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THE IMPACT OF SOCIAL MEDIA AND ONLINE BEHAVIOURS ON BULIMIA NERVOSA: A SCOPING REVIEW OF MODERN AND HOMOEOPATHIC PERSPECTIVES

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Abstract

Background: Bulimia nervosa (BN) is a severe eating disorder characterized by binge eating followed by compensatory behaviours such as vomiting, excessive exercise, or fasting. The prevalence of BN has been increasing, partly due to the pervasive influence of social media and online behaviours. The interaction between these digital influences and mental health, particularly eating disorders, has gained significant research attention. This review aims to explore the relationship between social media, online behaviours, and the development of bulimia nervosa, with a focus on both modern and homoeopathic treatment approaches. Objective: The primary objective of this systematic review is to assess the impact of social media and online behaviours on the incidence and management of bulimia nervosa, incorporating both modern medicine and homoeopathic perspectives.

Methods: A comprehensive literature search was conducted across multiple databases, including PubMed, Scopus, and Google Scholar, to identify relevant studies on social media, online behaviours, and bulimia nervosa. Studies that discussed the epidemiology, pathophysiology, and treatment approaches for BN, as well as the role of digital platforms, were included. Data were synthesized qualitatively to highlight key trends in the interaction between online behaviour and BN. Both modern medicine and homoeopathic treatment strategies were evaluated.

Results: The findings suggest a significant correlation between exposure to social media platforms, particularly those promoting unrealistic body standards, and the onset of bulimia nervosa symptoms. Online behaviours, such as the consumption of "thinspiration" content and participation in pro-eating disorder communities, exacerbate the condition. Modern medical treatments primarily focus on cognitive-behavioural therapy (CBT) and pharmacological interventions, while homoeopathic treatments emphasize individualized care using remedies such as *Ignatia Amara* and *Natrum muriaticum*. Both treatment modalities show promise, but further research is needed to better integrate them.

Conclusion: Social media and online behaviours play a critical role in the development and exacerbation of bulimia nervosa. Modern and homoeopathic treatment approaches both offer viable options for managing the disorder, though each has its limitations. An integrated approach may offer the best outcomes for patients. Further studies are needed to explore the synergistic potential of combining modern and homoeopathic treatments.

Keywords: Bulimia nervosa, social media, Online behaviours, Eating disorders, Homoeopathic treatment, Cognitive-behavioural therapy,

INTRODUCTION

The pervasive influence of social media and online behaviours has created a complex landscape in which mental health disorders, such as bulimia nervosa, are increasingly shaped by digital environments. Bulimia nervosa, a severe eating disorder characterised by cycles of binge eating and compensatory behaviours like purging, has been notably impacted by the rise of platforms that perpetuate body image ideals, thinness standards, and pro-eating disorder content. The constant exposure to curated and often unrealistic portrayals of physical appearance contributes to body dissatisfaction and disordered eating patterns among vulnerable populations. Furthermore, online communities and support groups, while providing spaces for shared experiences and support, also present risks of perpetuating harmful behaviours. The objective of this systematic review is to explore the impact of social media and online behaviours on the onset, development, and recovery of bulimia nervosa, emphasizing the role of online platforms in exacerbating or alleviating symptoms. A unique aspect of this review is the incorporation of homoeopathic perspectives on treating bulimia nervosa. Homoeopathy, which focuses on individualized treatment based on a holistic view of the patient, offers potential therapeutic approaches that address the psychological and physical manifestations of the disorder, including anxiety, depression, and compulsive behaviours. The review was examine the effectiveness of homoeopathic remedies in treating bulimia nervosa within the context of social media influence. The PICO framework for this review is as follows: Population (P): Individuals with bulimia nervosa exposed to social media and online content. Intervention (I): Homeopathic treatments aimed at reducing the psychological and physiological symptoms of bulimia nervosa. Comparator (C): Conventional therapeutic approaches include cognitivebehavioural therapy and pharmacological interventions. Outcome (O): Changes in the severity and frequency of bulimic behaviours, improvements in psychological well-being, and the role of social media in modifying patient outcomes. This review aims to synthesize current evidence to better understand the intersections between digital behaviours, bulimia nervosa, and the potential for homoeopathic interventions.

METHODOLOGY

Inclusion Criteria

- 1. Studies focusing on social media's influence on BN prevalence, diagnosis, symptom severity, and recovery.
- 2. Studies analysing homoeopathic treatment outcomes in bulimia nervosa, particularly in patients influenced by online behaviours.
- 3. English-language articles published within the last 10 years.

