RESEARCH STUDY
English Version

OPEN ACCESS

Exploring the Public Opinion on Celebrity Fad Diets: Twitter Sentiment and Netnographic Analysis

Menjelajahi Opini Publik tentang Celebrity Fad Diets: Sentimen Twitter dan Analisis Netnografi

Ardyanisa Raihan Kusuma[1], Sheila Amara Putri[1,2], Anisah Firdaus Rahmawati[1], Mutiara Arsya Wijanarko[3], Shintia Yunita Arini[4], Dominikus Raditya Atmaka[1]*, Norfezah Md Nor[5], Nadiatul Syima Mohd Shahid[6], Sa'idah Zahrotul Jannah[7]

[1]Department of Nutrition, Faculty of Public Health, Universitas Airlangga, Indonesia
[2]Dietitian Major, Faculty of Health Sciences, Universitas Muhammadiyah Surakarta, Indonesia
[3]Institute of Nutrition Science, Kagawa Nutrition University, Japan
[4]Department of Occupational Health and Safety, Faculty of Public Health, Universitas Airlangga, Indonesia
[5]Department of Food Service Management, Universiti Teknologi Mara, Malaysia
[6]Department of Environmental Health, Faculty of Health Sciences, Universiti Teknologi MARA, Malaysia
[7]Department of Mathematics, Faculty of Science and Technology, Universitas Airlangga, Indonesia

ABSTRACT

Background: Celebrity fad diets have garnered significant attention in recent years. Celebrity diets often gain popularity through social media, particularly Twitter, where users engage in discussions, debates, and promotions of various diet trends.
Objectives: To analyze Indonesian's public sentiment surrounding celebrity fad diets on Twitter social media using netnographic from twitter.
Methods: This research used a mixed-methods approach with both qualitative and quantitative methods to find the public sentiments of the 5 chosen diets. The data were obtained through snscrape from GitHub, a Python-based tool that enables users to access various types of Twitter data, such as user profiles, hashtags, live tweets, top tweets, users, single or threaded tweets, list posts, communities, and trends.
Results: Positive sentiment was found to be more prevalent than negative sentiment over the years, and the number of tweets increased each year. Intermittent fasting emerged as the most discussed diet on social media, likely due to its resemblance to fasting practices observed by Indonesia's Muslim population. On the other hand, the Atkins diet was the least talked-about, possibly because of its complex nature.
Conclusions: The prevalence of Ketogenic and Very Low-Calorie Diet discussions in the context of Indonesian and K-Pop culture underscores the need for a nuanced understanding of these diets and their potential implications for health. Future research should consider diverse data sources, expand sample sizes, and collaborate with experts to gain a more comprehensive understanding of public opinions on diets.

INTRODUCTION

Women's appearance is a subject of considerable attention, leading to a growing sense of dissatisfaction with their body shapes. Past studies revealed that many women are unhappy with their body shapes, regardless of whether their BMI is considered ideal or underweight[1,2]. This discontent is driven by the substantial social pressure to attain a slim and thin appearance. Females, particularly during their teenage years, are more likely to experience underweight and eating disorders due to societal pressures regarding body shape[3,4]. Fairburn[5] reported an increase in the prevalence of eating disorders among Asian populations since the 1980s. Young women between the ages of 12-24 years with eating disorders face a significantly higher risk of death, approximately 12 times greater than their peers without anorexia nervosa. In Indonesia, it is estimated that 12-22% of women aged 15-29 years suffer from chronic energy deficiency, potentially linked to eating disorders[6]. These disorders are often driven by misconceptions, including the mistaken belief that a slender body represents the ideal body shape for women, leading them to resort to quick weight loss methods.

Women's dissatisfaction with their bodies drives them to adopt various weight loss efforts, commonly known as "dieting." In the public understanding, a diet

refers to an individual's attempt to regulate and decrease food intake to achieve and maintain weight loss[7,8]. Unfortunately, many of these dieting methods are considered unhealthy and potentially harmful to the body[9]. Park[10] also notes that women's weight loss practices often involve fad diets, which are typically unhealthy approaches. These misguided diet perspectives promote severe food restrictions, leading to extreme weight loss. Extreme weight loss refers to a situation where a significant proportion of the lost weight comes from muscle and organ mass in the body, rather than from fat tissue[11].

The majority of diets practiced by the public are unhealthy diets commonly referred to as fad diets. The American Dietetic Association defines fad diets as diets that promise instant weight loss without the need for exercise but lack clear scientific basis. These unsafe diets can pose various health risks, including ketosis, fluid and electrolyte imbalances, and kidney damage[12]. Unhealthy diet practices include fasting or not eating for reasons other than religious intentions, severe calorie restriction, skipping meals, and excessive smoking. Additionally, unhealthy diets often involve calorie restriction. Some popular fad diets among the public include the Atkins diet, intermittent fasting, Ketogenic diet, Very Low Calorie Diet (VLCD) and Vegan diet[13].

Social media, particularly Twitter, is an emerging source of knowledge that can influence health outcomes and public understanding[14]. Twitter is widely used for sharing real-time information, breaking news, and professional networking. It provides easy access to public real-time and historical data, making it a popular research data source[15]. Conducting the analysis on Twitter allows for transparency and utilizes the platform's analytical tools. Twitter is known to provide valuable information on rapidly changing public sentiments, attitudes, and concerns[16]. The research aims to evaluate public discourse on celebrity fad diets through netnographic and sentiment analysis of tweets. Sentiment analysis on FAD diets can guide educational and intervention strategies as it exposes the misconceptions, risks, and benefits perceived by the social media users.

