

The Squatty Potty® toilet stool as treatment of constipation: a prospective, longitudinal cohort study

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INTRODUCTION:

Constipation affects approximately 42 million people in the United States¹. It can affect either gender at any age. Additionally, constipation can affect all races. Treatments include dietary and lifestyle changes, exercise, medication, and surgery.

A simple squatting posture while defecating has been theorized to improve bowel elimination. Squatting relaxes the puborectalis muscle and thereby straightens the anorectal angle, allowing for easier elimination.²

The Squatty Potty is a thoughtfully designed toilet stool which comfortably delivers all the health benefits of squatting during elimination. Squatty Potty users have reported subjective improvement in constipation, hemorrhoids, rectal prolapse, and irritable bowel syndrome. Other users claim improvement in urinary incontinence, migraine headaches, toddler potty training, and even pain due to pregnancy. This study is designed to objectively evaluate Squatty Potty as a treatment for constipation.

MATERIALS AND METHODS:

200 consecutive individuals volunteered to enter the study via an online invitation (squattypotty.com). Inclusion criteria consisted of current symptoms of constipation with or without hemorrhoids. Participants agreed to complete a Constipation Scoring System (Figure 1) to record baseline symptoms. A Squatty Potty was then mailed to each participant. Volunteers were given the option of using a 7 inch or 9 inch Squatty Potty. Then, after one month of use of Squatty Potty, participants were then asked to complete the same Constipation Scoring System (CSS) to describe their current symptoms. Participants were reminded when to complete the second CSS. If they did not complete it on time, further contact was made to encourage proper completion of the study.

The CSS used in the study is modified from the constipation scoring system described by Agachan.³ This survey was selected because it correlates well with physiologic findings. It also allows for uniformity in assessing constipation symptoms in groups of patients and the same patient over time. 4 additional questions were added to quantify presence and severity of hemorrhoids.

Responses to the pre- and post-treatment surveys were analyzed. The data was analyzed using chi-squared analysis for statistical significance.

RESULTS

153 participants completed the study. This group consisted of 91 females and 62 males. The age range was 9-82 years. The average age was 39.6 years. 81 individuals (53%) reported history of hemorrhoids upon initiation of the study. 114 individuals (74.5%) selected the 7 inch Squatty Potty, while 39 (25.5%) chose the 9 inch stool. Average duration of constipation symptoms in this group was 10-20 years. The average constipation score prior to treatment was 9, which was in the moderate range.

Use of the Squatty Potty lowered the average severity of constipation for all users from moderate to mild. The average pretreatment score of 9 was lowered to 6 ($p < 0.01$). Overall constipation also significantly improved for individual male ($p < 0.01$) and female ($p < 0.01$) cohorts, whether or not they had hemorrhoids. Results for the CSS for each decade are listed in Table 1.

DISCUSSION

In this longitudinal cohort study, use of the Squatty Potty significantly improved constipation symptoms when used for one month. Specifically, there was statistical significant improvement in constipation symptoms scores for males and females who were 20 to 49 years old. Additionally, females 50-59 years of age demonstrated statistical significant improvement. Men aged 50-69 years had improved results using Squatty Potty, but did not reach statistical significance.

One of the benefits of Squatty Potty over medical treatments is that the purchase of the toilet stool is a one-time event. Additionally, its purchase price is relatively low compared to continual costs of medical management of constipation.

In addition to lower costs, use of the Squatty Potty toilet stool avoids potentially harmful effects of medical treatments.

CONCLUSION

When used for just one month, the Squatty Potty toilet successfully treats constipation in males and females among most age groups.

References

1. Higgins PD, Johanson JF. Epidemiology of constipation in North America: a systematic review. *American Journal of Gastroenterology*. 2004;99:750-759.
2. <http://www.squattypotty.com/squatting-concept-for-better-bowel-movements-s/1477.htm>
3. Agachan F, Chen T, Pfeifer J, Reissman P, Wexner SD. A constipation scoring system to simplify evaluation and management of constipated patients. *Dis Colon Rectum*. 1996 Jun;39(6):681-5.

