

The Effect of Social Media on Eating Habits among Students at Jazan University

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ABSTRACT

Objective: To investigate changes in college students' eating habits and their perceptions of healthier eating upon exposure to targeted advertisements and discussions on social media promoting healthier dietary practices.

Methods: A cross-sectional study, utilizing a self-designed, pretested questionnaire, was conducted to assess the influence of social media on the dietary habits of college students at Jazan University in Saudi Arabia. The research encompassed a convenience sample of 300 students, ranging in age from 20 to 35 years, across various faculties.

The data analysis was performed using SPSS software, which calculated frequencies for qualitative data and descriptive statistics for quantitative data. The chi-square test was employed to evaluate the relationships between categorical variables, with a P-value of less than 0.05 denoting statistical significance.

Results: The study revealed a statistically significant impact of social media on the eating habits of the participants. Demographic data indicated that most participants were between the ages group of 20-35 years. In terms of daily usage, Snapchat was the platform most frequented by participants, with WhatsApp and Twitter also being popular. Again, Instagram was identified as the main source for nutritional information, followed by Twitter and Snapchat. The majority of participants depended on social media for guidance on nutrition and dietary choices. Furthermore, most participants acknowledged the influence of social media in fostering awareness about healthy eating, with many agreeing that it contributes to diminishing unhealthy eating practices.

Conclusion: The research indicated that WhatsApp is the favored platform for communication and acquiring diabetes information. The participants acknowledged the contribution of social media to enhancing education, awareness, and interaction among people with diabetes, their relatives, and medical professionals. Nevertheless, considering the risks associated with social media use, health and educational organizations must ensure the information disseminated is precise and safeguards the privacy of both patients and healthcare providers.

Keywords: Social media, College students, Dietary choices, Eating habits.

INTRODUCTION

Social media platforms showcase a variety of content including articles, ads, videos, blogs, and information on nutrition, food, beverages, recipes, diets, and physical exercise, all aimed at fostering a healthy lifestyle. Moreover, these platforms are increasingly utilized to disseminate information on nutrition and health promotion interventions. Such interventions are designed to encourage healthy eating among obese and overweight individuals, patients with metabolic syndromes, and those suffering from various diseases. Undoubtedly, a diet that includes healthy habits and regular physical activity—a behavioral approach to eating—plays a significant role in preventing diseases and improving overall physical and mental health and wellness. Conversely, a diet lacking balance, combined with poor dietary habits and a lack of physical exercise, can result in numerous health issues. These may include obesity, excess weight, cardiovascular diseases, diabetes, cancer, metabolic disorders, and other health complications (1).

Social networking sites have evolved into a global phenomenon, amassing millions of users worldwide. As of April 2018, the following statistics, expressed in millions, illustrate their vast reach: Facebook with 2234 million users, YouTube at 1500 million, WhatsApp at 1500 million, Instagram with 813 million, Twitter at 330 million, Skype with 300 million, LinkedIn at 260 million, Snapchat close behind at 255 million, Pinterest at 200 million, and Telegram also at 200 million. Additionally, as of December 2017, there were 4157 million active internet users globally (2).

As of early 2018, the percentages of social media users in Saudi Arabia, relative to the total population, were as follows: WhatsApp at 73%, YouTube at 71%, Facebook at 66%, Instagram at 54%, Twitter at 52%, Snapchat at 39%, and Skype at 24%. Additionally, the percentage of active Internet users was 90.98% (3).

The use of social media as a means to disseminate knowledge and share nutrition information is increasing every day. Several research indicates that social networks could significantly influence individuals' ability to maintain a healthy diet, which is vital for good health. Social media platforms are also channels for disseminating nutrition education. However, it is important to note that, as various studies suggest, some of the information shared on social media may be inaccurate and not conducive to fostering a healthy diet (4).

Eating habits are closely associated with various health issues, such as obesity and the excessive pursuit of weight loss, which calls for a modification of these habits to enhance overall health. The dietary patterns of young adults, particularly college students, have been linked to their exposure to social media, suggesting a viable method to ameliorate these habits. A study indicated that participants developed a growing interest in and preference for healthier eating habits through social media interaction. Peer interaction was identified as a promising factor in enhancing the health of young adults by fostering better dietary practices (5).

