



How Valuable Is an Electronic Stool Diary App in the Management of Chronic Idiopathic Constipation (CIC) When Using the Vibrating Capsule (VC)?

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Abstract

- CIC affects 15% of the population and poses a significant healthcare burden.
- Although several prescription treatments are available for CIC, there is a paucity of objective tools to monitor patients' symptoms and their compliance with prescribed therapies.
- **AIM:** To determine if feedback received through a daily electronic stool diary application (app) with treatment reminders: a) increases compliance with therapy in CIC patients prescribed Vibrating Capsule (VC) in the community; and b) improves bowel symptoms.

Methods

In a post-marketing community study, CIC patients who were prescribed a VC starter kit (activation pod + 20 capsules for one month of treatment), (Figure 1), were also asked to use an app (Figure 2) to record the following features of bowel function:

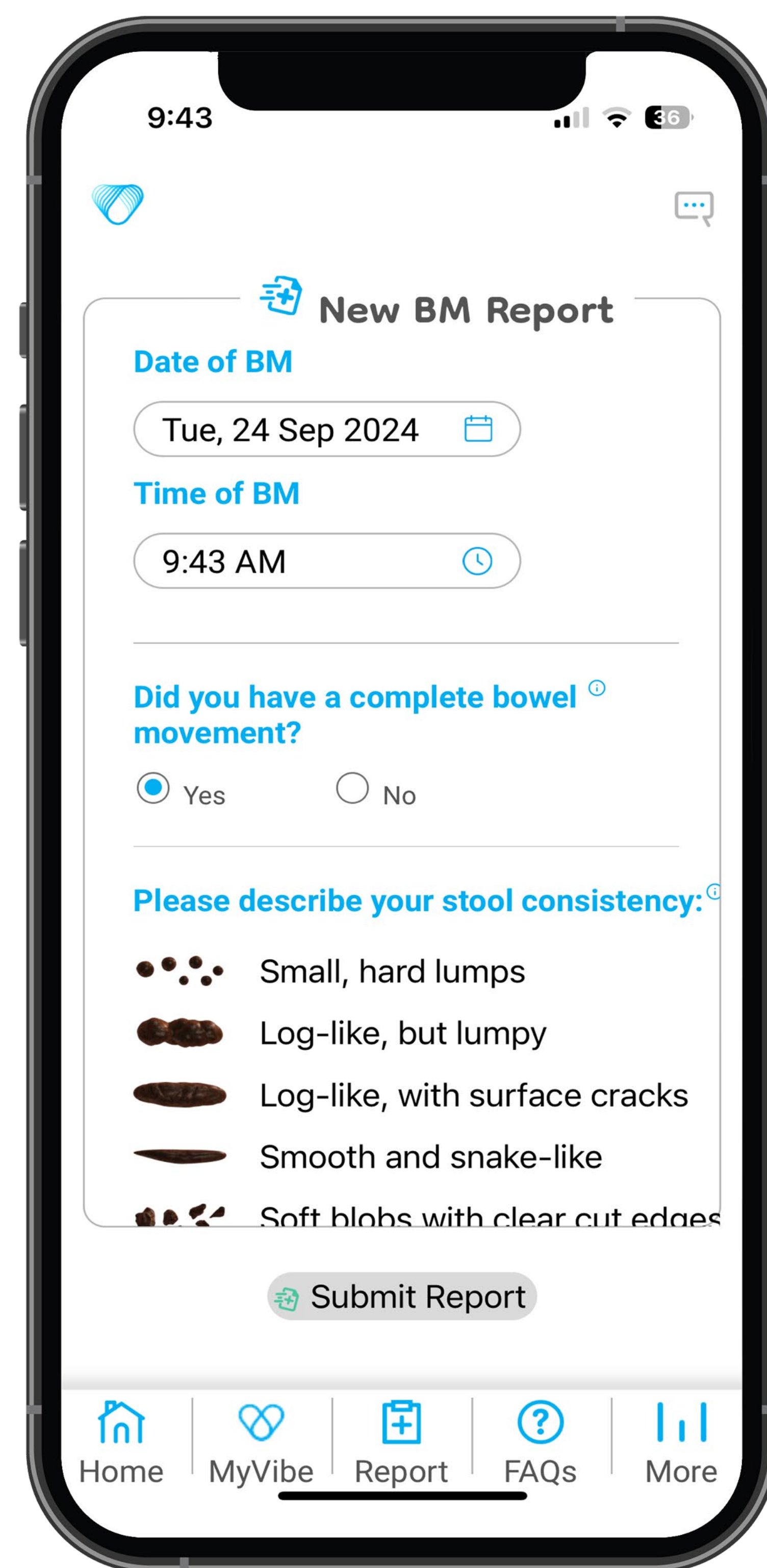
- Daily bowel movement (BM) frequency
- Occurrence of a complete spontaneous BM (CSBM)
- Stool consistency (Bristol Stool Scale 1-7)
- Straining effort (1 (none) to 4 (severe))
- Time spent on the toilet



Figure 1

- E-diary data obtained for the first week of VC treatment were used as baseline.
- These data were compared with changes during subsequent weeks while receiving VC treatment.

