Effectiveness of Computer Based Interactive Training on Inhaler Technique and Clinical Outcomes in Asthma Patients

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National asthma guidelines to improve asthma outcomes rely on inhaled medications. However, it has been commonly recorded that the majority of asthma patients use inhalers incorrectly and that poor inhaler technique is correlated with poor asthma control. Common inhaler education is written instruction, but some patients receive no training. We tested the effectiveness of a computer based training solution versus traditional written instruction on inhaler technique. An example of a computer based training solution used was videos found at www.use-inhalers.com. We hypothesize that it can increase a provider's ability to deliver high quality instruction to all patients without increasing time burden on providers. Our controls were patients without any training and patients given written training. Videotapes of patients using their inhalers before and after training were created and analyzed by a fixed rubric and given a score. 50 patients were recruited in the Junta De Beneficencia Hospital in a randomized, unblinded enrollment process. Analysis was done through multivariate regression analysis where the different trainings were binomial indicator variables. Video training improved inhaler technique by more than 70% ($p<.0001$), and did not show age preference. Written training had little to no influence on inhaler technique ($p>.05$), and on average, only improved technique by less than 10%. We conclude that (1) written instruction may not be enough to instruct patients for inhaler technique education (in fact, most patients missed more than 50% of the necessary steps) and (2) a computer-based alternative can have the desired educational effect without an increased time effort.