

A VIRTUAL, OBSERVATIONAL STUDY TO IMPROVE OUR UNDERSTANDING OF THE RELATIONSHIP BETWEEN BINGES AND BEHAVIOR IN PATIENTS MEETING DSM-5 CRITERIA FOR BINGE EATING DISORDER

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Introduction

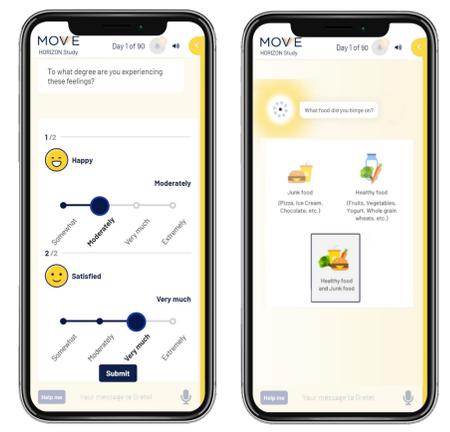
Binge eating disorder (BED), an eating disorder recently recognized in the DSM-5, is a disorder that has serious health implications (American Psychiatric Association, 2013). Along with the physical impacts of the disorder, such as fluctuations in weight and/or digestive problems, patients also suffer from emotional and behavioral issues, including depression, guilt, and low mood (Burton, 2018). The relationship between these emotional and behavioral aspects and the specific characteristics of binge eating episodes, however, remains poorly understood (Udo, 2019). The primary objective of this exploratory, observational HEOR (Health Economics and Outcomes Research) study was to monitor variables of daily living in subjects meeting DSM-5 criteria for Binge Eating Disorder to better understand the circumstances leading to and the features of binge eating episodes.

Methods

The study was performed in a fully virtual (remote) manner using a web-based app that included an AI virtual assistant to enhance engagement and patient experience. Online recruitment was performed using a multi-channel approach, and prospective participants underwent eligibility screening using the web app. Eligible participants then signed the eConsent, and completed questionnaires and daily tasks for a period of 3 months.

The primary endpoints collected during the study were:

- Impulsivity behavior and sleep details
- Qualitative & quantitative binge eating episode details
- The triggers and timing of binge eating episodes
- Mood logs and mood intensity (three times per day)
- Data related to depression (PHQ-9), anxiety (GAD-7), social support (DSSI), global health (PROMIS-GH), obsessive thoughts and behaviours (modified YBOCS-BE), and eating beliefs (modified EBQ-18)



Results

115 subjects between the ages of 18-55 completed the virtual, observational study with a high degree of compliance. A total of 24,520 mood logs, 1,233 impulses to binge, and 2,025 binge episodes were reported by study participants.

The key findings from the study included:

1. Mood levels significantly worsen from morning to evening
2. Most binge impulses (41.52%) as well as binge episodes (46.83%) occurred during the evening, from 6:00PM to 11:59PM
3. The occurrence of binge episodes was significantly greater in participants with high levels of anxiety, depression, obsessive thoughts and behaviours, and positive perceived beliefs about binge eating, as well as low levels of global health and perceived social support
4. Binge episodes were significantly related to agitated/irritable, frustrated/angry, and guilty moods
5. Participants that planned a binge episode in advance reported greater levels of satisfaction or relief after and during the binge episode
6. Participants who did not plan an episode in advance, who consumed junk food, and who had a longer binge episode had a significantly greater sense of guilt
7. A healthy type of food was a significant predictor of a shorter binge episode

Conclusion

Through high-frequency, digital data collection, we have been able to gain new insights into the day-to-day binge eating behaviors and factors surrounding binges in subjects meeting DSM-5 criteria for BED. This study provides a foundation for the development and the evaluation of the effectiveness of novel therapies, including “digital interventions” (e.g. e-coach apps), in BED.

References

- American Psychiatric Association. Diagnostic and Statistical Manual of Mental Disorders (Fifth ed.), 2013.
- Burton, A. *et al.*, *Nutrients*, **10**: 1306, 2018.
- Udo, T. *et al.*, *Int. J. Eat. Disord.*, **52**: 42-50, 2019.

Acknowledgments

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