Figure 2. Vibrant Gastro E-Diary Phone App



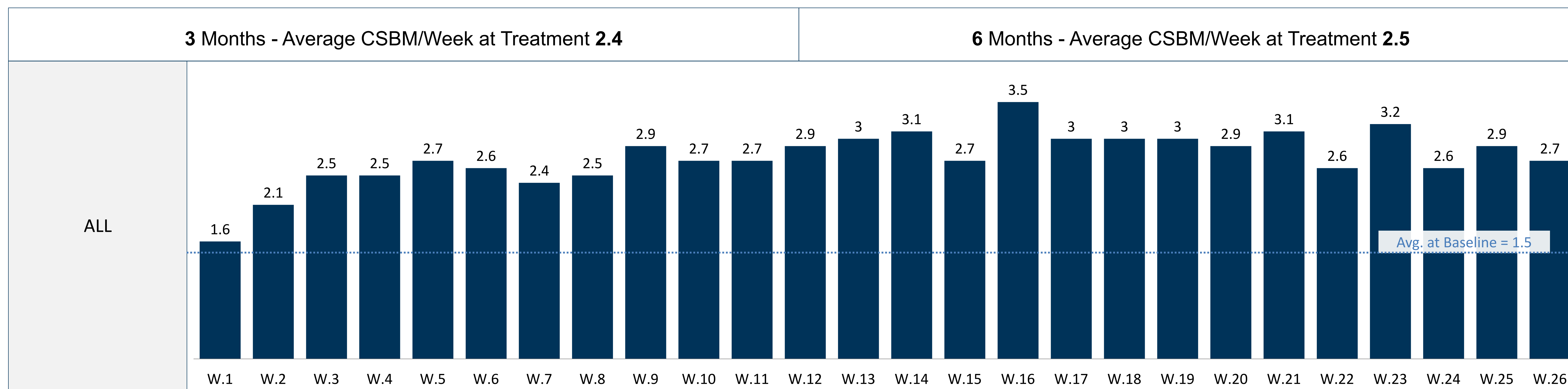
Results

- 818/1722 (48%) patients prescribed VC downloaded the app.
- Demographics of CIC patients using the app are presented in Table 1.
- Proportionately more women than men and younger patients used the app. Interestingly, 37% of patients ≥ 65 years old also engaged with the app.
- Although app use varied, 26% of the patients who downloaded the app used it for at least 3 months, and 16% used the app for over 6 months.
- The first refill order for patients who use the app is 68%, which is almost double than for patients without the app (35%) (P<0.0001).
- App users had a significant increase from baseline in weekly CSBMs, with an average increase of one CSBM/week over 6 months (p<0.0001) (Figure 3).
- Among app users, the mean stool consistency improved from 3.4 at baseline to 4.1 during treatment (average across all treatment duration) (P<0.0001).
- Among app users, the time spent on the toilet decreased from 33 minutes at baseline to 15 minutes during treatment (average across all treatment duration) (P<0.0001).

Table 1. Demographics of Electronic Stool Diary App Users During VC Therapy

	Used App	Received Treatment	Percentage
Male	117	294	40%
Female	701	1,428	49%
22-29 yrs	112	194	58%
30-39 yrs	109	213	51%
40-54 yrs	248	447	55%
55-64 yrs	154	346	45%
65 yrs and older	195	522	37%

Figure 3. Average CSBM Reports Per Patient Per Week During Treatment Among App Users



Discussion & Conclusions

- In this community-based study, patients using the VC and a daily electronic stool diary app had significantly higher first reorder rates for the VC and demonstrated significant improvements in key constipation symptoms, especially the number of CSBMs/week and stool consistency.
- It is possible that positive feedback regarding symptom improvement(s) provided by the e-diary app's weekly summary may have contributed to both the improved compliance with therapy and the improved treatment effectiveness.
- In community patients with CIC, an e-diary app not only provided a novel, objective means of monitoring symptoms and treatment response but was also associated with incremental clinical benefits after treatment with the VC.