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CLINICAL TRIAL TO ASSESS THE EFFICACY OF HOUSE DUST MITE (ACARI: ASTIGMATA) CONTROL IN REDUCING SYMPTOMS OF ATOPIC ASTHMA

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Abstract The overall objective of the study was to examine the efficacy of house dust mite control (permethrin impregnated bedding and active vacuum cleaning) to relieve symptoms of atopic asthma. The design was a double-blind, randomised, placebo-controlled trial of patients with atopic asthma that was approved by the Royal Free Hospital's ethics committee. From previous data, we determined that it was necessary to recruit 50 volunteers, in each treatment group, to detect a significant effect of treatment for each outcome parameter. Patients that were selected were aged 18-55 years, with mild to moderate atopic asthma, having either a positive prick test or positive RAST to house dust mite (HDM) antigens, and mite-positive beds. Severity was categorised by the degree of bronchial hyper-responsiveness to methacholine; the dose causing a 20% fall in FEV1 (PC_{20}), as: mild (> 2.00 and ≤ 16.00), moderate (> 0.25 and ≤ 2.00) or severe (≤ 0.25). Treatments were randomised between each matched pair of patients based on their PC_{20} category. The active group received permethrin-impregnated bedding and active vacuum cleaning of their bedroom after one month, three months and six months post intervention for a period of one year. The inactive group was provided with control bedding and vacuuming with an inactive cleaner at the same time points. Unfortunately, only 10 matched pairs completed the trial (due to lack of funding). Nevertheless, some encouraging results were obtained: 1) HDM allergen (*Der p* 1) exposure decreased over time in by 150% and 100%, in the active and inactive groups, respectively, but the difference was not significant ($t = -1.40$, $p = 0.22$, n = 8), 2) PC_{20} increased by 200% in the active group after 12 months of intervention, but did not change in the inactive group ($t = 2.43$, $p = 0.038$, n = 10), and 3) FEV1 did not change in the active group but there was a fall by 10% in the inactive group (t=2.92, p= 0.017, n = 10). A more rigorous trial is recommended.