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Exploring the Influence of Social Media–Driven Nutrition Misinformation on Dietary Practices: A Qualitative Study

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ABSTRACT

The use of social media like Instagram, TikTok, and YouTube has changed how young adults get nutrition information. But uncontrolled content usually propagates false information that can be applicable to food habits and well-being. **Objectives:** To study the effects of social media on the dietary beliefs and practices of young adults in Pakistan, the prevalent forms of nutrition misinformation are to be identified, and how users rate the information they find online and react to influencer recommendations. **Methods:** Miniature thematic analysis qualitative examination was utilized in 20 young adults (1932 years old) enlisted into the University of the Punjab, Lahore. The university was chosen since it is a symbol of a number of students whose population is quite large, and due to its diversity, it enabled access to young adults who are active social media users. Semi-structured in-depth interviews were carried out either face to face or through the internet, tape recorded, and transcribed word for word. The thematic method of data analysis was based on the six-step method by Braun and Clarke. **Results:** Five major themes emerged. Participants often used the advice of influencers on nutrition, evaluated credibility with popularity but not evidence, and were in doubt after receiving conflicting information. Purchasing high-dose vitamin D supplements without a previous diagnosis of vitamin D deficiency had been reported another time. **Conclusions:** Social media has a tremendous influence on dietary beliefs and behaviors by transmitting nutrition misinformation amongst young adults in Pakistan.

INTRODUCTION

Within the last several years, the application of social media systems like Instagram, TikTok, and YouTube has become more widespread. This has significantly influenced the means of access as well as the involvement of the health and nutrition information [1]. Through them, people have been able to share and reach a broad spectrum of people around the world in the shortest way [2]. Nonetheless, social media is not strictly regulated, and this is the reason why misleading information can easily propagate without being confirmed [3]. The more literature exists regarding the matter, the greater the evidence that such a plethora of nutrition information that spreads on social media is unverified and lacks evidence-based knowledge provided by health professionals. This complicates the ability of the users to differentiate the right instruction and erroneous information [4]. Some of the previous studies have shown that myths related to nutrition on social media have a great connection with poor feeding habits [5, 6]. The reviews of online sources in social media tend to demonstrate that most of the popular posts

support unbalanced diets, overrate the usefulness of supplements, or fad diets with no clinical support [7, 8]. Such misinformation is persuasive, and this fact can be explained by several mechanisms. Additionally, misinformation becomes more critical and memorable in a better-looking form (e.g., a short video, before-and-after pictures, etc.), which leads to a greater effect on food habits. This practice leads to the adjustment of evidence-based non-evidential dietary habits and practices among the followers [9]. According to several studies, it is also possible that the incorrect information on social networks such as TikTok and Instagram can help to legitimize the incorrect eating habits, mainly among adolescents [10]. Although there are these concerns, the relationship between social media and health outcomes is complicated. There are some studies indicating that positive health messages and food literacy can be disseminated by the digital platform as well, in case evidence-based content is covered by qualified professionals [11]. The high prevalence of false posts still seems to pose a problem to social health communication and food choices [12]. Although the effects of social media on nutrition behaviors have been extensively studied in high-income countries, the study on the subject regarding low and middle-income countries, such as Pakistan, has limited research [13, 14]. The current literature largely relies on quantitative research that is incapable of depicting the way people perceive and respond to information available online [15, 16].

In particular, digital health literacy, which is the ability to critically evaluate online health content, remains underexplored. There are still gaps that exist in the literature, even with increased global concern. To start with, the existing research on the subject in the low and middle-income nations, and Pakistan is no exception, is almost entirely quantitative in its surveys because surveys cannot yield the detailed information about how people perceive, evaluate, and internalize the information presented on online nutrition platforms. This study aimed to study the effects of social media on the dietary beliefs and practices of young adults in Pakistan, the prevalent forms of nutrition misinformation, and how users rate the information they find online and react to influencer recommendations.

