Randomized Controlled Trial Clin J Pain. 2023 Oct 1;39(10):546-550.
doi: 10.1097/AJP.0000000000001145.

# Mobile Phone-Based Telemonitoring for Improving Adherence to Analgesic Treatment in Trauma Patients After Emergency Department Discharge: A Randomized Controlled Trial

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PMID: 37440334 DOI: 10.1097/AJP.0000000000001145

## Abstract

**Objective:** To determine the impact of mobile-phone telemonitoring on patients' adherence and satisfaction with posttrauma pain treatment.

**Materials and methods:** We conducted a prospective randomized clinical trial including patients with minor trauma discharged from the emergency department (ED) with analgesic treatment. Patients were randomized to one of 3 groups, the control group, where patients received a phone call on day-7, the short message service (SMS) group, where patients received a daily text message to remind them to take their treatment during 7 days, and the mobile-phone based telemonitoring (TLM) group. Patients' adherence to analgesic treatments using the Morisky Medication Adherence Scale, current pain by using a visual analogue scale, and patients' satisfaction were assessed. For the TLM group, the assessment was performed at day-2, 4 and 7.

**Results:** Good adherence was observed in 418 patients (92.9%) in the TLM group versus 398 patients (88.6%) in the SMS group and 380 patients (84.8%) in the control group ( P <0.001). The factor mostly associated with adherence was telemonitoring (OR 2.40 95% CI 1.55-3.71). The decrease in pain visual analogue scale was highest in the TLM group compared with SMS and control groups ( P <0.001). The percentage of patients' satisfaction at 7 days post-ED discharge was 93% in the TLM group versus 88% in the SMS group and 84% in the standard group ( P =0.02).

**Discussion:** Our findings suggest that mobile-phone-based telemonitoring is beneficial in the treatment of pain in trauma patients after ED discharge. This approach improved patients' adherence and satisfaction.



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