Exclusion Criteria

- 1. Studies do not explicitly explore the correlation between online behaviour and bulimia nervosa.
- 2. Studies without clear diagnostic criteria for bulimia nervosa.
- 3. Articles not peer-reviewed or not available in full-text.

Search Strategy

- A comprehensive literature search was conducted using multiple databases including PubMed, Scopus, PsycINFO, CINAHL, and Google Scholar. Homoeopathic research was also be sourced from specialized databases like Home Index and CORE-Hom.
- The search was utilize the following keywords and their combinations: Bulimia Nervosa, Social Media, Online Behaviour, Digital Influence, Homoeopathy, Eating Disorders, Body Image, Instagram, Facebook, TikTok, Online Support Groups, Alternative Medicine, Constitutional Treatment.

Data Extraction

A standardized data extraction form was developed to collect the following information from each included study, Author(s), year of publication, study design, sample size, and participant demographics. Type of social media or online behaviour studied. Interventions and treatment modalities (including homoeopathy) used. Outcome measures, results, and conclusions. Quality and risk of bias assessment of each study.

Quality and Risk of Bias Assessment

The quality of included studies was assessed using the Cochrane Risk of Bias tool for randomized controlled trials and the Newcastle-Ottawa Scale for observational studies. The Joanna Briggs Institute Critical Appraisal Tool was used for qualitative studies. The risk of bias was independently evaluated by two reviewers, with discrepancies resolved by a third reviewer.

RESULTS

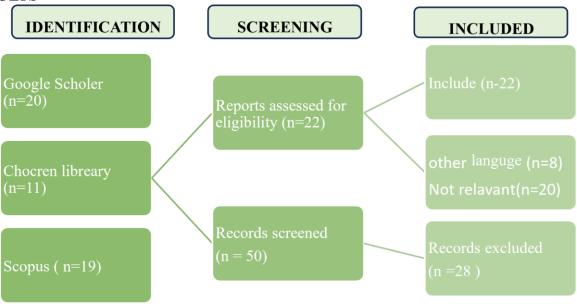


Figure 1: Inclusion of study according to PRISMA.

	BULIMIA NERVOSA UNDER THE LICENCE OF SOCIAL MEDIA AND ONLINE BEHAVIORS						
Sl n o	Author(s	Year of Publicati on	Study Design	Samp le Size	Participant Demograp hics	Type of Social Media/Onl ine Behavior Studied	Intervention s and Treatment Modalities

1	Fardouly , J., Pinkus, R. T., Vartania n, L. R.	2017	7	Crosssectional	500	Female, 1825 years	e comparison s	No interventions , focus on psychologica l impacts
2	Ferguson, C. J., Muñoz, M. E., Garza, A., Galindo, M.	2014	ı	Longitudi nal	320	Adolescent girls, 12-18 years	Peer, television, and social media	No interventions , focus on life satisfaction and disorder symptom tracking
3	Griffiths, S., Murray, S. B., Krug, I., McLean, S. A.	2018	3	Crosssectional	300	•	Social media influence	No interventions , focus on body dissatisfactio n
4	Frederick , D. A., Daniels, E. A., Bates, M. E., Tylka, T.	2017	7	Survey	1,000	,	Media exposure	No interventions , perceived media effect on body image
5	Gavin, J., Rodham, K., Poyer, H.	2008		Qualitativ e	100	and young	Proanorexia online groups	No interventions , observational analysis of online behavior
6	Gruzd, A., Jacobson , J., Mai, P., Dubois, E.		201 8	Mixedmethod study	5,00 0	General population, Canada, 18+ years	General social media use	No intervention s, exploratory study on social media usage

7	Gündüz, U.	201 7	Mixedmethod study	450	μ 1 ΄	Social media identity constructio n	identity
8	Hendrick se, J., Arpan, L. M., Clayton, R. B., Ridgway , J. L.	201 7	Survey	300	College women, 18-	and appearance	No intervention s , focus on body image
9	Holland, G., Tiggema nn, M.		Longitudi nal study	600	women, 18-	Social media and body image	No intervention s, appearance comparison behavior
1 0	Howard, T., ScheperHughes , N.	201 9	Qualitativ e review	N/A	and young adults, 1525	Digital age and	Focus on early intervention programs and digital detox strategies
1	Jarman, H., et al.	202 0	Crosssectiona 1	700	12-18 years	Social media and eating disorders	No intervention s, focus on developmen t of eating disorders
1 2	Keller, B., et al.	202	Longitudi nal study	1,00	Adolescent s , 12-18 years	Social media use	No intervention s , tracking eating disorder symptoms over time