METHODS
Data Collection
This research used a mixed methods approach with both qualitative and quantitative methods to find the public sentiments of the 5 chosen diets: Atkins, Ketogenic, Intermittent, VLCD, and Vegetarian diet. The selection of these diets was due to its representation of drastic dietary practices, each with different nutritional principles and health benefit claims. This variation focuses on providing insights into diet-specific concerns and exploiting common essential themes to address their public health implications.

The data were obtained through snscrape from GitHub, a Python-based tool which enables users to access various types of Twitter data such as user profiles, hashtags, live tweets, top tweets, users, single or threaded tweets, list posts, communities, and trends. Snscrape is a freely available software that can be modified and distributed under the GNU General Public License. This license allows users to distribute or modify the software under version 3 of the License or any later version, as published by the Free Software Foundation.

Certain keywords for each diet were chosen to find relevant tweets by either explicitly mentioning the diet or using the mechanism of the diet, both written in English and Bahasa Indonesia. Each tweet was then translated into English using Google Translate and validated by the researchers. The keywords that were used can be found in Table 1. Each tweet is then compiled into one database and cleaned based on inclusion criteria, namely, including the keywords and its translation in the Indonesian Language, has a correlation to the topic of popular diets, not promotional or advertisement content, affiliated to one or more celebrities and popular persons account in twitter, and showing interaction proved by the number of retweet, reaction, or reply.

Table 1. Diet and keywords used to find tweets

Diet	Keywords Used
Atkins Diet (Low Carbohydrate and High Protein Diet)	*Diet atkins* or *diet tinggi protein rendah karbohidrat* or *diet rendah karbo tinggi protein.*
Ketogenic Diet (High Fat Diet)	*Diet ketogenik* or *diet keto* or *diet tinggi lemak* or *diet tinggi lemak rendah karbohidrat* or *diet tinggi lemak rendah karbo.*
Intermittent Fasting (Fasting Diet)	Intermittent fasting or *diet puasa.*
VLCD (Very Low-Calorie Diet) or Korean Diet (Diet Korea, Low-Calorie Diet)	Very low-calorie diet or *diet rendah kalori* or *diet korea* or *diet sangat rendah kalori.*
Vegetarian Diet	*Diet vegan* or *diet vegetarian.*

Ethical Consideration
The study addresses the ethical issue of informed consent in netnographic research, acknowledging the debate surrounding it. To safeguard privacy, the usernames were not disclosed, and the tweets collected was translated to English from its original language (Bahasa Indonesia) to further avoid identification. As publicly available tweets were used, no human subjects review was required. This study also has obtained the ethical clearance certificate by the Health Research Ethical Clearance Commission Faculty of Dental Medicine

Universitas Airlangga with the number 483/HRECC.FODM/V/2023 approved on 2023.

Data Analyzing
Three researchers utilized the researcher triangulation method to manually label the collected tweets separately, which were categorized into three tags: (-1) for negative sentiment tweets (i.e., tweets that shows rejection, refusion or bad attitude towards certain diet); (0) for neutral or noise tweets (i.e., tweets that are irrelevant to the topic), and (1) for positive sentiment

Amerta Nutrition

e-ISSN: 2580-1163 (Online)
p-ISSN: 2580-9776 (Print)
Kusuma et al. | Amerta Nutrition Vol. 9 Issue 3 (September 2025). 460-468

462

tweets (i.e., tweets that present favorable or good opinion towards a certain diet). The sentiment of the labeled tweets was then determined using the mode of the sentiment. All the sentiment score then compiled and calculated using Excel.

RESULTS AND DISCUSSIONS

In February 2023, a total of 50,052 tweets were found using selected keywords from the period of 2018 to 2023. Of these tweets, only 2.5% (2,506 tweets) were scraped due to twitters API (Application Programming Interface) limitations and manually labeled. However, 51 tweets were excluded due to disagreements among the researchers, which made it impossible to determine the mode. Ultimately, 2,456 tweets were categorized in total. Three categories came out to a total of 213 negative sentiments, 1.447 neutral or noise, and 796 positive sentiments. Only the positive and negative sentiments are analyzed for the graphs.

Table 2. Numbers of tweets collected throughout the years

Year	Sentiment			Total
	Negative	**Neutral**	**Positive**	
2018	26	125	86	237
2019	46	195	84	325
2020	50	231	168	449
2021	43	313	196	552
2022	37	519	206	762
2023	11	64	56	131
Total	**213**	**1447**	**796**	**2456**