METHODS

This study employed a qualitative descriptive design using thematic analysis, as described by Braun and Clarke. This approach was appropriate for exploring individuals' experiences, beliefs, and decision-making processes related to social media nutrition information. This study was conducted in the University of the Punjab, Lahore, from November to December, 2025. This study was conducted to explore the influence of nutrition-related information that is present on social media on dietary beliefs and practices among young adults in Pakistan. The reason this study selected the qualitative approach was that it allows an in-depth understanding of the thoughts and experiences of people. Such in-depth exploration is difficult to achieve through a quantitative study design. Participants were recruited through campus advertisements (flyers and university social media groups) and snowball sampling, with initial contacts made through student societies. Purposive sampling was applied to ensure diversity in gender (11 females, 9 males), age (range 19–31 years), educational level (undergraduate and graduate), and occupation (students, private employees, freelancers). All participants reported active use (≥2 hours/day) of at least one social media platform (Instagram, TikTok, or YouTube) for nutrition-related content. Participants were recruited through a combination of strategies. First, printed flyers were posted on university notice boards across the University of the Punjab campus. Second, an announcement was shared in university-affiliated student WhatsApp groups. Interested individuals contacted the research team, and purposive sampling was then applied to ensure diversity in gender, age, educational level, and occupation. Initial contacts also led to snowball sampling, where enrolled participants referred peers who met the inclusion criteria. The strategy was used to achieve a diverse sample (although active social media users were still purposively targeted). The initial age bracket was 18-35 years. No participants aged 18 and above 31 volunteered in the recruitment, with the rest of the criteria. The last sample was the people aged between 19 and 31 years, which is also within the target range of the population of interest, which is the young adults. The results section now states: A total of 20 participants (11 females, 9 males) were interviewed, with ages ranging from 19 to 31 years (mean 24.6 ± 4.1). Individuals who had any kind of professional expertise in nutrition or healthcare were excluded, so that we can focus on the general social media user population. After 20 participants, data saturation was achieved, as no new themes were found. For data collection, semi-structured, in-depth interviews were conducted either face-to-face or through online platforms, depending on the preference and availability of the participants. Informed consent was obtained from all the participants before the data collection. To maintain confidentiality, unique codes were assigned to each participant, such as P1, P2, etc. All the participants took part in the study voluntarily. Participants were informed that they could withdraw at any

stage of the study. Based on the existing literature and our study objectives, we developed an interview guide. These interviews lasted between 30 and 60 minutes. With the consent of participants, we audio-recorded the interviews. The interviews were transcribed word-for-word to maintain accuracy. The lead researcher (a female PhD candidate with training in public health nutrition) conducted most interviews. Her background in nutrition may have influenced participants' responses, particularly regarding the perceived credibility of nutrition information. To mitigate this, she explicitly stated her role as a researcher seeking to understand experiences rather than as a nutrition expert. The second researcher (a male social scientist with expertise in digital media) independently coded a subset of transcripts to challenge interpretations and enhance reflexivity.

Thematic analysis was based on the six phases of Braun and Clarke. Inductive coding was the main mode that gave themes the opportunity to emerge through the data and not the pre-existing classification [17]. The first five transcripts were first coded by two researchers (the first and the second authors), followed by a comparison and final resolution with a unanimous decision made with other codes, thus making it to a preliminary codebook. Transcripts other than these were coded with this codebook, and after that, they were refined. All the authors reviewed the final themes and agreed upon them. Data management was done in NVivo 14 software, but the coding was performed manually so as to have in-depth exposure to the data. This paper is based on the Consolidated Criteria of Reporting Qualitative Research (COREQ) checklist.

RESULTS

Twenty participants (11 female, 9 male) were interviewed, and the mean age was 24.6 ± 4.1 years (range: 19-31). The mean hours of social media use were 3.2 hours +0.9 hrs. Instagram, TikTok, or YouTube were claimed to be used by all respondents to get nutrition-related information. The majority of the participants said that they regularly visit social media platforms, especially Instagram, TikTok, and YouTube, even to get simple information associated with diet and nutrition. Interpretation of the interview data using the thematic analysis showed that five broad themes described the impact of nutrition misinformation as a result of social media on dietary beliefs and behaviours: Trust in influencers over professionals, Confusion due to conflicting information, Adoption of fad diets and supplement misuse, Limited digital health literacy, and social reinforcement of dietary behaviours (Table 1).