Although social media has proven beneficial for health promotion, its use can adversely affect health-related behaviors. The detrimental effects of social media include diminished physical and psychological health due to a sedentary lifestyle, sleep deprivation, unhealthy dietary patterns, and cognitive decline. It also poses risks to mental health, leading to anxiety, depression, stress, low spirits, and body dissatisfaction, and impacts cognition by fostering negative self-perception and social isolation. Reports indicate that social media usage can potentially cause harm due to several factors: the excessive amount of time spent on these platforms can displace activities that promote health and well-being; the quality and reliability of public health information may be questionable; misinterpretations of information can occur; incorrect advice might be communicated; and issues related to privacy, confidentiality, and data security can arise. Consequently, numerous professionals advise cautious engagement with social media when it comes to health promotion (6).

The development and proliferation of social networks in Saudi Arabia presents an opportunity to utilize these platforms for programs designed to improve students' dietary habits. This study seeks to investigate the perceptions of students on the utilization of social media in managing a healthy diet within Saudi Arabia.

MATERIALS AND METHODS

Research Area/Setting

The study was exploratory, with the survey designed to investigate the impact of social media on the eating habits of college students at Jazan University.

The study conducted was a cross-sectional analysis utilizing a questionnaire distributed to assess the impact of social media on the eating habits of college students at Jazan University, Saudi Arabia. A random sample of 300 students, aged 20-35 years and attending various faculties, was selected. Within this group, some participants were social media users, while others were not. Non-users had the survey completed on their behalf by a social media user, such as a relative or friend. The questionnaire was initially composed in Arabic to ensure comprehension by all participants and subsequently translated into English for this research. It should be noted that purposive sampling was employed without a sampling frame. Filling out the questionnaire was taken as implied consent for participation, with ethical approval granted by the Institutional Medical Research Center of Jazan University.

Research Subjects

Inclusion criteria: Students from various colleges of Jazan University, aged between 20 and 35 years old, participated in the study.

Exclusion criteria: Students below the age of 20 were not included in this study.

Research Design

A cross-sectional study was carried out across multiple colleges at Jazan University in Saudi Arabia.

Sample Size

The final count of participants was determined by the agreements received.

Sample Size is calculated by using these formulas;

If a significance $P < 0.05$ or for a power of 80 % (0.8).

Sample size: $n = 1.96^2 (0.5) (0.5) / (0.05)^2$ $n = 360$

Sampling Technique

The sampling method planned is non-random, depending on the participation of willing and committed college students from the Jazan University campus. This approach has led to a non-representative sample, which restricts the study's generalizability beyond the sampled group.

Data collection**Online survey**

The research utilized a questionnaire distributed through WhatsApp and other social media platforms to collect the required data. Designed by the research team, the questionnaire was divided into three sections, each corresponding to the study's main objectives. It mainly consisted of closed-ended questions, allowing participants to choose from multiple-choice answers. The initial parts of the questionnaire provided comprehensive instructions, a summary of the survey's purpose, the target demographic, and guarantees of confidentiality for the responses. Moreover, consent from participants was obtained after assessing their understanding of the study before proceeding to the questions.

