

Clinical Research Results Abstract

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Identifying and addressing patient beliefs driving short-acting beta-agonist use and over-reliance using an online digital intervention

Robert Horne¹, Amy Chan¹, Alan Kaplan², John Haughney³, Jaime Correia de Sousa⁴, Sian Williams⁵

¹University College London, Centre of Behavioural Medicine - School of Pharmacy, London, UK, ²University of Toronto, Family Physicians Airways Group of Canada, Toronto, ON, Canada, ³University of Aberdeen, Aberdeen, United Kingdom, ⁴International Primary Care Respiratory Group, Westhill, Scotland, United Kingdom AND University of Minho, Life and Health Sciences Research Institute ICVS/3B's PT Government Associate Laboratory, Braga, Portugal, ⁵International Primary Care Respiratory Group, International Primary Care Respiratory Group, Westhill- Scotland, United Kingdom

Clinical Research Results

Background and aim: Reliance on and overuse of short-acting beta-agonists (SABA ROU) increases the risk of asthma attacks and is recognised by GINA as a key issue in asthma management. Patient beliefs can drive SABA ROU – assessing these can identify those at risk of ROU. The aim of this study was to assess patient beliefs influencing SABA ROU and whether such beliefs can be changed online by brief, behaviourally-intelligent messages.

Method: A total of 446 people with self-reported asthma, recruited via Amazon mTurk, completed validated questionnaires assessing perceptions of SABA and anti-inflammatory reliever (Necessity Beliefs and Concerns) and reported adherence. We examined whether beliefs about SABA and anti-inflammatory reliever were amenable to change in a subset of 55 patients who, after completing the baseline questionnaires, were exposed to brief messages designed to change their beliefs. The questionnaire assessments were repeated immediately after exposure to the messages, and 2 weeks later.

Results: Many patients held beliefs about SABA that were consistent with over-reliance. For example, 71.7% (320/446) believed that *'using their reliever was the best way to 'keep on top of their asthma'* and 59.9% (267/446) agreed that *'the benefits of the reliever markedly outweighs any risks'*. Over-reliance on SABA correlated with low adherence to inhaled corticosteroids ($p < 0.0001$). Significant changes in beliefs driving SABA ROU occurred after exposure to brief, behaviourally-intelligent messages at both timepoints ($p < 0.0001$).

Conclusion: Patient beliefs driving SABA ROU are amenable to change using online brief behaviourally-intelligent messages. There is potential for this intervention to be used by clinicians to reduce SABA ROU and improve patient asthma outcomes.

Declaration of Interest

Professor Rob Horne is Founding Director of Spoonful of Sugar, a commercial company that assisted in carrying out the study and submission of this abstract.

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