Figure 1. Constipation Scoring System (CSS)

	Score
1. How often do you have a bowel movement?	
1-2 times per 1-2 days	0
2 times per week	1
Once per week	2
Less than once per week	3
Less than once per month	4
2. How painful is your evacuation effort?	
Never painful	0
Rarely painful	1
Sometimes painful	2
Usually painful	3
Always painful	4
3. How often do you feel like your bowel movements are incomplete?	
Never	0
Rarely	1
Sometimes	2
Usually	3
Always	4
4. Do you experience abdominal pain?	
Never	0
Rarely	1
Sometimes	2
Usually	3
Always	4

5. How many minutes do you spend in the bathroom per attempt to have a bowel movement?
- | | |
|----------------------|---|
| 5-10 minutes | 0 |
| 10-20 minutes | 1 |
| 20-30 minutes | 2 |
| More than 30 minutes | 3 |
6. Do you use any of the following types of assistance for bowel movements?
- | | |
|------------------------------------|---|
| I eliminate with assistance | 1 |
| I use stimulative laxatives | 2 |
| I use digital assistance or enemas | 3 |
7. How many of your attempts to evacuate are unsuccessful per 24 hours?
- | | |
|---------------------------------------|---|
| I am never unsuccessful | 0 |
| 1-3 attempts are unsuccessful | 1 |
| 3-6 attempts are unsuccessful | 2 |
| 6-9 attempts are unsuccessful | 3 |
| More than 9 attempts are unsuccessful | 4 |
8. How long have you suffered from constipation?
- | | |
|--------------------|---|
| Less than 1 year | 1 |
| 1 to 5 years | 2 |
| 5-10 years | 3 |
| 10-20 years | 4 |
| More than 20 years | 5 |
9. Do you currently have hemorrhoids?
- | | |
|-----|---|
| Yes | 1 |
| No | 0 |
10. Do your hemorrhoids bleed?
- | | |
|-----|---|
| Yes | 1 |
| No | 0 |
11. Do your hemorrhoids bulge with bowel movements and reduce spontaneously (go back inside without help)?
- | | |
|-----|---|
| Yes | 1 |
| No | 0 |

12. Do your hemorrhoids bulge with bowel movements and remain bulging unless you reduce them (you push them back in with a finger)?

Yes 1
No 0

13. Are your hemorrhoids prolapsed (sticking out) and cannot be reduced (pushed back within the anus)?

Yes 1
No 0

Table 1. Results of Squatty Potty

Constipation Score

Age (years)	Number of participants	Pre-treatment	Post-treatment	p value
10-19	1	15	31	N/A
20-29	38	8	4	<0.0001
30-39	52	10	6	<0.0001
40-49	14	9	6	0.0011
50-59	11	9	6	0.0362
60-69	6	8	6	0.2446
70-79	1	7	8	1.000
80+	2	8	6	0.4608
All	153	9	6	<0.0001

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ABSTRACT

Background: The Squatty Potty is a thoughtfully designed toilet stool which comfortably delivers all the health benefits of squatting during elimination. Squatty Potty users have reported subjective improvement in constipation, hemorrhoids, rectal prolapse, and irritable bowel syndrome. Other users claim improvement in urinary incontinence, migraine headaches, toddler potty training, and even pain due to pregnancy. This study is designed to objectively evaluate Squatty Potty as a treatment for constipation.

Materials and methods: 200 participants with constipation were recruited via the Squatty Potty website. Participants completed a validated constipation scoring system to describe their baseline constipation symptoms. Participants then received a Squatty Potty and used it for one month. Squatty Potty use was the only change to their treatment. At the end of the month, participants completed the same constipation scoring system. The data was analyzed using chi-squared analysis for statistical significance.

Results: 153 participants completed the trial. There were 91 women and 62 men. The average age of participants was 39.6 years (range 9-82). The average duration of constipation was 10-20 years. The use of Squatty Potty for 1 month significantly improved constipation symptom scores for all participants as a whole ($p < 0.01$). Squatty Potty use also significantly improved constipation scores for women ($p < 0.01$), men ($p < 0.01$), those with hemorrhoid symptoms as well as those without hemorrhoid symptoms ($p < 0.01$).

Conclusions: Squatty Potty toilet stool use for one month achieves statistically significant improvement in constipation symptoms in men and women.