The survey questionnaire was divided into three sections with multiple-choice answers. The first section comprised five questions to gather demographic data from participants, including name, gender, age, university college, and academic specialization. The second section contained twenty questions about dietary habits. It was further subdivided: the initial five questions pertained to physical activity, detailing daily walking time, sitting time during weekdays and weekends, and time spent in workday activities. The subsequent five questions focused on eating habits, such as frequency of cooking at home, dining out, fast food consumption, caffeine and soft drink intake, and presence of food allergies. The final five questions assessed knowledge of healthy eating practices, including frequency of eating healthily, consuming fruits and vegetables, feeling hungry, having three meals a day, and choosing healthy snacks. The final five questions of the second section gauge interest in enhancing healthy habits such as regular exercise, eating three nutritious meals daily, opting for healthy snacks, minimizing unhealthy food choices, and taking beneficial nutritional supplements, with responses ranging from 'Interested' to 'Not interested at all.' The third section aims to gather data on Jazan University students' use of social media for food and nutrition-related purposes, encompassing 15 questions. These questions cover the platforms used (Twitter, Instagram, Snapchat, YouTube, WhatsApp, TikTok, Facebook, others), time spent on social media daily (less than three hours, more than three hours, unspecified), reliance on social media for nutritional information (yes, sometimes, no), preferred platforms for following healthy nutrition programs, attention to nutrition specialists' accounts and its impact on food choices, influence of social media on fruit and vegetable consumption, adherence to diets, achieving ideal weight, sports activities, participation in online fitness programs, contribution of social media to healthy eating awareness or reduction of poor eating habits, enrollment in paid nutritional programs, and encouragement of using social media for a healthy diet.

Focus groups (FGs)

The focus groups (FGs) were designed to assess the impact of social media on the eating habits of Jazan University college students. The study screened a sample of students for changes in their eating habits and their perceptions of healthy eating when exposed to targeted social media ads and content promoting healthy dietary practices. The research aimed to examine the effect of social media on the food choices of these students. A total of 300 subjects were selected for the study. Data collection was conducted through an online questionnaire completed voluntarily by the participants. Analysis showed that a majority of 62.7% of participants were female, and the sample spanned various age groups from under 20 to over 50 years, with the bulk (76.1%) aged between 20-35 years. Representation from nearly all colleges was noted, with Applied Medical Sciences students forming the largest group at 43.2%. In terms of social media usage, the findings indicated that Jazan students engaged with a broad spectrum of platforms for over 3 hours daily, predominantly Snapchat, followed by

WhatsApp and Twitter. Additionally, the study uncovered that most participants relied on social media, especially Instagram, for information on nutrition and dietary habits.

Data Management and Analysis Plan

The SPSS (Statistical Package for the Social Sciences) software is utilized for data analysis. Frequency distributions are obtained, and descriptive statistics are calculated. Additionally, the chi-square test is employed to examine certain associations. A P-value less than 0.05 is deemed significant.

RESULTS

This study included 303 students, of whom 62.7% were female and 37.3% male, as detailed in **Figure 1**.

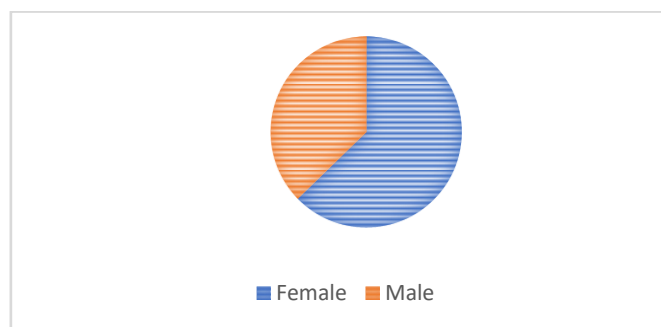


Fig 1:Distribution of the participants by gender

As Fig 2 shows, the majority of the participants (76.1%) were in the 20-35 age bracket, while 14.7% were between the ages of 30 and 50.

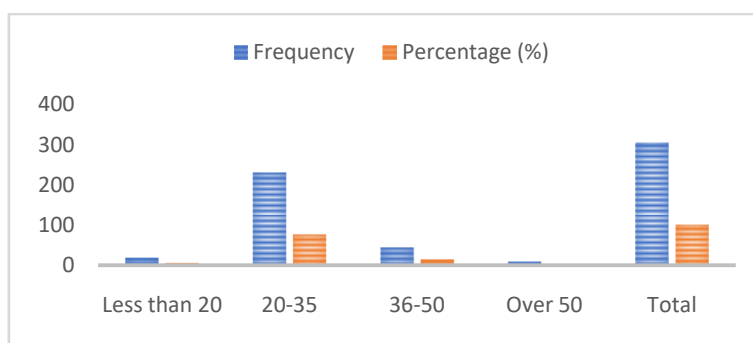


Figure 2:Distribution of the participants by age groups

The study's participants hailed from various colleges and fields of study, with the Applied Medical Sciences students representing the largest group at 43.2% (refer to **Figure 3**).