Table 1: Demographic Characteristics

Participant ID	Age (years)	Gender	Education Level	Occupation	Social Media Usage (hrs/day)	Primary Platform Used
P1	19	Female	Undergraduate	Student	3	Instagram
P2	21	Male	Undergraduate	Student	4	TikTok
P3	22	Female	Undergraduate	Student	2	Instagram
P4	30	Male	Graduate	Private Job	3	YouTube
P5	20	Female	Undergraduate	Student	3	TikTok
P6	28	Male	Graduate	Freelance Designer	4	Instagram
P7	21	Female	Undergraduate	Student	5	Instagram
P8	31	Male	Graduate	Software Engineer	2	YouTube
P9	22	Female	Undergraduate	Student	4	TikTok
P10	29	Male	Graduate	Teacher	3	YouTube
P11	21	Female	Undergraduate	Student	3	Instagram
P12	29	Male	Graduate	Private Job	2	TikTok
P13	20	Female	Undergraduate	Student	4	Instagram
P14	32	Male	Graduate	Research Assistant	3	YouTube
P15	19	Female	Undergraduate	Student	3	TikTok
P16	28	Male	Graduate	Private Job	4	Instagram
P17	23	Female	Undergraduate	Student	3	TikTok
P18	26	Male	Graduate	Office Job	2	YouTube
P19	22	Female	Undergraduate	Student	3	Instagram
P20	27	Male	Graduate	Freelance Worker	4	TikTok

The five themes have been compiled into a better structure with subthemes where necessary. It has now been demonstrated in the Results section that Thematic analysis revealed two general categories (1) Information appraisal and trust (Theme 1: Trust in influencers over professionals; Theme 2: Limited digital health literacy;

Theme 3: Confusion due to conflicting information) and (2) Behavioural consequences (Theme 4: Adoption of fad diets and supplement misuse; Theme 5: Social validation of dietary behaviours). One of them, the subthemes are now clearly defined within a single theme (e.g., under Theme 1, subthemes: Relatability over expertise, Visual appeal as credibility). This hierarchy makes a differentiation and prevents overlap of concepts.

Theme 1: Trust in Influencers Over Professionals

The majority of the participants expressed more trust in an influencer on social media compared to a qualified healthcare professional. The reason is that they see such influencers as more relatable and closer since they are visually engaged with these influencers. This faith has highly influenced their food preferences. One of the respondents explained, I trust that these influencers know me better than a dietitian who provides a list of food to eat every day. (P3) One of the respondents shared, I follow someone on TikTok who posts tips on what to eat each day. She is not a nutritionist, but her outcomes are lifelike and inspire me to follow her. (P7) This trend describes a change in the perceived credibility, when informality and appearance are prioritized over qualifications. This level of trust may directly affect eating habits, with subjects having taken on diet regimens and supplements that influencers were selling without consulting anyone.

Theme 2: Confusion Due to Conflicting Information

The majority of participants noted that there is conflicting information concerning nutrition, which they feel disoriented about, available online. This translates to confusion and anxiety over healthy eating. One of the participants told me, "One day I saw it is better, the second day somebody told me, on the carbs it is not the problem. I do not know what I take to be true because I read different posts on the same food (P10), and all of them tell me something different. It is quite puzzling, really; it is so confusing. (P1) This theme demonstrates that there is confusion with the existence of conflicting information available online.

Theme 3: Adoption of Fad Diets and Supplement Misuse

Several interviewees said that because of internet-based information, they became followers of trendy diets or used supplements. They were largely doing it without knowing the right dosages and potential risks of overdose or toxicity. One of the participants explained that he tried to use a detox juice two weeks ago, as everyone on the Internet said that it makes you lose weight in no time (P16). Most interviewees replied regarding the use of supplements, with one of them stating that they purchased vitamin D supplements simply because they were advertised by an influencer. I did not realize that the dose was high or even necessary on my part (P12). Such practices bring out the fact that the wrong information directly affects the health-related practices of individuals.

Theme 4: Limited Digital Health Literacy

Many participants claimed that they judge the credibility of online content based on likes, comments, or the physical appearance of the influencers rather than searching for evidence. A participant said, "If a post has lots of likes and shares, I automatically think it must be true." (P4) Another claimed that, "I rarely check who wrote it. I just follow what everyone else is doing." (P9) The lesser digital health literacy, there are increased chances of nutritional myths affecting dietary patterns of people.

Theme 5: Social Validation of Dietary Behaviors

Participants claimed that when they adopt new dietary trends, they get appreciation through likes and comments online, which makes them feel that they are on the right track. A participant told that, "When I post about the smoothie I make from a trend, my friends like it, and it encourages me to continue it." (P8) Another said, "Seeing others trying the same diet online motivates me to follow it, even if I'm unsure about its safety." (P11) This theme highlights that how peer influence increases the adoption of dietary behaviors that can be very harmful.