The public sentiment analysis revealed predominantly positive sentiment over the years, with minimal occurrences of negative sentiment. The trend showed a gradual increase from 2018 to 2022, with the highest surge in tweets observed between 2019 and 2020. The volume of collected tweets remained relatively stable from 2020 to 2022, with a slight increment. However, the year 2023 recorded the lowest number of collected tweets, likely due to data collection spanning only two months. Figure 1 depicts the sentiments for the 5 chosen diets from 2018-2023.
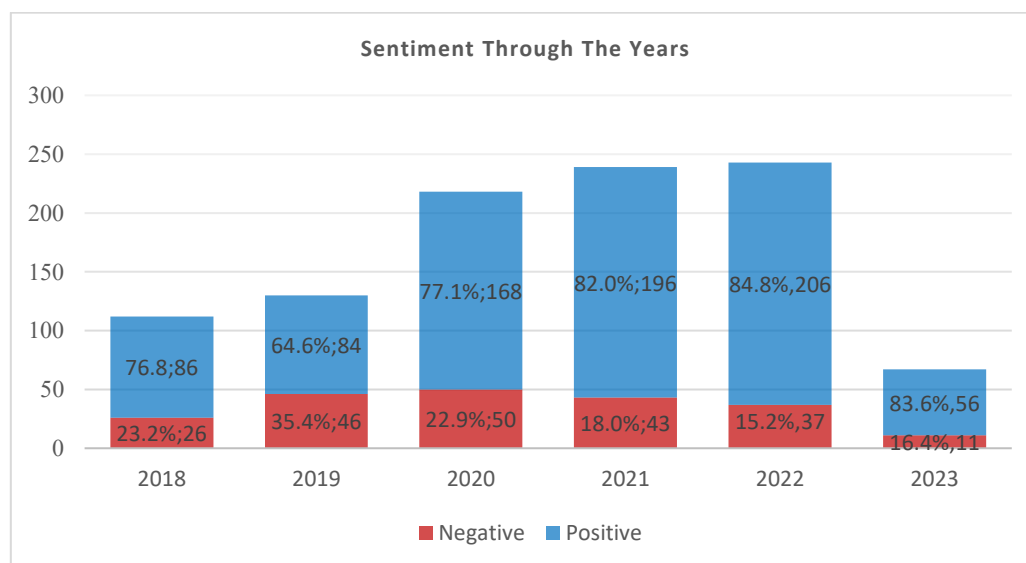

Figure 1. Sentiment trends in number of tweets (2018-2023)

The collected tweets were also grouped according to the diet type, including positive and negative sentiments from each group. Overall, positive sentiment was found for all diet types. The intermittent fasting diet had the most positive sentiment, while the low-calorie diet had the most negative sentiment. Figure 2 illustrates the comparison of the data.
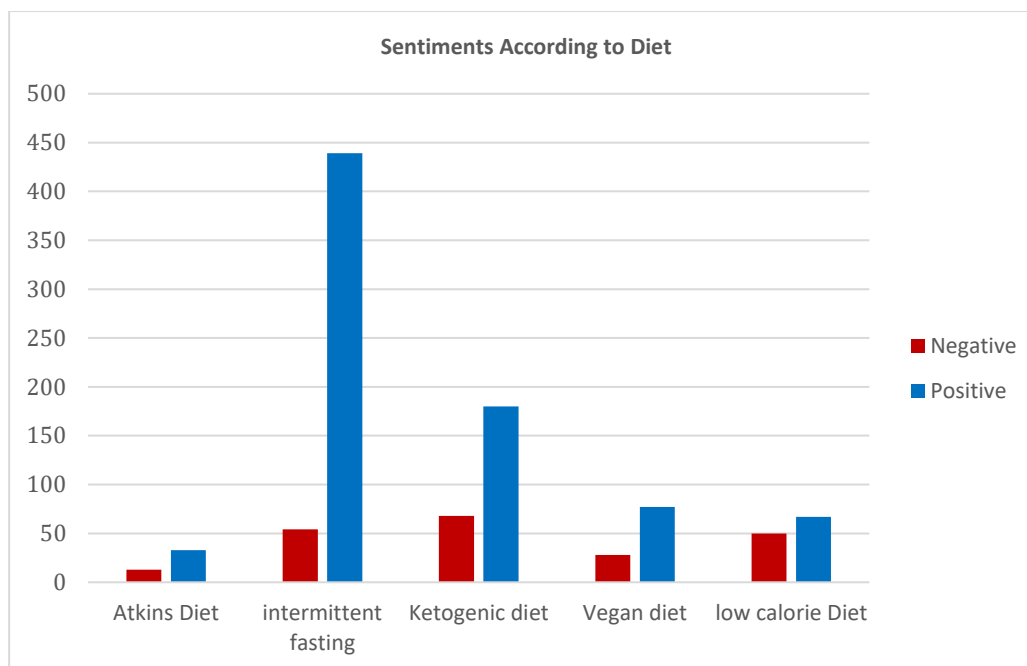
Figure 2. Sentiment trends in accordance with diet

The presence of a high number of neutral or spam tweets is a common occurrence in data analysis, particularly when dealing with a large volume of tweets[17]. The abundance of noise, which refers to tweets that are irrelevant to the topic of interest, can skew the sentiment analysis results. Many of these noise tweets are likely from accounts solely focused on discussing the diet without expressing any particular sentiment, either positive or negative. In such cases, it is essential to employ robust data preprocessing techniques and sentiment analysis algorithms to filter out irrelevant tweets and accurately capture the sentiments expressed by users regarding the diet topic of interest. By effectively addressing the noise issue, researchers can obtain more meaningful insights and ensure the reliability of the sentiment analysis results.

