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Editorial

The Alchemy for a Behavior Change in COPD: The Combination of Personalized Care, the Proper Environment, Patient Motivation, and the Right Tools

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Abbreviations: Step Forward Study, **SFS**; coronavirus 2019, **COVID-19**; pulmonary rehabilitation, **PR**

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Introduction

Alchemy is defined as “taking something ordinary and turning it into something extraordinary, sometimes in a way that cannot be explained.” The study by Choate et al in this issue of the journal suggests that improving physical activity and weight management are achievable goals in individuals with COPD and alpha-1 antitrypsin deficiency. Improving these 2 behaviors is important in the management of many chronic diseases, but unfortunately there is a scarcity of proven solutions. The Step Forward Study (SFS) demonstrates that an intensive program for virtual rehabilitation, supported by coordinators of the Alpha Net organization among likely motivated individuals with alpha-1 antitrypsin deficiency, increased self-reported physical activity and improved weight management.

There are a number of factors that may account for the positive findings of SFS including personalized care, the proper environment (home-based), the tools

used, and the likely high level of motivation among the study’s patients.

Patient Engagement Matters:

The synergistic effect of the Alpha Net Coordinators with the other components in this intervention cannot be overemphasized and is properly acknowledged by the authors. The Alpha Net coordinators were trained to provide health management, education and caring support to the study participants, and the “coordinator effect” may have played a significant role in the behavioral changes observed. Previous studies have found that caring and personalized support through health coaching that included interventions based on motivational-interviewing and delivered via phone calls decreased COPD-related hospitalizations and sustainably improved quality of life.^{1,2} The proper patient engagement can help enhance self-efficacy (e.g., via the development of relevant skills and behaviors) and encourages adaptive health-related behaviors that can in turn lead to improved health outcomes.³ Recent communications further indicate the value of patient engagement for meaningful weight loss and the improvement in exercise capacity in individuals with COPD.⁴

Motivation:

The improved physical activity in the control group may be related to a high level of motivation among the patients with alpha-1 antitrypsin deficiency who were enrolled. Many patients with alpha-1 antitrypsin

deficiency are very informed and proactive in dealing with their condition which may be in part due to tremendous effort for advocacy in this condition.

Location, Location, Location:

This study suggests that home-based interventions can be a fertile environment for a sustainable behavior change.⁵ This study is particularly timely in the context of the coronavirus-2019 (COVID-19) pandemic in which home-based programs are needed. Virtual lifestyle interventions done in individuals' homes with personalized support may lead to lifestyle changes. In COPD, home-based pulmonary rehabilitation (PR) has been shown to be a reliable and effective approach with outcomes comparable to those observed in traditional center-based PR.⁶ The virtual approach may also offer an opportunity to increase self-efficacy by encouraging and motivating individuals to do more to achieve behavioral changes within their usual daily home life. For many individuals, this may be the best environment for more sustainable changes.

Behavior change, specifically increasing physical activity in individuals with COPD, is one of the biggest challenges that PR teams face with COPD patients. Obesity, in the context of comorbidities, is a situation for which solutions are lacking. This study offers a promising sign that remote interventions targeting lifestyle changes are feasible and possibly effective when the proper factors are in place. However, we still have much to learn about improving some key behaviors like physical activity.

New Measures Needed:

With the increasing development of multiple wearables, home-based programs, and technology-based interventions for COPD and other chronic conditions, in which longer periods of observation are possible, new measures are needed to document behavioral changes in physical activity, sleep, and weight that goes beyond the traditional standards of measures in COPD. The shift to remote patient care requires a new way of measuring the success of our patients, specifically related to how we assess patients' lifestyle changes.

In this study, we cannot point to what specific components of the intervention produced the benefits but it is well known that multicomponent interventions appear to be more effective for behavior change than stand-alone interventions.⁷

In all, while this study does not address what produced the alchemy to achieve the behavioral changes observed, it does provide a glimpse into several critical factors that create the right conditions: personalized engagement, patient motivation, the right environment and the right tools.

Declaration of Interest

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