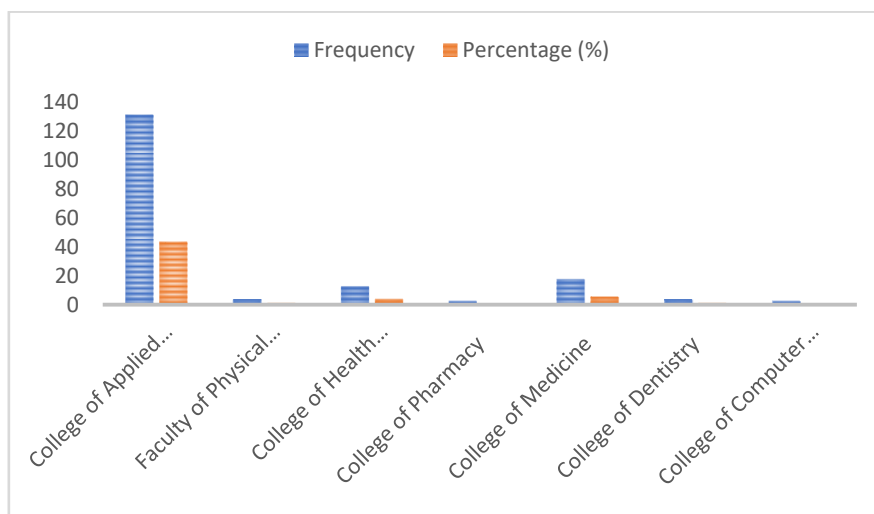


Figure 3: Distribution of the participants by college

Table 1 indicates that a significant portion of the participants (29%) engaged in walking for less than one hour daily, whereas a larger majority (63.4%) reported sitting for more than an hour. Additionally, a substantial group (40.3%) spent over an hour on activities during workdays.

Table 1: Participants' physical activity.

Physical activity	Undefined	Lessthan n1 hour	1 hour	More than 1 hour
How much time do you usually spend walking in a day?	75	88	69	71
	24.8	29.0	22.8	23.4
How much time do you spend sitting on weekdays?	77	13	21	192
	25.4	4.3	6.9	63.4
How much time do you spend doing activities on workdays?	66	58	57	122
	21.8	19.1	18.8	40.3
How much time do you usually spend walking on The weekends	71	54	80	98
	23.4	17.8	26.4	32.3
How much time do you spend sitting at the weekend?	93	16	37	157
	30.7	5.3	12.2	51.8

The majority of participants, 60.7%, prepared their meals at home, while the same percentage reported occasional dining at restaurants. A significant number, 42.6%, admitted to frequently consuming junk food, and 43.2% indicated a high intake of caffeine or soft drinks. Additionally, a large majority, 76.2%, confirmed they have no specific food allergies (refer to **Table 2**).

Table 2: Participants' eating habits.

Eating habits	No	Sometimes	Yes
Do you cook your food at home?	13	106	184
	4.3	35.0	60.7
Do you eat at the restaurant?	17	184	102
	5.6	60.7	33.7
Do you eat a lot of junk food?	112	129	62
	37.0	42.6	20.5
Do you drink a lot of caffeine or soft drinks?	73	99	131
	24.1	32.7	43.2
Do you have any specific allergies to a type of food?	231	21	51
	76.2	6.9	16.8

Over half of the participants (53.5%) occasionally made healthy food choices throughout the day. The consumption of healthy snacks, fruits, and vegetables was generally inconsistent (50.8% and 40.3%, respectively). Around 47.9% reported feeling hungry for most of the day, although again 38.3% consistently consumed three meals daily (**Table 3**).

Table 3: Participants' healthy eating behaviors.