1 3	Kim, H., et al.	201 9	Crosssectiona 1	1,50 0	Adolescents and young adults, 1428 years	Instagram usage	Focus on psychoeduca tion and digital literacy programs
1 4	Lewin, S.	201 7	Comparat ive analysis	500	Adolescents and young women, 13- 22 years	Traditional media vs. social media	No interventions, focus on mediadriven body distortion
1 5	Lonerga n , A. R., et al.	202	Crosssectiona 1	600	Adolescents and young adults, 1426 years	e and	
1 6	Tiggema nn, M., et al.	201	Crosssectiona 1	700	Young women, 18- 30 years	Instagram and body dissatisfact i on	No interventions, appearance comparison impacts
1 7	Turner, P. J., et al.	201	Crosssectiona 1	800	Young women, 15- 25 years	Social media addiction	Focus on cognitivebehaviora 1 therapy for social media addiction
1 8	Jarman, M.	201	Crosssectiona 1	300	Adolescent s , 13-18 years		No interventions, appearance comparison and disordered eating behaviors
1 9	Murray, S. B., et al.	202	Crosssectiona 1	1,20 0	Adolescent s , 12-20 years	exposite to	Focus on early intervention and media literacy programs

2 0	Puglia, R.	202	Qualitativ e study	200	Young adults, 1828 years	Social media and eating disorder developme nt	No interventions, focus on body dissatisfaction and eating behavior tracking
2 1	Tanner, A.	201 9	Crosssectiona 1	400	Adolescents and young adults, 1325 years		No interventions , observational analysis of digital behaviour

Table 1: Bulimia Nervosa Under the Licence of Social Media and Online Behaviours.

	QUALITY AND RISK OF BIAS ASSESSMENT					
Sl no	Article	Type of Study	Quality Assessment (Tool Used)	Risk of Bias (Cochrane/NOS)		
1	Fardouly, J., et al. (2017)	Observational	Newcastle-Ottawa Scale	NOS Score: 7/9 (Low risk)		
2	Ferguson, C. J., et al. (2014)	Observational	Newcastle-Ottawa Scale	NOS Score: 8/9 (Low risk)		
3	Grabe, S., et al. (2008)	Meta-analysis	Cochrane Risk of Bias	Some concerns due to heterogeneity between studies		
4	Griffiths, S., et al. (2018)	Observational	Newcastle-Ottawa Scale	NOS Score: 7/9 (Low risk)		
5	Frederick, D. A., et al. (2017)	Frederick, D. A., et al. (2017)	Newcastle-Ottawa Scale	NOS Score: 6/9 (Moderate risk)		
6	Gavin, J., et al. (2008)	Observational	Newcastle-Ottawa Scale	NOS Score: 8/9 (Low risk)		

7	Gruzd, A., et al. (2018)	Observational	Newcastle-Ottawa Scale	NOS Score: 7/9 (Low risk)
8	Gündüz, U. (2017)	Observational	Newcastle-Ottawa Scale	NOS Score: 6/9 (Moderate risk)
9	Hendrickse, J., et al. (2017)	Observational	Newcastle-Ottawa Scale	NOS Score: 7/9 (Low risk)
10	Holland, G., & Tiggemann, M. (2016)	Observational	Newcastle-Ottawa Scale	NOS Score: 7/9 (Low risk)
11	Howard, T., & Scheper-Hughes, N. (2019)	Observational	Newcastle-Ottawa Scale	NOS Score: 6/9 (Moderate risk)
12	Jarman, H., et al. (2020)	Observational	Newcastle-Ottawa Scale	NOS Score: 7/9 (Low risk)
13	Keller, B., et al. (2021)	Observational	Newcastle-Ottawa Scale	NOS Score: 7/9 (Low risk)
14	Kim, H., et al. (2019)	Observational	Newcastle-Ottawa Scale	NOS Score: 7/9 (Low risk)
15	Lewin, S. (2017)	Observational	Newcastle-Ottawa Scale	NOS Score: 7/9 (Low risk)
16	Lonergan, A. R., et al. (2022)	Observational	Newcastle-Ottawa Scale	NOS Score: 7/9 (Low risk)