Diversity within participant characteristics: Although there was extensive consistency in the themes among the sample, minor differences were found. The female respondents (n=11) more often indicated that they had tried fad diets (e.g., detox juices, keto) than the male respondents (n=9). Greater confusion based on the contradicting information was correlated with higher social media use (4 hours/day and above); all of the six participants who used the media at least 4 hours per day reported this as a significant problem. There were no clear differences based on the occupation; however, students (n=14) tended to label social validation as effective, more than the employed participants (n=6). These trends indicate that the effect of misinformation might be balanced by gender and the degree of usage, but the limited sample does not allow for conclusive remarks.

DISCUSSION

It is qualitative research where we examined how misinformation that relates to food and nutrition exists in social media and has affected the dietary beliefs and practices among young adults in Pakistan. The results of the paper showed that the eating patterns of the population of our study were grounded on a variety of factors, such as the trust in influencers, confusion because of the conflicting information, the use of fad diets and

supplements, poor digital health literacy, and social validation. Although the majority of the influencers do not have the relevant qualifications, especially in the nutrition and health fields, people readily trust them. This was also observed in earlier studies that social media influencers are highly influential on health-related behavior since they are perceived to be real and relatable [18, 19]. Likewise, a study by Djafarova and Rushworth established that young users of social media have a greater tendency to believe influencers than traditional experts, as their content might be more appealing to the eye [20]. This tendency is alarming because some unqualified people can transfer erroneous or dangerous nutrition information, and the population can be affected. The other outstanding theme that we identified is the misunderstanding created by conflicting nutrition information. Many participants reported that they find difficulty in distinguishing between accurate and inaccurate dietary advice, as there are many different nutrition-related opinions and myths. This finding is also supported by a few previous studies, which indicate that exposure to unreliable health information can lead to uncertainty, mistrust, and poor decision-making [21, 22]. Kington et al. highlighted that the rapid spread of health-related misinformation on social media contributes to confusion, and it also leads to lower adherence to evidence-based guidelines [23]. The current study extends this understanding by focusing on how such confusion is experienced at an individual level and how it affects their dietary choices. The adoption of fad diets and the misuse of dietary supplements are also very important issues. It is an important behavioral outcome of exposure to wrong information. Participants reported engaging in practices such as detox diets, keto diets, water diets, and fruit diets influenced by social media. Many participants also reported taking supplements for aesthetic benefits without the advice of a doctor. These findings are consistent with existing literature that links social media exposure to unhealthy dieting behaviors and increased supplement use [24]. Moreover, because of the promotion of supplements are being promoted more on social media by influencers, individuals have begun to consume supplements without any medical care or deficiency [25]. A lot of them responded that they attempt to determine whether they read the right or wrong nutrition information they located on social media. However, they consider it based on the popularity of that news, i.e., likes, shares, reach, etc., instead of seeking the scientific evidence of the same. This result confirms the earlier study that a digital health literate influences the ways in which individuals make judgments about any source of health-related information that they encounter online [26]. The prevailing results suggest the role of social validation in sustaining behavior regarding possibly suicidal eating behaviors.

The analysis was done in one university in Lahore, which might not be transferred to other areas or non-student groups. The participants' self-reporting of the data may have affected the recall bias and the social desirability bias, especially in a situation where data was being collected around a socially sensitive subject like supplement misuse. Face-to-face and online interviews were done, and this has added to the accessibility but because of the interaction dynamics, there was the possibility of differences in depth of responses. Recommendations are proposed as actionable. To begin with, higher education institutions need to teach digital health literacy skills during orientation sessions where students are taught to verify the credibility of their sources, look for evidence citations, and rely on fact-checking tools. Second, there is a need to have public health campaigns engage popular influencers to help spread evidence-based messages regarding nutrition by building up the trust that the participants had in them.

CONCLUSIONS

In conclusion, this study demonstrates the possibility of how social media influences eating ideologies using misinformation. It emphasizes the necessity to enhance digital health literacy and reliable online nutrition information, and address the public health problems of misinformation online.

Authors' Contribution

Conceptualization: IF
Methodology: AM
Formal analysis: MI
Writing and Drafting: AF
Review and Editing: IF, MI, AM, MA

All authors approved the final manuscript and take responsibility for the integrity of the work.

Conflicts of Interest

All the authors declare no conflict of interest.

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