Participant's eating behaviors	Never	Rarely	Sometimes	Usually
Eat good choices of healthy food during the day	14	41	162	86
	4.6	13.5	53.5	28.4
Eat different kinds of fruits and vegetables.	18	58	122	105
	5.9	19.1	40.3	34.7
Feels hungry most of the day.	34	73	145	51
	11.2	24.1	47.9	16.8
Eat three meals a day.	22	58	107	116
	7.3	19.1	35.3	38.3
Choose healthy snacks.	30	69	154	50
	9.9	22.8	50.8	16.5

The participants were mainly slightly concerned about regular practice of sports (33%), intake of healthy meals (29%), and intake of healthy snacks (30.7%). Similarly, they were majorly (31.7%) fairly concerned about reducing unhealthy food options, while they mainly (27.7%) did not care about taking healthy supplements (Table 4).

Table 4: Participants' practices towards improving health habits.

Healthy habits	Not at all concerned	Slightly concerned	Somewhat concerned	Concerned	Very concerned
Sports regularly	26	100	86	54	37
Percentage (%)	8.6	33.0	28.4	17.8	12.2
Eat three healthy meals a day	35	88	87	51	42
Percentage (%)	11.6	29.0	28.7	16.8	13.9
I choose healthy snacks	32	93	84	57	37
Percentage (%)	10.6	30.7	27.7	18.8	12.2
Reduce unhealthy food options	21	62	96	55	69
Percentage (%)	6.9	20.5	31.7	18.2	22.8
Take healthy supplements	84	73	51	54	41
Percentage (%)	27.7	24.1	16.8	17.8	13.5

Among the participants, Snapchat was the predominant social media platform used, accounting for 28.4% of usage, followed by WhatsApp at 23.4%, and Twitter at 18.8%, as detailed in Figure 4.

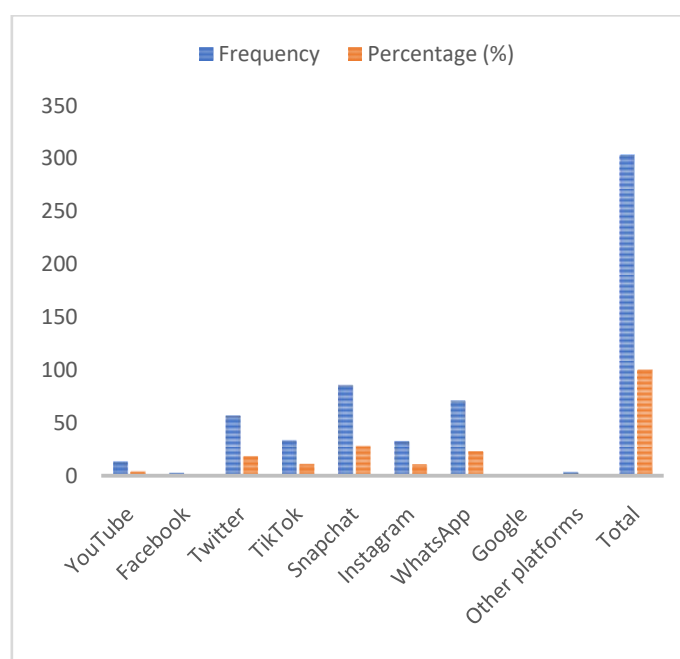


Figure 4: Major social media platforms used by the participants

More than half of the participants (53.5%) spent over three hours daily engaging with social media (see Fig 5).

