 2025). This dual preference suggests that while students seek speed and simplicity, they also value trustworthy and authoritative sources. Analytically, this reflects a broader tension in digital health communication between convenience-driven engagement and the need for credible information, a challenge observed across diverse health communication contexts.

Regarding content design and format, participants preferred short videos, blog articles, and content supported by precise data. This preference is consistent with evidence indicating that concise, visually engaging, and evidence-based digital content enhances understanding, trust, and sustained engagement among young adults in health promotion contexts (Karpova, 2025; WHO, 2025). From a marketing perspective, these preferences in communication reflect core principles of audience-oriented, value-driven content design, emphasizing clarity, relevance, and perceived usefulness (Kotler & Keller, 2015). These findings suggest that efficiency, credibility, and ease of processing are key mechanisms underlying engagement with digital health content, extending prior research by linking cognitive factors to PMC communication. From nursing practice perspectives, health messages related to PMC should be visually appealing, succinct, and evidence-informed to support comprehension and trust.

Regarding audience engagement and personalization, students emphasized the importance of frequent updates, Arabic-language delivery, and an encouraging tone. These preferences highlight the role of culturally aligned and emotionally resonant messaging in fostering trust and engagement (Al-Solami, 2023; Noor *et al.*, 2022). This aligns with established health communication theory, which identifies tailored messaging as a key determinant of relevance, engagement, and behavior change (Kreuter & Wray, 2003). Collectively, these findings indicate that emotional connection and cultural familiarity function as central drivers of sustained

engagement, a principle that extends beyond nursing education to broader digital health initiatives.

Finally, regarding educational preferences, storytelling and practical guidance were perceived as the most effective strategies. This aligns with evidence that narrative-based formats enhance emotional engagement and retention, particularly when combined with actionable guidance relevant to students' personal and academic contexts (Lazareva & Cruz-Martinez, 2021; Tamimi, 2024). By presenting information through relatable experiences, storytelling may reduce sensitivity surrounding premarital counseling and facilitate engagement with socially sensitive topics without discomfort or resistance. In nursing education and practice, this highlights the value of integrating narrative communication techniques into health education and counseling training to support informed decision-making and reduce perceived stigma (Efthymiou, 2025).

Overall, the findings highlight the importance of digital healthcare marketing strategies that are multi-platform, culturally aligned, and educationally engaging. By addressing students' diverse expectations, such strategies can balance accessibility with credibility, thereby improving awareness and uptake of premarital counseling. By linking students' expectations to existing evidence and to implications for nursing education and practice, this study provides actionable insights that may also inform digital health promotion initiatives targeting young adults across other health-related disciplines and comparable cultural contexts.

Although the study was conducted among nursing students at a single Egyptian university, it provides in-depth insight into a population characterized by high levels of digital engagement and future professional roles in health education. The findings may therefore be transferable to the design of digital premarital counseling initiatives in similar educational and cultural settings.

### **Limitations**

Contextually, the study addresses a limited research area within Egyptian and broader Middle Eastern settings, where evidence of the promotion of youth-focused digital premarital counseling remains scarce. Focusing on nursing students at Mansoura University is a strength, as this group represents both current recipients of health promotion and future healthcare providers, offering insights relevant to culturally appropriate and student-centered digital health communication strategies. Despite these contributions, several limitations should be acknowledged. The findings are context-specific and may not be applicable beyond the study setting. The limited sample size and dependence on self-reported data may result in social desirability bias. Data collection via WhatsApp voice messages limited observation of nonverbal cues. The cross-sectional design inhibited the evaluation of temporal changes, and selection bias may have arisen from participants' digital accessibility and their willingness to engage in discussions regarding premarital counseling. Future studies should adopt longitudinal designs across multiple institutions and use methods that capture both verbal and nonverbal data to enhance generalizability and depth.

### **CONCLUSION**

Given the dual role of nursing students as current recipients and future providers of health education, the study findings underscore the need for nursing education programs to systematically incorporate digital health communication and healthcare marketing competencies into undergraduate curricula. Specifically, structured training modules, access to supervised digital platforms, and guided opportunities for content development are recommended to strengthen students' skills in delivering evidence-based and culturally appropriate digital reproductive health messages. Such educational integration should be implemented in collaboration with healthcare organizations to ensure alignment with clinical and public health practice.

At the health system and policy level, the results suggest that integrating digital healthcare marketing approaches within national reproductive health and premarital counseling strategies may help address documented barriers related to access, stigma, and cultural sensitivity. Policymakers are encouraged to promote coordinated collaboration among nursing educators, public health authorities, and digital media specialists to ensure that digital PMC initiatives are evidence-based, ethically sound, and aligned with national reproductive health priorities. Future policy-focused evaluations are recommended to assess the impact of these strategies on awareness, utilization, and equity of PMC services, particularly among underserved and rural populations.

### **Recommendations**

Based on the findings of the present study, digital healthcare marketing initiatives for premarital

counseling (PMC) should be explicitly designed to address the identified preferences and expectations of nursing students. In particular, student-centered and culturally responsive approaches are recommended, with an emphasis on Arabic-language content, short and visually engaging video formats, and clear, practical guidance. These elements directly reflect participants' expressed needs and are likely to enhance engagement, perceived credibility, and real-world applicability of PMC-related information.

To optimize both reach and trust, the study findings support the use of widely adopted social media platforms as primary dissemination channels, complemented by links to official and authoritative health websites. This combined approach may balance ease of access with the need for accurate and reliable health information. Furthermore, integrating storytelling and action-oriented educational messages is recommended, as participants perceived these strategies as effective in reducing sensitivity and stigma surrounding premarital counseling topics and in supporting informed decision-making among young adults.

Finally, to enhance the transferability and sustainability of the study findings, future research should extend beyond single-institution contexts to include multi-institutional and cross-cultural samples, particularly within the Middle East and North Africa (MENA) region. Longitudinal and intervention-based research designs are recommended to evaluate the sustained effectiveness of digital healthcare marketing strategies, including storytelling-based and nurse-led digital interventions, on knowledge, attitudes, and behavioral outcomes related to premarital counseling.

### Conflict of Interest

The authors declare that they have no competing interests.

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