The sudden increase in tweets observed during 2020-2022 could be attributed to several factors, one of which is the COVID-19 pandemic. With people spending more time at home due to lockdowns and restrictions, there has been a significant surge in screen time and online activity, leading to a greater engagement on social media platforms, including Twitter. Additionally, the pandemic has brought about heightened concerns about health and wellness, prompting individuals to become more health-conscious and seek information or share experiences related to diet, exercise, and general well-being on social media. The combination of increased screen time and growing health consciousness could have contributed to the observed spike in tweets during this period.

The correct diet according to nutritional science is to regulate the amount of food consumed in accordance with the daily energy needs. If there is a deficiency in nutrients, energy intake should be increased, and conversely, if there is an excess of nutrients, energy intake should be reduced. Kim and Lennon[18] stated that diets include various behavioral patterns, ranging from selecting foods that are good for health to strict restrictions on caloric intake. The nutritional needs of each individual are not the same and depend on factors such as gender, physical activity level, and age. Therefore, implementing a healthy eating pattern that aligns with daily nutritional requirements can help maintain or periodically reduce body weight. Healthy calorie restriction involves not reducing energy intake below 800-1500 kcal/day. Typically, reducing calorie intake by 500-1000 kcal/day, along with regular exercise for about 30 minutes almost every day, can lead to weight loss of 0.5-1.0 kg/week[19,20].

Unhealthy dietary behaviors and eating patterns in women are related to excessive desire for weight control, and dissatisfaction with body shape is one of the factors influencing their nutritional adequacy. When these behaviors are done incorrectly, women tend to reduce their nutrient intake, leading to a decrease in the body's required nutrients[4]. Current factors affecting nutrient intake include environmental influences, such as peers and media, which tend to promote trendy and popular food choices. Additionally, unhealthy eating habits, such as avoiding certain types of food, consuming fast food and junk food, and skipping breakfast, can result in an imbalanced nutrient intake[4]. One's knowledge of nutrition plays a crucial role in meeting their nutritional needs, as individuals with good knowledge of nutrition are more likely to choose balanced and nutritious food, while those with poor nutrition knowledge may make undiscerning food choices[21]. Unhealthy diet practices can be extreme and result in rapid weight loss in a short period. These practices include consuming diet pills, inducing vomiting, using laxatives, and taking diuretics. The use of diet pills can be detrimental to health[22]. Such behaviors, combined with strict food restriction and binge episodes, can be categorized as eating disorder behaviors[23]. Medical complications resulting from the use of laxatives include physical and nerve damage, such

e-ISSN: 2580-1163 (Online)
p-ISSN: 2580-9776 (Print)
Kusuma et al. | Amerta Nutrition Vol. 9 Issue 3 (September 2025). 460-468

464

as dehydration, abdominal cramps, muscle cramps, and electrolyte imbalances that can affect nerve function. Furthermore, in the long run, women who have not developed fully physically are at risk of giving birth to low birth weight babies[24]. Over-the-counter diet pills available to the public are intended for weight loss by suppressing appetite or slowing down metabolism, but their side effects include nausea, constipation, palpitations, and anxiety[25].

Intermittent Fasting (IF) which is a well-known and widely adopted method for effective weight loss. This diet does not focus on calorie restriction but rather on meal timing. During IF, individuals adhere to specific periods of fasting without food, followed by normal eating periods. There are several popular types of IF, such as Alternate-Day Fasting (ADF), the 5:2 diet or Periodic Fasting (PF), and Time-Restricted Feeding (TRF)[26]. Several studies have indicated that IF provides benefits, such as weight loss, reduced triglyceride and glucose levels. Additionally, it also increases Hb, hematocrit, and the number of blood cells. However, some health consequences have been reported, such as fluctuations in Free Fatty Acids (FFA). Nevertheless, knowledge regarding the sustainability and long-term health effects of IF remains limited and requires further research[12].

The prevalence of discussions about intermittent fasting as the most talked-about diet could be influenced by cultural practices in Indonesia, where fasting is deeply ingrained in the religious and spiritual beliefs of the population. During the holy month of Ramadan, Muslims in Indonesia fast from dawn to sunset as a religious obligation. This period of fasting not only emphasizes self-discipline and spiritual reflection but also entails a daily practice of intermittent fasting[27]. Additionally, the practice of fasting on the Sunnah days of Monday and Thursday further reinforces intermittent fasting as a common routine for many individuals in the country[28]. As a result, the combination of spiritual beliefs and dietary practices may have led to an increased interest in intermittent fasting, prompting more discussions and conversations about this diet on social media and other online platforms. One user stated "Fasting doesn't have to be solely interpreted as an act of worship for Muslims. It is also beneficial for health, detoxification, and cellular autophagy. The intermittent fasting diet pattern is also considered good. An added benefit is that it relates to the current social situation by reducing panic buying and promoting eating in moderation." On the other hand, over-fasting with extreme physical activity may cause harm[29]. One user cautioned "I'm still puzzled that many people see fasting as a diet. Hey, fasting is already a form of intermittent fasting. If you overexert your energy for workouts but have very little food during iftar and suhoor, it's not healthy either, please." Understanding the intertwining of cultural and spiritual elements with dietary practices offers valuable insights for netnographic research on the subject.