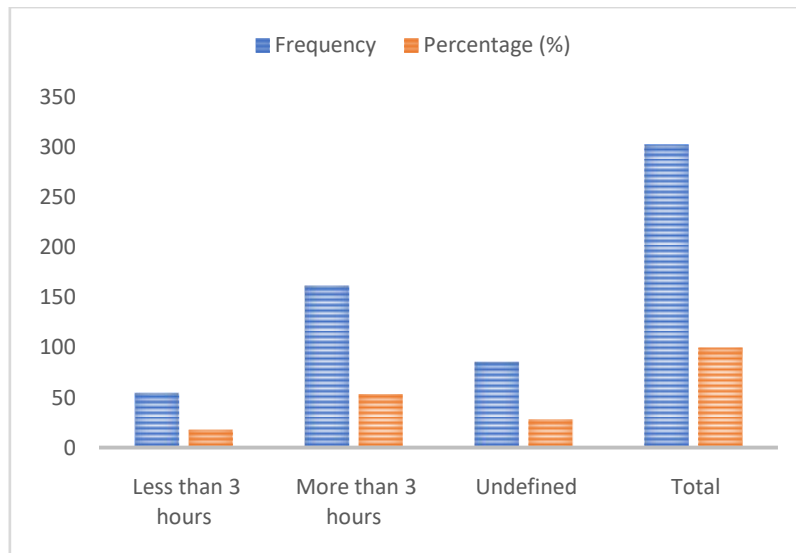


Figure 5: Distribution of the participants by duration of using social lmedia per day

The majority of participants (54.1%) indicated their reliance on social media for information about nutrition and dietary habits (Fig.6).

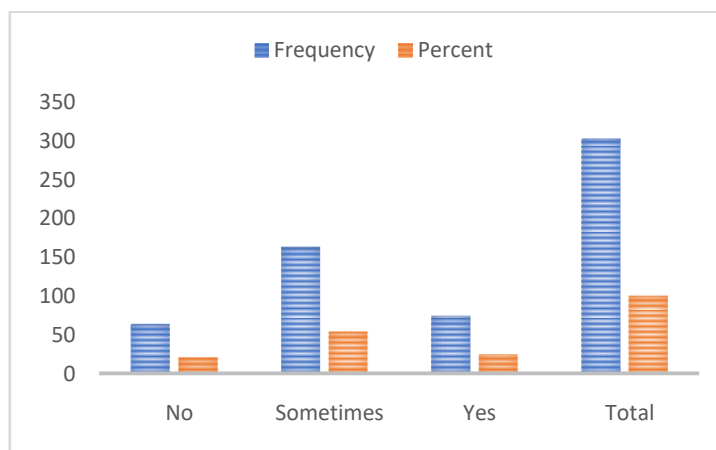


Figure 6:Participants' dependency on social media for nutritional information and dietary patterns

Instagram was the major social media platform used for nutritional information (25.1%) followed by Twitter (16.8%) and Snapchat (10.9%) (Fig. 7).

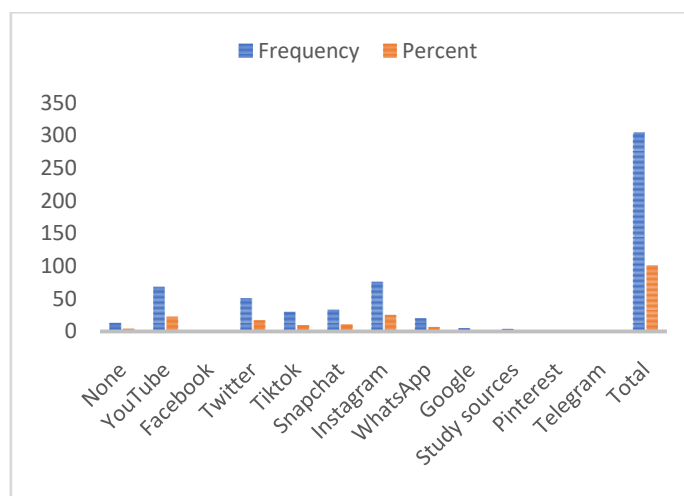


Figure 7: Distribution of the participants by social media platform used for nutritional information and dietary patterns

Most of the participants (80.5%) were concerned about nutritional information on social media being provided by a specialized nutritionist (**Fig. 8**).

