IMPLEMENTATION OF A VALUE-BASED TELEPHARMACY MODEL FOR MONITORING SEVERE ASTHMA PATIENTS TREATED WITH BIOLOGICS

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BACKGROUND AND IMPORTANCE

Telepharmacy represents an innovative strategy to enhance continuity of care and patient engagement in chronic diseases requiring specialised therapies.

In severe asthma, treatment with biologics demands close monitoring of clinical outcomes, biomarkers, and patient-reported measures to optimise therapeutic effectiveness and ensure efficient use of healthcare resources.

MATERIALS AND METHODS

A 24-month multicenter prospective study was conducted in severe asthma patients on biologics.
Clinical assessments included FEV1, FEV1/FVC, FeNO, and IgE.

HRQoL and patient experience were evaluated using validated questionnaires (ACT, FACIT-Fatigue, miniAQLQ, PROMIS-29, SNOT-22).

CONCLUSION AND RELEVANCE

Telepharmacy allows efficient dual follow-up of severe asthma patients treated with biologics, facilitating real-time communication and outcome monitoring. This model was associated with improvements in pulmonary function, asthma control, health-related quality of life, and fatigue, together with high patient satisfaction.

Telepharmacy constitutes a valuable strategy to support value-based care in severe asthma management.

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AIM AND OBJECTIVES

To assess the usefulness of a dual follow-up telepharmacy model (in-person and remote) in severe asthma patients treated with biologics, evaluating its impact on clinical outcomes, biomarkers, and health-related quality of life (HRQoL).

RESULTS

Thirty-seven severe asthma patients were included, predominantly women (83.3%) with 43.3% aged 46–65 years, and 48.7% had comorbidities, mainly hypercholesterolemia. Dupilumab was the most frequently prescribed biologic (45.2%).

Questionnaire completion was high at 89%, and 37.8% of patients used the telepharmacy chat for queries. Pulmonary function improved during follow-up, with FEV1 increasing from 80.1 ± 21.0% to 85.3 ± 16.4% and FEV1/FVC from 71.0 ± 13.6% to 77.0 ± 11.5%, while FeNO decreased significantly from 55.8 ± 46.7 to 27.8 ± 21.7 ppb, and ACT scores rose from 17.1 ± 6.0 to 22.3 ± 2.2 (p=0.019) (Figure 1a).

Health-related quality of life improved across miniAQLQ domains, with symptoms increasing from 4.8 ± 1.6 to 6.3 ± 0.6, activity limitation from 5.2 ± 1.6 to 6.8 ± 0.2, and emotional function from 4.2 ± 1.9 to 6.6 ± 0.5, alongside an increase in FACIT-Fatigue from 36.0 ± 11.8 to 44.5 ± 7.2 (p=0.010); SNOT-22 scores decreased markedly in patients with nasal polyposis, and PROMIS-29 indicated reduced depression and fatigue with improved physical functioning (Figure 1b).

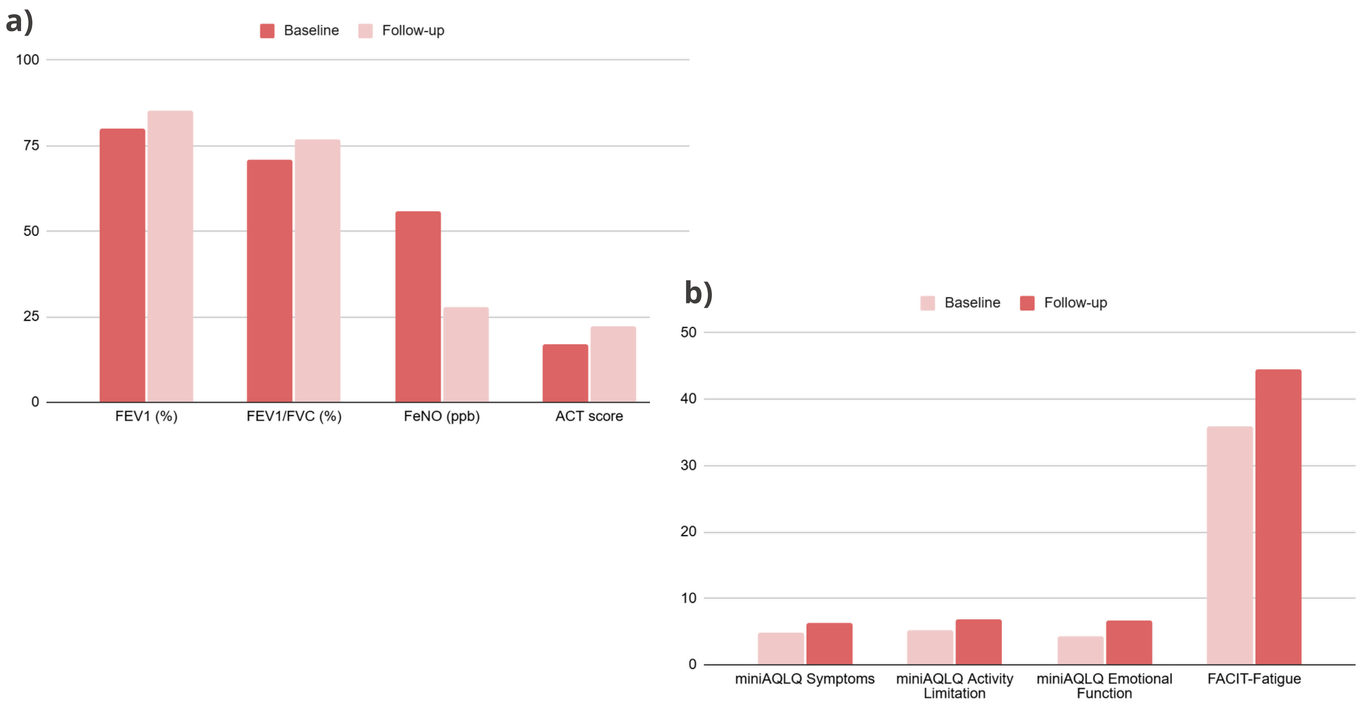

Figure 1. *Effects of telepharmacy follow-up on clinical outcomes in severe asthma. Figure 1a. Changes in pulmonary function and airway inflammation (FEV1, FEV1/FVC and FeNO); Figure 1b. Improvement in asthma control (ACT score)*

Overall satisfaction with telepharmacy follow-up was high at 8.7/10 (Figure 2).

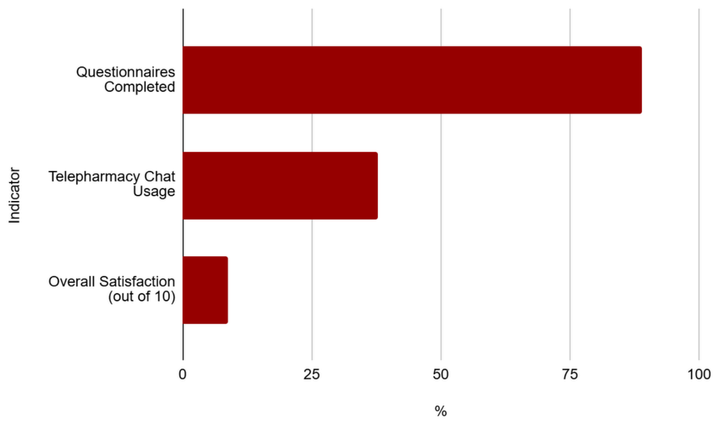

Figure 2. *Improvements in health-related quality of life and fatigue during telepharmacy follow-up*