One of the most popular fad diet includes the ketogenic diet. Ketogenic diet relies heavily on fat as its main energy source. It is primarily composed of Long-Chain Triglycerides (LCT) derived from standard food sources and typically maintains a fat to carbohydrate and protein ratio of approximately 4:1[30]. Ketogenic diet was first introduced in 1921 by Russel Wilder as one of the therapeutic approaches commonly used to manage Drug-Resistant Epilepsy (DRE). The diet is known for its effectiveness in reducing the severity and frequency of seizures in epilepsy patients, as well as its neuroprotective effects in various neurological diseases[31–33]. In the present era, the Keto diet is recognized as a weight-loss intervention, but research has shown mixed findings[12]. Short-term mild side effects of the Keto diet reported include vomiting, nausea, digestive discomfort, fatigue, dizziness, faintness, decreased energy, changes in heart rate, and[34,35]. Some studies have also found that the Keto diet induces severe hyperlipidemia and hypercalcemia[36,37].

Ketogenic diet is the elephant in the room due to its unique nature and became the most discussed diet topic. People expressed their gratitude after going through their Ketogenic diet and had successfully reduced their weight. One user stated, "You should try the keto diet, man. I lost 16kg in 4 months, body aches disappeared, my near-sightedness decreased, and my libido increased." while another wrote, "My mother-in-law did the keto diet and lost almost 10kg in a month." On the other hand, people also expressed the hard work needed to avoid several food groups which consists of Indonesian staple foods that regular people consume daily. One complained, "@xxx I tried the Keto diet (no carbs, no sugar) for 2 months and lost 14 kg. But I only lasted for 6 months because I couldn't resist the temptation of eating Indomie and chicken noodles. I'm always easily tempted by noodles and bread." Others also warned the dangers of undergoing Keto, a user tweeted "My sister has been on the keto diet for 6 years. It was a lot of hard work and expensive. She became thin, but recently, it was discovered that she developed gallstones because of it..." Another tweet stated "It's not that I disagree with diets like keto, mayo, or whatever they are. But if you want to follow a specific diet that restricts you to certain types of food like that, it's better to consult with a nutritionist or doctor first. A diet that works for someone else may not necessarily be suitable for you."

Another diet that has gained attention is the Very Low-Calorie Diet (VLCD), which may be caused by the surge in popularity of Korean Popular (K-Pop) culture, as many Korean idols are known to practice this diet that leads more interest in the diet[38]. Very low calorie diet (VLCD) is a type of diet that provides around 400-600 kcal per day, usually in the form of liquid formulas[39]. In 1988, VLCD reached its peak popularity in the United States when Oprah Winfrey announced to her television audience that she successfully lost 67 pounds by consuming liquid food. However, interest in this approach sharply declined in 1990 when Winfrey reported regaining the weight and stating that she would never diet again. It is important to note that VLCD is considered safe and effective when used by appropriately selected individuals under careful medical supervision. The unsupervised use of VLCD can lead to serious complications, including malnutrition and the risk of death[40].

VLCD has been discussed both negatively and positively. Some share certain celebrities' food schedules and its effects, while others warn against doing the diet

Amerta Nutrition

e-ISSN: 2580-1163 (Online)
p-ISSN: 2580-9776 (Print)
Kusuma et al. | Amerta Nutrition Vol. 9 Issue 3 (September 2025). 460-468

465

due to its overly restricting rules. One tweet questioned, "Why do Korean idols choose extreme diets even though it's evident that they are harmful to their health??" Another identified, "It's crazy, right? It's pointless for me to search for references on the diets of Korean artists. Their diets are so extreme that they seem torturous." As other tweet explained, "@xxx Try the diet of the Korean artist IU, sis. In the morning, eat apples; for lunch, have steamed sweet potatoes; and for dinner, consume a protein shake. You can only follow this diet for a maximum of 5 days. Also, make sure to drink only plain water." However, it is crucial to approach VLCD diets with high caution, considering their potential impact on health and well-being.

Vegetarian diet is a dietary pattern that excludes the consumption of meat, seafood, poultry, and sometimes other animal products such as eggs, dairy, and honey. Studies have shown that vegetarians have a lower incidence of heart disease and cancer compared to those following other dietary patterns[12]. However, it is important to note that a vegetarian diet is at risk of micronutrient deficiencies, such as calcium, zinc, iron, vitamin E, vitamin B12, essential fatty acids, Docosahexaenoic Acid (DHA), and Eicosapentaenoic Acid (EPA)[41]. These nutritional deficiencies are primarily due to the fact that most of these nutrients are predominantly found in animal products.

The growing popularity of the vegan diet can be attributed to a rising environmental consciousness among individuals who are increasingly aware of the detrimental consequences of consuming animal products. Concerns over issues such as carbon footprint, deforestation, water usage, and greenhouse gas emissions associated with animal agriculture as well as animal cruelty have motivated many people to adopt a vegan lifestyle[42]. One tweet remarked, "After discussing with vegetarians and vegans, I realized that many of my opinions were mistaken. 1. Veganism is a philosophy of compassion, while vegetarianism is simply a dietary choice. 2. I came to understand that the killing of animals is far crueller than the consumption of plants, which I used to casually dismiss. Nice dudes, thanks." On the other hand, some individuals have reported experiencing side effects while following a vegetarian diet. It is important to note that while a vegetarian diet can be rich in nutrients and beneficial for health, it requires careful planning to ensure all essential nutrients are adequately obtained. One explained, "No matter what diet I try, I still hate being vegan. My period (menstrual cycle) went haywire during that diet. All I can think about is meal planning. There's no space for anything else in my mind at all." Social media and online communities have played a crucial role in disseminating information about the environmental benefits of a vegan diet as well as its side effects, fostering discussions and support networks that encourage and promote veganism.

