

FULL TEXT LINKS



*J Clin Med.* 2024 Oct 23;13(21):6319. doi: 10.3390/jcm13216319.

# Impact of Home Mobile Phone-Based Telemonitoring in Preventing Exacerbations and Hospitalizations Among Patients with Chronic Obstructive Pulmonary Disease: An IMTEC Study

Rania Kaddoussi <sup>1</sup>, Khaoula Bel Haj Ali <sup>2</sup>, Ekram Hajji <sup>3</sup>, Houda Ben Soltane <sup>4</sup>, Ikram Chamtour <sup>5</sup>, Randa Dhaoui <sup>2</sup>, Salma Younes <sup>4</sup>, Nesrine Fahem <sup>1</sup>, Meriem Khalifa <sup>2</sup>, Wafa Dhoub <sup>6</sup>, Mohamed Amine Msolly <sup>2</sup>, Adel Sekma <sup>2</sup>, Hamdi Boubaker <sup>2</sup>, Wahid Bouida <sup>2</sup>, Semir Nouira <sup>2</sup>

Affiliations

PMID: 39518459 PMID: [PMC11546387](#) DOI: [10.3390/jcm13216319](#)

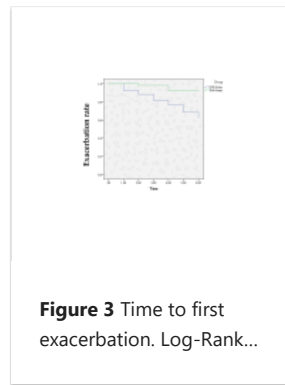
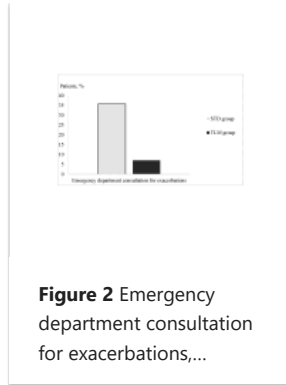
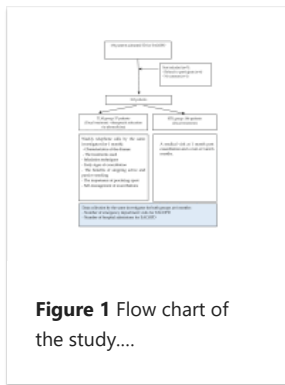
## Abstract

COPD is a major public health problem due to its high morbidity and mortality. The evolution of COPD is marked by the occurrence of acute exacerbations (AECOPD). One of the major causes of AECOPD is non-adherence treatment. Telemedicine is an accessible educational tool that can help physicians to provide continuous, accessible educational support and monitoring for patients with COPD. **Objectives:** This study aimed to determine the impact of therapeutic education via phone-based telemedicine on ED visits and/or hospitalizations for AECOPD. **Methods:** This is a randomized controlled trial carried out in the emergency department (ED) of Fattouma Bourguiba Monastir over a period of 7 consecutive months, including patients admitted with a final diagnosis of AECOPD. Patients were randomly assigned to receive standard care (STD) or weekly phone-based telemonitoring (TLM). Outcomes (exacerbation and the need for hospitalization for AECOPD) were assessed at a 1-, 3-, and 6-month follow-up after being discharged from the hospital. **Results:** We included 163 patients (57 patients in the TLM group and 106 patients in the STD group). The mean age of the study population was  $66.5 \pm 12.5$  years. The TLM group exhibited a significantly lower risk of ED visits for AECOPD compared to the STD group, with an odds ratio of 0.13 (95% CI: 0.04-0.40) and a  $p$ -value  $\leq 0.001$ . Additionally, the TLM group had a notably lower hospitalization rate for AECOPD compared to the control group (15.8% vs. 44.3%, respectively), with an odds ratio of 0.23 (95% CI: 0.10-0.52) and a  $p$ -value  $< 0.001$ . The all-cause death rate was also lower in the TLM group at the 6-month follow-up. **Conclusions:** Telemedicine represents an innovative approach that could improve the management of patients with COPD.

**Keywords:** COPD; exacerbation; hospitalization; telemedicine.

[PubMed Disclaimer](#)

## Figures



## Related information

[MedGen](#)

## LinkOut - more resources

### Full Text Sources

[MDPI](#)

[PubMed Central](#)

### Research Materials

[NCI CPTC Antibody Characterization Program](#)