



(RESEARCH ARTICLE)



SMARTPHONE USE DURING DEFECATION: AN EMERGING RISK FACTOR FOR HEMORRHOIDAL DISEASE

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World Journal of Advanced Research and Reviews, 2026, 31(02), 1114–1117

Publication history: Received on 02 May 2026; revised on 15 August 2026; accepted on 17 August 2026

Article DOI: <https://doi.org/10.30574/wjarr.2026.31.2.1644>

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ABSTRACT

Background: Smartphone use during defecation has become increasingly common and may prolong time spent on the toilet, potentially contributing to hemorrhoidal disease.

Objective: To evaluate the association between smartphone use during defecation and hemorrhoidal disease and to assess the role of prolonged defecation time.

Methods: We conducted a prospective observational study including 275 patients consulting for proctologic complaints at Hassan II University Hospital in Fez. Patients were divided into smartphone users and non-users during defecation. Defecation lasting more than five minutes was considered prolonged.

Results: Among the 275 patients, 180 (65.3%) reported smartphone use during defecation. Prolonged defecation time was significantly more frequent among smartphone users than non-users (57.2% vs. 27.4%; $p < 0.05$). Hemorrhoidal disease was also significantly more prevalent among smartphone users (48.9% vs. 30.5%; $p = 0.04$). Classical risk factors, including constipation, straining, hydration, and dietary fiber intake, did not differ significantly between the two groups.

Conclusion: Smartphone use during defecation was significantly associated with hemorrhoidal disease and prolonged defecation time. These findings suggest that prolonged toilet sitting may represent an important behavioral factor in this association.

Keywords: Smartphone use; Defecation; Hemorrhoidal disease; Prolonged sitting; Defecation time

1 INTRODUCTION

Hemorrhoidal disease is a common anorectal condition with a multifactorial pathophysiology. Several risk factors have been identified, including constipation, straining during defecation, sedentary lifestyle, obesity, and low dietary fiber intake [1]. Among the underlying mechanisms, prolonged elevation of anorectal venous pressure secondary to extended sitting appears to play an important role in the development of hemorrhoidal symptoms [2].

At the same time, smartphone use has become ubiquitous in daily life, progressively modifying behavioral habits, including during defecation. Increasingly, individuals use their smartphones while on the toilet to browse social media, read news, or watch videos, often resulting in prolonged sitting time [3].

This prolonged defecation time may promote venous stasis within the hemorrhoidal plexus and contribute to the development of hemorrhoidal disease [2]. However, despite the growing prevalence of this behavior, few studies have investigated the relationship between smartphone use during defecation and the occurrence of hemorrhoids [3].

In this context, we conducted a prospective observational study at Hassan II University Hospital in Fez to evaluate the potential association between smartphone use during defecation and hemorrhoidal disease, as well as the role of defecation time in this relationship.

2 MATERIALS AND METHODS

This was a prospective observational study conducted in the Department of Hepato-Gastroenterology at Hassan II University Hospital in Fez over a six-month period. A total of 275 patients consulting for proctologic complaints and undergoing clinical and endoscopic evaluation were included in the study.

Data were collected using a standardized questionnaire administered to all patients. The questionnaire included demographic characteristics such as age, sex, and body mass index, as well as lifestyle-related data including physical activity assessed using the IPAQ questionnaire [4], hydration status, dietary fiber intake, and defecation habits.

Particular attention was paid to smartphone use during defecation. Patients were divided into two groups: smartphone users and non-users during toilet use. Among smartphone users, both frequency of use and defecation duration were analyzed. Defecation lasting more than five minutes was considered prolonged.

Constipation was assessed according to the Rome IV criteria [5]. The diagnosis of hemorrhoidal disease was based on findings from proctologic examination.

Patients with associated anorectal disorders, a history of anorectal surgery, or incomplete data were excluded from the study.

The primary objective of the study was to assess the existence of an association between smartphone use during defecation and hemorrhoidal disease. Secondary objectives included evaluating the impact of defecation time and its relationship with classical risk factors for hemorrhoidal disease.

3 RESULTS

3.1 Characteristics of the Study Population

A total of 275 patients were included in the study. Among them, 180 patients (65.3%) reported using their smartphones during defecation, whereas 95 patients (34.7%) did not. Among smartphone users, use was occasional in 66 patients (36.7%) and frequent in 114 patients (63.3%).