The Atkins diet was first introduced in the 1970s by Dr. Robert Atkins, a cardiologist, who developed a Low-Carbohydrate, High-Protein (LCHP) eating regimen, which he presented in his book "Dr. Atkins' New Diet Revolution." This diet was promoted as a rapid way to lose weight by making lifelong changes to eating habits. Dr. Atkins believed that the metabolic imbalance caused by carbohydrate intake was the primary cause of obesity. Several studies have shown the benefits of the Atkins diet, including weight loss and improved cardio-metabolic health. However, metabolic acidosis is a common complication reported from the low-carbohydrate, high-protein (LCHP) diet. Close monitoring by healthcare professionals is recommended as adverse residual metabolic symptoms may occur as a result of this type of diet[12].

The atkins diet became the least discovered diet, as there was very little tweet that was found using the selected keywords. The correct prescription of the Atkins diet varies from different sources, which makes its application confusing. One tweet mentioned, "I admit that I fell in love with the Atkins Diet, but when I googled it, there were too many conflicting facts and information. So, I decided to search for reliable sources. Finally, I found 2 books written by the founder of the Atkins Diet, Dr. Robert C. Atkins." Another expressed their misperception on the diet while disagreeing with it altogether, "For women, it's not good to follow the Atkins diet or any diet that cuts off meals. It's like torturing yourself. Especially with Atkins, because you eat boiled chicken and all that. At first, I didn't understand why."

These results can serve as a foundation for targeted public health campaigns aimed at changing the stigma against fad diets among Twitter users while also promoting healthier practices. Campaigns should emphasize sustainable dietary choices that offer realistic outcomes, backed by evidence-based information. Additionally, fostering positive online communities can help users share motivation and experiences related to safe and healthy eating habits.

Authorities also have a role in regulating harmful dietary practices. This includes restricting advertisements for dangerous fad diets and requiring disclaimers for promotional content. Furthermore, policies should focus on promoting body positivity and enforcing proper online conduct. Collaborating with influencers, nutritionists, and health professionals can help normalize a healthy variety of body types and reduce the pressure for rapid weight loss. In cases of severe body shaming or other harmful content that may violate Indonesia's Electronic Information and Transactions Law (UU ITE), initiatives should aim to improve digital literacy and enhance reporting systems for online abuse in partnership with social media platforms. This will ensure accountability for online harassment.

One limitation of this study is that it solely relied on data from Twitter, which may not fully capture the diversity of opinions and discussions on celebrity fad diets across various social media platforms. While Twitter is a popular platform for sharing opinions and information, different social media platforms may have unique user demographics and content preferences, leading to different perspectives on the topic. For future research, incorporating data from other social media platforms, such as Facebook, Instagram, or online forums, would provide a more comprehensive view of public opinions on celebrity fad diets. The sample size in this study was relatively small, consisting of only a few hundred tweets from users in Indonesia. This limited sample may not fully represent the broader population's viewpoints or

Amerta Nutrition

e-ISSN: 2580-1163 (Online)
p-ISSN: 2580-9776 (Print)
Kusuma et al. | Amerta Nutrition Vol. 9 Issue 3 (September 2025). 460-468

466

opinions on celebrity fad diets. Conducting research with a larger and more diverse sample would enhance the generalizability of the findings and allow for more robust conclusions. Additionally, exploring data from different countries and cultures could shed light on potential variations in attitudes towards these diets.

The self-reported nature of tweets presents another potential limitation. As Twitter users self-proclaim their dieting behaviors and opinions, there is a possibility of bias or misrepresentation. People may exaggerate their adherence to certain diets or provide incomplete information, leading to inaccuracies in the data collected. Moreover, individuals may have varying definitions or interpretations of specific diets, such as keto or intermittent fasting, which could introduce inconsistencies in the analysis. The choice of keywords for data collection may also impact the study's results. While the selected keywords were designed to capture relevant discussions on celebrity fad diets, they might not include all related conversations. Some discussions may have taken place implicitly or used different terminology, leading to potential gaps in the data. Researchers should carefully consider the keywords and search criteria to ensure comprehensive data collection.

This research underlines the dietary practices of the internet age, notably as the initial netnographic study examining the fad diet phenomenon in Indonesia. This study examines real-time social media interactions to uncover the unfiltered nuances of the fad diet phenomenon, illustrating how cultural, economic, and social influences affect public perception of particular diets. The organic data gathered from platforms such as Twitter offers unique perspectives into the motivations, misconceptions, and emotional factors influencing individuals' commitment to popular diets. This method reveals the complex interactions between influencers and followers while emphasizing the societal pressures and aspirational narratives that sustain fad diet culture. A nuanced comprehension is essential for health practitioners and policymakers to develop culturally tailored interventions that tackle both the appeal and dangers of these diets within Indonesia's special socio-digital environment.

CONCLUSIONS

In conclusion, this study highlights the challenges of dealing with spam tweets which underscores the importance of implementing robust data preprocessing techniques and sentiment analysis algorithms to ensure a reliable result. Additionally, the research shows the impact of the COVID-19 pandemic and increased health consciousness among individuals. The findings highlight cultural and religious influences on intermittent fasting. Moreover, the prevalence of discussions about the Ketogenic diet and the Very Low-Calorie Diet in the context of Indonesian culture and K-Pop culture brings attention to the need for an understanding of these diets and their potential implications on health. Future research should consider diverse data sources, expand sample sizes, and collaborate with experts to gain a more comprehensive understanding of public opinions on diets. Promoting health education and responsible dieting practices are crucial in promoting informed discussions about nutrition and well-being on social media platforms in collaboration with experts.

