Does a tailored intervention to promote adherence in patients with chronic lung disease affect exacerbations? A randomized controlled trial

JournalArticle (Originalarbeit in einer wissenschaftlichen Zeitschrift)

ID 4526288
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Year 2019
Title Does a tailored intervention to promote adherence in patients with chronic lung disease affect exacerbations? A randomized controlled trial
Journal Respiratory research
Volume 20
Number 1
Pages / **Article-Number** 273
Keywords Chronic disease management; Compliance; Randomised controlled trial; Reminders
Poor medication-adherence is common in chronic lung patients, resulting in reduced health-outcomes and increased healthcare-costs. This study aimed to investigate the impact of an acoustic reminder and support calls on adherence to inhaled therapy in asthma and COPD patients and to determine their effect on exacerbations.; This single-blinded randomized controlled trial investigated asthma and COPD patients during 6 months in an ambulatory setting. The intervention consisted of daily alarm clock and support phone calls, whenever use of rescue medication doubled or inhaled medication was not taken as prescribed. Primary outcome was time to next exacerbation. Frequency of exacerbations, adherence to inhaled medication and quality of life scores were secondary outcomes. Cox and Poisson regression were used to determine intervention effect on time to exacerbation and frequency of exacerbations, respectively.; Seventy-five participants were assigned to the intervention group and 74 to usual follow-up care. During a median follow-up of 6.2, 22 and 28% in the intervention and control groups respectively, experienced at least one exacerbation. Intervention had no effect on time to first exacerbation (HR 0.65, 95% CI 0.21 to 2.07, P = .24), but showed a trend toward a 39% decreased frequency of exacerbations (RR = 0.61, 95% CI 0.35 to 1.03, P = .070) for the adjusted models, respectively. The intervention group had significantly more days with 80-100% taking adherence regarding puff inhalers (82 ś 14% vs. 60 ś 30%, P < .001) and dry powder capsules (90 ś .10% vs. 80 ś 21%, P = .01). Timing adherence in participants using puff inhalers was higher in the intervention group (69 ś 25% vs. 51 ś 33%, P < .001). No significant differences in QoL were found between the two groups.; Participants assigned to the intervention group had significantly better taking and timing adherence of inhaled medication resulting in a trend towards a decreased frequency of exacerbations. However, no effect on time to next exacerbation was observed.; ClinicalTrials.gov: NCT02386722, Registered 14 February 2014.
Publisher BMC
ISSN/ISBN 1465-993X
edoc-URL https://edoc.unibas.ch/74542/
Full Text on edoc No;
Digital Object Identifier DOI 10.1186/s12931-019-1219-3
PubMed ID http://www.ncbi.nlm.nih.gov/pubmed/31796013

ISI-Number WOS:000510935800003
Document type (ISI) Article