The mean age was lower among smartphone users compared with non-users (35.2 ± 10.8 years versus 44.1 ± 13.2 years). A slight male predominance was observed in both groups, with males accounting for 61.1% of smartphone users and 54.7% of non-users.

3.2 Comparison of Classical Risk Factors

Classical risk factors associated with hemorrhoidal disease were compared between the two groups. The prevalence of constipation was similar among smartphone users and non-users (28.9% versus 26.3%; $p = 0.65$). Likewise, straining during defecation, adequate hydration, and sufficient dietary fiber intake did not differ significantly between groups.

These findings suggest that classical risk factors alone could not explain the increased frequency of hemorrhoidal disease observed among smartphone users.

3.3 Association Between Smartphone Use, Defecation Time, and Hemorrhoidal Disease

Smartphone users were significantly more likely to experience prolonged defecation time exceeding five minutes compared with non-users (57.2% versus 27.4%; $p < 0.05$).

The prevalence of hemorrhoidal disease was also significantly higher among smartphone users, being identified in 88 patients (48.9%) compared with 29 patients (30.5%) among non-users ($p = 0.04$). The overall prevalence of hemorrhoidal disease in our series was 42.7%.

In univariate analysis, both smartphone use during defecation and prolonged defecation time were significantly associated with hemorrhoidal disease.

4 DISCUSSION

Our study demonstrated a significant association between smartphone use during defecation and hemorrhoidal disease. Smartphone users not only showed a higher prevalence of hemorrhoids but also experienced significantly prolonged defecation time compared with non-users.

These findings suggest that the impact of smartphone use may be mainly indirect, mediated by prolonged time spent on the toilet. Indeed, prolonged sitting may increase anorectal venous pressure and promote venous stasis within the hemorrhoidal plexus, thereby contributing to the development or worsening of hemorrhoidal disease [2].

Interestingly, classical risk factors commonly reported in the literature, including constipation, straining, inadequate hydration, and low fiber intake, did not significantly differ between the two groups in our study. This reinforces the hypothesis that prolonged defecation time may represent an independent and potentially underestimated behavioral risk factor [1].

Our findings are consistent with recent literature, particularly the study published in *PLOS One* in 2025, which also reported a significant association between smartphone use during toilet use and hemorrhoidal disease. That study demonstrated an increased risk of hemorrhoids among smartphone users, mainly explained by prolonged defecation time [3].

Furthermore, our study has several strengths. It was a prospective study including a relatively large number of patients consulting for proctologic conditions, with standardized assessment of behavioral habits and classical risk factors. In addition, the diagnosis of hemorrhoidal disease was based on proctologic examination findings, improving diagnostic reliability.

Nevertheless, some limitations should be acknowledged. This was a single-center observational study that does not allow formal establishment of causality. Assessment of defecation habits was based on self-reported data, exposing the study to possible recall bias. Finally, other behavioral or psychological factors potentially influencing time spent on the toilet were not investigated.

Despite these limitations, our study highlights the emergence of new behavioral habits that may influence anorectal health. Simple preventive measures may therefore be recommended, particularly limiting defecation time to less than five minutes and avoiding smartphone use during toilet use.

5 CONCLUSION

Smartphone use during defecation appears to be an emerging behavioral factor potentially associated with hemorrhoidal disease. In our study, smartphone users exhibited both a higher prevalence of hemorrhoids and significantly prolonged defecation time.

This association seems to be mainly mediated by prolonged time spent on the toilet, suggesting that defecation duration may represent a more important factor than some traditionally described risk factors.

From a practical perspective, simple preventive measures could be recommended, including limiting defecation time to less than five minutes and avoiding smartphone use while on the toilet.

Large-scale multicenter studies are needed to confirm these findings and better define the impact of modern behavioral habits on hemorrhoidal disease.

STATEMENTS ON COMPLIANCE WITH ETHICAL STANDARDS

Disclosure of conflict of interest

The authors declare no conflicts of interest regarding this manuscript.

Statement of ethical approval

No formal ethical committee approval was obtained for this observational study. Verbal informed consent was obtained from all participants prior to their inclusion in the study.

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