AUTHOR CONTRIBUTIONS

ARK: validation, investigation, project administration, writing-original draft; SAP: validation, investigation, project administration; AFR: validation, investigation, project administration; MAW: writing-review & editing; SYA: conceptualization, methodology, funding acquisition, investigation, writing-review & editing; DRA: conceptualization, methodology, funding acquisition, investigation, writing-review & editing; NMN: conceptualization, methodology, funding acquisition; NSM: conceptualization, methodology, funding acquisition; SZJ: data curation, software, formal analysis.

REFERENCES

1. Siwi, A. P. S. S. & Nindya, T. S. Body Image Berhubungan Dengan Indeks Massa Tubuh, tapi Tidak Dengan Waist To Hip Ratio Pada Vegetarian Putri Di Surabaya. *Media Gizi Indonesia* **11,** 113–119 (2018).
2. Sulistyan, A., Huriyati, E. & Hastuti, J. Distorsi citra tubuh, perilaku makan, dan fad diets pada remaja putri di Yogyakarta. *Jurnal Gizi Klinik Indonesia* **12,** 99–107 (2016).
3. Preti, A., Usai, A., Miotto, P., Petretto, D. R. & Masala, C. Eating disorders among professional fashion models. *Psychiatry Res* **159,** 86–94 (2008).
4. Vidianinggar, M., Mahmudiono, T. & Atmaka, D. Fad Diets, Body Image, Nutritional Status, and Nutritional Adequacy of Female Models in Malang City. *J Nutr Metab* **2021,** (2021).
5. Fairburn, C. G., Doll, H. A., Welch, S. L., Hay, P. J., Davies, B. A. & O'Connor, M. E. Risk Factors for Binge Eating Disorder: A Community-Based, Case-Control Study. *Arch Gen Psychiatry* **55,** 425–432 (1998).
6. Atmarita, A. (Atmarita). Nutrition Problems in Indonesia. *Penelitian Gizi dan Makanan* **28,** 156425 (2005).
7. Vankerckhoven, L., Raemen, L., Claes, L., Eggermont, S., Palmeroni, N. & Luyckx, K. Identity Formation, Body Image, and Body-Related Symptoms: Developmental Trajectories and Associations Throughout Adolescence. *J Youth Adolesc* **52,** 651–669 (2023).
8. Kamps, C. & Berman, S. Body image and identity formation: The role of identity distress. *Rev Latinoam Psicol* **43,** 267–277 (2011).

e-ISSN: 2580-1163 (Online)
p-ISSN: 2580-9776 (Print)
Kusuma et al. | Amerta Nutrition Vol. 9 Issue 3 (September 2025). 460-468

467

9. Hanum, R., Nurhayati, E. & Riani, S. N. Pengaruh Body Dissatisfaction Dan Self-Esteem Dengan Perilaku Diet Mahasiswi Universitas "X" Serta Tinjauan Dalam Islam. *Jurnal Psikogenesis* **2,** 180–190 (2014).

10. Park, S. Comparison of body composition between fashion models and women in general. *J Exerc Nutrition Biochem* **21,** 22 (2017).

11. Health Research Funding. Pros and Cons of Fad Diets. (2014). at <https://healthresearchfunding.org/pros-cons-fad-diets/>

12. Tahreem, A., Rakha, A., Rabail, R., Nazir, A., Socol, C. T., Maerescu, C. M. & Aadil, R. M. Fad Diets: Facts and Fiction. *Front Nutr* **9,** (2022).

13. Kuchkuntla, A. R., Limketkai, B., Nanda, S., Hurt, R. T. & Mundi, M. S. Fad Diets: Hype or Hope? *Curr Nutr Rep* **7,** 310–323 (2018).

14. Bilal, M. & Oxentenko, A. S. The Impact of Twitter: Why Should You Get Involved, and Tips and Tricks to Get Started. *American Journal of Gastroenterology* **115,** 1549–1552 (2020).

15. Ahmed, W., Bath, P. A. & Demartini, G. Using Twitter as a Data Source: An Overview of Ethical, Legal, and Methodological Challenges. **2,** 79–107 (2017).

16. Irawan, A. S., Shahin, B., Wangeshi Njuguna, D., Nellamkuzhi, N. J., Thiện, B. Q., Mahrouseh, N. & Varga, O. Analysis of Content, Social Networks, and Sentiment of Front-of-Pack Nutrition Labeling in the European Union on Twitter. *Front Nutr* **9,** 846730 (2022).

17. Chen, C., Zhang, J., Chen, X., Xiang, Y. & Zhou, W. 6 million spam tweets: A large ground truth for timely Twitter spam detection. *IEEE International Conference on Communications* **2015-September,** 7065–7070 (2015).

18. Kim, M. & Lennon, S. J. Content analysis of diet advertisements: A cross-national comparison of Korean and U.S. women's magazines. *Clothing and Textiles Research Journal* **24,** 345–362 (2006).