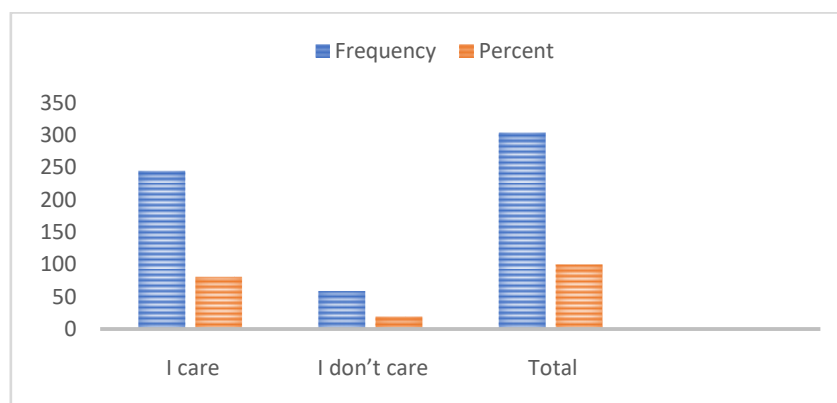


Figure 8: Participants’ attitudes regarding whether the nutritional information on social media provided by a nutritionist or not

When asked about the influence of social media on their food choices, the biggest portion of the participants (46.9%) responded with “maybe”. Similarly, they mainly (36.3%) responded with “maybe” on the influence of social media on their eating habits regarding fruits and vegetables. But, they mainly (38.3%) denied any influence of social media on adherence to a particular diet to reach their ideal weight. On another hand, they were mainly (41.3%) sure that social media affected their practice of sports.

Table 5: Influence of social media on health and food habits

Variables	Yes	Maybe	No
Has your interest in social media influenced Your food choices?	101	142	60
	33.3	46.9	19.8
Has social media affected your fruit and Vegetable eating habits?	93	110	100
	30.7	36.3	33.0
Has social media affected your adherence to A particular diet?	101	86	116
	33.3	28.4	38.3
Does your interest in social media have an Impact on you reaching your ideal weight?	82	97	124
	27.1	32.0	40.9
Has social media affected your practice of sports activity?	125	94	84
	41.3	31.0	27.7

The majority of the participants (65.7%) did not participate in social media programs with coaches to practice any sports activity (**Fig 9**).

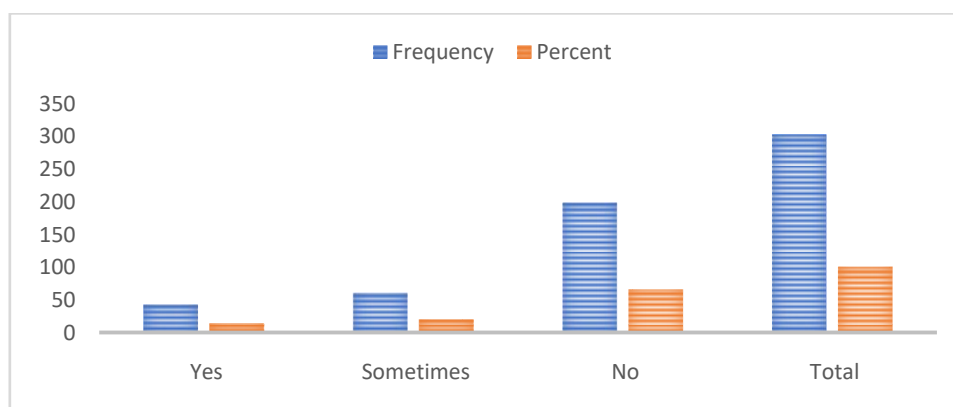


Figure 9: Distribution of the participants by participation in social media programs with coaches to practice any sports activity

Most of the participants (75.2%) thought that social media contribute to raising awareness about healthy eating habits, and 67% believed it contributes to reducing the practice of wrong eating habits (**Table 6**).

Table 6: Participants' views on the contribution of social media to their eating habits

Participants' views	Yes	No	I don't know
Does social media contribute to raising awareness about healthy eating habits? Frequency F	228	28	47
	75.2	9.2	15.5
Does social media contribute to reducing the practice of bad eating habits?	203	36	64
	67.0	11.9	21.1

Most of the participants (71.3%) did not sign up for nutritional programs through social media in exchange for a financial subscription (**Table 7**).

Table 7: Distribution of the participants by signing up for nutritional programs through social media in exchange for a financial subscription

Participants by signing up for nutritional programs	Frequency	Percentage (%)
Yes	35	11.6
Sometimes	52	17.2
No	216	71.3
Total	303	100.0

Almost half of the studied participants (48.2%) mentioned they do not encourage using social media to have a healthy diet (**Table 8**).