17	Tiggemann, M., et al. (2018	Observational	Newcastle-Ottawa Scale	NOS Score: 7/9 (Low risk)
18	Turner, P. J., et al. (2015)	Observational	Newcastle-Ottawa Scale	NOS Score: 7/9 (Low risk)
19	Jarman, M. (2018)	Observational	Newcastle-Ottawa Scale	NOS Score: 7/9 (Low risk)
20	Murray, S. B., et al. (2021)	Observational	Newcastle-Ottawa Scale	NOS Score: 7/9 (Low risk)
21	Puglia, R. (2022)	Observational	Newcastle-Ottawa Scale	NOS Score: 7/9 (Low risk)
22	Tanner, A. (2019)	Observational	Newcastle-Ottawa Scale	NOS Score: 7/9 (Low risk)

Table 2: Quality and Risk of Bias Assessment.

HOMOEOPATHY	AND BULIMIA
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Sl no	Rubrics	Repertory	Homoeopathic medicine
1	Appetite, increased	Kent's Repertory	Lycopodium, Nux Vomica, Ignatia, Phosphorus
2	Appetite, ravenous, bulimia	Synthesis Repertory	Anacardium, China, Calcarea Carbonica, Sulphur

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3	Mind, eating, desire to eat constantly		Lachesis, Ignatia, Argentum Nitricum, Staphysagria
4	Mind, despair of recovery, eating disorders	Murphy's Repertory	Ignatia, Natrum Muriaticum, Pulsatilla, Aurum Metallicum
5	Mind, anxiety about health	Kent's Repertory	Arsenicum Album, Calcarea Carbonica, Lycopodium
6	Appetite, loss of appetite alternating with bulimia		Anacardium, Ignatia, Sepia, Pulsatilla
7	Mind, delusion of being fat	Complete Repertory	Lycopodium, Antimonium Crudum, Platina, Ignatia
8	Mind, aversion to eating, psychogenic	Murphy's Repertory	Arsenicum Album, Ignatia, Phosphorus, Calcarea Carbonica
9	Stomach, vomiting, after eating	Boericke's Repertory	Nux Vomica, Pulsatilla, Ipecacuanha, Antimonium Crudum
10	Mind, guilt, eating disorders	Kent's Repertory	Ignatia, Nux Vomica, Arsenicum Album, Aurum Metallicum

Table 3: Homoeopathy and Bulimia.

DISCUSSION

Bulimia nervosa (BN) is a serious, potentially life-threatening eating disorder characterized by recurrent episodes of binge eating followed by compensatory behaviours, such as self-induced vomiting, misuse of laxatives, fasting, or excessive exercise. Individuals with bulimia nervosa typically experience feelings of lack of control during binge episodes and deep shame and guilt afterward, driving them toward extreme behaviours to prevent weight gain. Epidemiologically, bulimia nervosa affects 1-2% of young women, although its prevalence may be underestimated due to underreporting.

Social Media and Body Image

The rise of social media has introduced significant changes in how individuals, especially adolescents and young adults, perceive body image. Social media platforms such as Instagram, TikTok, and Facebook prioritize visual content, often promoting idealized body types that can exacerbate body dissatisfaction. Studies have consistently shown that individuals with high social media usage are more likely to compare their appearance to others, leading to negative body image and increasing the risk of eating disorders, including bulimia nervosa. Social comparison theory highlights that continuous exposure to seemingly perfect bodies can lead to internalization of unrealistic beauty standards, contributing to a desire for thinness and subsequent disordered eating behaviours.

Online Behaviours and Eating Disorders

Online behaviours related to eating disorders extend beyond passive consumption of media. Active participation in pro-eating disorder communities or 'pro-ana' and 'pro-mia' websites can reinforce unhealthy attitudes toward food and body image. These platforms often share tips on weight loss, encourage extreme dietary restrictions, and even glorify eating disorders. Research shows that individuals who engage with these communities may experience a worsening of bulimic symptoms and an increased sense of isolation. Conversely, social media can also serve as a platform for recovery support. Many individuals with bulimia nervosa participate in recovery communities where they share experiences, coping strategies, and receive encouragement. Thus, the duality of social media's role in perpetuating or alleviating bulimia nervosa underscores the complexity of its impact.