19. Finkler, E., Heymsfield, S. B. & St-Onge, M. P. Rate of weight loss can be predicted by patient characteristics and intervention strategies. *J Acad Nutr Diet* **112,** 75 (2012).

20. Wardlaw, G. M. & Kessel, M. W. *Perspectives in Nutrition*. (McGraw-Hill, 2002). at <https://books.google.co.id/books?id=zwxS9LUEU_kC>

21. Koch, F., Hoffmann, I. & Claupein, E. Types of Nutrition Knowledge, Their Socio-Demographic Determinants and Their Association With Food Consumption: Results of the NEMONIT Study. *Front Nutr* **8,** 630014 (2021).

22. Brown, J. E. *Nutrition. Through the Life Cycle*. (Brooks/Cole, 2005).

23. Ogden, J. *The Psychology of Eating: From Healthy to Disordered Behavior*. (John Wiley & Sons, 2011).

24. Arisman. *Gizi Dalam Daur Kehidupan*. (EGC, 2010).

25. Berg, F. M. Health Risks Associated With Weight Loss and Obesity Treatment Programs. *Journal of Social Issues* **55,** 277–297 (1999).

26. Freire, R. Scientific evidence of diets for weight loss: Different macronutrient composition, intermittent fasting, and popular diets. *Nutrition* **69,** (2020).

27. Farooq, A., Chamari, K., Sayegh, S., El Akoum, M. & Al-Mohannadi, A. S. Ramadan daily intermittent fasting reduces objectively assessed habitual physical activity among adults. *BMC Public Health* **21,** 1–9 (2021).

28. Cherif, A., Roelands, B., Meeusen, R. & Chamari, K. Effects of Intermittent Fasting, Caloric Restriction, and Ramadan Intermittent Fasting on Cognitive Performance at Rest and During Exercise in Adults. *Sports Medicine 2015 46:1* **46,** 35–47 (2015).

29. Riga Bucureşti, D., Adriana Filip Cluj-Napoca, R., Albu, A., Aron Radford, A., Marius Bojiţă, U., Mircea Grigorescu, U., Radu Munteanu, U. & Liviu Vlad, U. HEALTH, SPORTS & REHABILITATION MEDICINE. **21,**

30. Barzegar, M., Afghan, M., Tarmahi, V., Behtari, M., Rahimi Khamaneh, S. & Raeisi, S. Ketogenic diet: overview, types, and possible anti-seizure mechanisms. *Nutr Neurosci* **24,** 307–316 (2021).

31. Roehl, K., Falco-Walter, J., Ouyang, B. & Balabanov, A. Modified ketogenic diets in adults with refractory epilepsy: Efficacious improvements in seizure frequency, seizure severity, and quality of life. *Epilepsy Behav* **93,** 113–118 (2019).

32. Stafstrom, C. E. & Rho, J. M. The ketogenic diet as a treatment paradigm for diverse neurological disorders. *Front Pharmacol* **3 APR,** 22460 (2012).

33. Kverneland, M., Molteberg, E., Iversen, P. O., Veierød, M. B., Taubøll, E., Selmer, K. K. & Nakken, K. O. Effect of modified Atkins diet in adults with drug-resistant focal epilepsy: A randomized clinical trial. *Epilepsia* **59,** 1567–1576 (2018).

34. Lin, A., Turner, Z., Doerrer, S. C., Stanfield, A. & Kossoff, E. H. Complications During Ketogenic Diet Initiation: Prevalence, Treatment, and Influence on Seizure Outcomes. *Pediatr Neurol* **68,** 35–39 (2017).

35. Bostock, E. C. S., Kirkby, K. C., Taylor, B. V. & Hawrelak, J. A. Consumer Reports of "Keto Flu" Associated With the Ketogenic Diet. *Front Nutr* **7,** (2020).

36. Swaid, B. Severe Hyperlipidemia With LDL Cholesterol of 393 Milligrams per Decilitre After 7 Months of High Fat Ketogenic Diet: A Rare Case Report. *J Endocr Soc* **5,** A37 (2021).

37. Hawkes, C. P., Roy, S. M., Dekelbab, B., Frazier, B., Grover, M., Haidet, J., Listman, J., Madsen, S., Roan, M., Rodd, C., Sopher, A., Tebben, P. & Levine, M. A. Hypercalcemia in Children Using the Ketogenic Diet: A Multicenter Study. *J Clin Endocrinol Metab* **106,** E485–E495 (2021).

38. Widyaningrum, R., Ramadhani, K. & Lestari, B. Literature Review: K-Beauty Effect on Health

Behavior and Korean Cosmetics Purchasing in Indonesia. *Disease Prevention and Public Health Journal* **17,** 69–75 (2023).

39. Raynor, H. A. & Wing, R. R. Weight management | Weight maintenance. *Encyclopedia of Human Nutrition* 413–421 (2005). doi:10.1016/B0-12-226694-3/02286-9

40. Tsai, A. G. & Wadden, T. A. The evolution of very-low-calorie diets: An update and meta-analysis. *Obesity* **14,** 1283–1293 (2006).

41. Position of the American Dietetic Association: Vegetarian Diets. *J Am Diet Assoc* **109,** 1266–1282 (2009).

42. Rosenfeld, D. L. & Burrow, A. L. Vegetarian on purpose: Understanding the motivations of plant-based dieters. *Appetite* **116,** 456–463 (2017).