Table 8: Participants' attitudes towards encouraging people to use social media to have a healthy diet

Participants' attitudes toward encouraging people	Frequency	Percentage (%)
Yes	146	48.2
Maybe	116	38.3
No	41	13.5
Total	303	100.0

DISCUSSION

This study aimed to explore the impact of social media on the food choices of Jazan University students. A total of 303 individuals participated in the study. Data collection was conducted through an online questionnaire completed voluntarily by the participants. Data analysis showed that most participants (62.7%) were female, and the sample spanned various age groups, from under 20 to over 50 years old, with the bulk (76.1%) aged between 20-35 years. Additionally, the sample represented nearly all colleges, with Applied Medical Sciences students forming the largest group (43.2%).

This study indicated that Jazan students are familiar with a variety of social media platforms, primarily using them for over three hours daily. Snapchat is the most popular, followed by WhatsApp and Twitter. Furthermore, the findings suggest that most participants rely on social media, especially Instagram, for information on nutrition and dietary habits. This preference may be attributed to Instagram's popularity and its features that allow photo and video postings, enhancing the appeal of photo editing. Taste, smell, and appearance significantly influence the students' food choices, as noted by Murimi et al. (7). Chik et al. (8) also found that Instagram is the preferred social media platform among university students in Malaysia.

The findings also indicate that participants regard social media as a valuable source of information regarding food and health. Most students expressed a preference for nutritional information on social media to come from qualified nutritionists. They also believed that social media plays a role in promoting healthy eating habits and in curbing unhealthy ones. However, they expressed skepticism about the reliability of information available on social media. Nearly half of the participants were hesitant to endorse social media as a tool for maintaining a healthy diet, had not enrolled in any paid nutritional programs on social media, or joined any sports activities led

by social media coaches. Moreover, they were largely uncertain about the impact of social media on their dietary choices and habits, yet they felt more confident that social media influenced their sports practices.

These research findings shed light on various troubling behaviors related to the participants' dietary habits and levels of physical activity. Most were sedentary, walking less than one hour per day and spending over an hour seated. While the majority cooked their own meals—a fact possibly linked to the predominance of females in the group—they frequently consumed junk food and high amounts of caffeine or soft drinks. Additionally, their choices for healthy foods throughout the day were sporadic, and the consumption of healthy snacks, fruits, and vegetables was generally inconsistent.

The participants in the study typically displayed minimal interest in engaging in regular sports activities, eating healthy meals and snacks, limiting unhealthy food options, and taking beneficial supplements. In a study, it was discovered that social roles or images are crucial factors when targeting university students with food advertisements on social media (9). Conversely, another study determined that consumers place little value on nutrition or convenience (10). Rather, they prefer instant meals, frozen foods, and junk food readily available at convenience stores, finding the consumption of these foods appealing.

Although the current study's results may appear contradictory, with participants displaying positive attitudes that conflict with their behaviors, prior research has shown that social media exposure can increase the consumption of healthier foods due to peer pressure. On the other hand, the consumption of unhealthy snacks and sugary beverages was higher among participants who believed their peers were consuming similar foods. Hawkins et al. (11) suggested that peer pressure can influence both healthy and unhealthy eating habits. Nonetheless, it is advisable to observe these effects over extended periods.

CONCLUSIONS

The growing use of social media among female college students offers a chance to create programs that promote and support healthy eating habits in the Kingdom of Saudi Arabia. Platforms like Instagram, YouTube, Snapchat, and WhatsApp could be effectively utilized to raise awareness about managing a healthy diet. Nevertheless, considering the risks associated with social media use; it is crucial for health and educational institutions to verify that the disseminated information is precise and safeguards the privacy of both patients and healthcare providers.

Ethical Considerations

Ethnically approved by the College of Applied Medical Sciences:

Ethical approval was granted from the Standing Committee for Scientific Research - Jazan University (HAPO-10-Z-001) and all methods were conducted with the provisions within the ethical approval.

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Disclosure of conflict of interest

The authors declare that they have no conflicts of interest

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