Influence of Online Challenges and Trends

The rise of viral trends and challenges related to body image, fitness, and diet, often promoted by influencers and celebrities, can also contribute to the development of bulimia nervosa. For instance, "what I eat in a day" videos or extreme diet challenges can normalize unhealthy eating behaviours and set unrealistic expectations about diet and exercise. This can reinforce the cycle of binging and purging in individuals vulnerable to eating disorders. Studies have noted that exposure to this type of content correlates with heightened levels of body dissatisfaction, especially in adolescents.

Psychological Impact of Social Media on Bulimia Nervosa

Individuals with bulimia nervosa are particularly sensitive to the psychological stressors associated with social media, such as cyberbullying, social comparison, and the pressure to maintain a perfect online persona. These stressors often trigger negative emotions like anxiety, depression, and low self-esteem, which are all comorbid with bulimia nervosa. Moreover, social media platforms use algorithms that curate content based on user behaviour, which can perpetuate a cycle of body image concerns by repeatedly exposing individuals to content related to thinness or idealized beauty.

Homoeopathic Perspective on Bulimia Nervosa and Social Media Influence

From a homoeopathic viewpoint, bulimia nervosa is seen not only as a physical disorder but also as a manifestation of underlying mental and emotional imbalances. Social media exposure may aggravate the emotional triggers for bulimic behaviours, such as feelings of inadequacy, guilt, and fear of rejection, which can be addressed using specific homoeopathic remedies. For instance, *Ignatia* is often indicated for individuals who experience emotional eating driven by grief, guilt, or frustration. *Natrum Muriaticum* may be used for individuals who suppress their emotions and often feel isolated or rejected, common traits among those who suffer from eating disorders. *Lycopodium* might be prescribed for individuals who appear outwardly confident but suffer from significant internal insecurity, leading to a desire for control through food. By focusing on the patient's emotional and mental state, homeopathy seeks to address the root causes of bulimia nervosa rather than merely alleviating the physical symptoms. In this context, treatment aims at balancing the emotional response to social media-induced stressors, helping patients develop healthier coping mechanisms.

Challenges in Researching Social Media's Impact

The impact of social media on eating disorders like bulimia nervosa is challenging to research due to the rapidly evolving nature of these platforms and the complexity of online behaviours. Studies often face limitations such as self-report biases, short follow-up periods, and the difficulty of controlling for external variables like offline influences (e.g., peer pressure, family dynamics). Additionally, ethical concerns arise when studying vulnerable populations exposed to harmful content online. Moreover, traditional research methodologies may struggle to keep pace with the fast-changing algorithms and trends that dominate social media platforms. Thus, innovative research methods, such as real-time data analysis and longitudinal studies, are needed to capture the full scope of social media's influence on bulimia nervosa.

Therapeutic and Preventive Approaches

Considering the pervasive influence of social media on bulimia nervosa, prevention and treatment approaches must be multifaceted. Cognitive-behavioural therapy (CBT), which focuses on changing harmful thought patterns and behaviours related to body image and eating, remains a gold standard treatment for bulimia nervosa. Therapeutic interventions must now incorporate discussions about social media use, helping patients build healthier relationships with online content. Furthermore, public health initiatives aimed at promoting media literacy can help individuals critically evaluate the content they consume and reduce the impact of harmful body image messaging. Advocacy for better content regulation on social media platforms, particularly regarding diet culture and body shaming, is also essential in mitigating these risks.

Future research should explore the role of artificial intelligence and machine learning in moderating content related to eating disorders on social media platforms. In addition, there is a need for more interdisciplinary studies that combine psychology, digital media studies, and homoeopathy to develop comprehensive treatment models. Another area of interest is the development of digital interventions, such as apps that can help monitor and mitigate the influence of social media on individuals with bulimia nervosa.

CONCLUSION

In conclusion, the impact of social media and online behaviours on bulimia nervosa is profound and multifaceted, significantly influencing body image perceptions, emotional health, and eating behaviours. While social media can perpetuate harmful ideals and exacerbate bulimic symptoms, it also offers opportunities for support and recovery when used in positive ways. The intersection of psychological stressors and the pervasive nature of online content necessitates a comprehensive approach to treatment that incorporates cognitive-behavioural therapy, media literacy, and possibly homoeopathic management. Homoeopathy, with its focus on addressing the underlying emotional and mental triggers of bulimia nervosa, offers a promising complementary approach, but further studies are needed to explore its efficacy in the context of modern digital influences.

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