Treatment guided by fractional exhaled nitric oxide in addition to standard care in 6- to 15-year-olds with asthma: the RAACENO RCT

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Declared competing interests of authors: Steve Turner reports that Circassia (Oxford, UK) lent 16 NIOX VERO® devices to measure nitric oxide in study participants and provided, at no cost, associated consumables for these devices. Seonaidh Cotton reports grants from the National Institute for Health and Care Research (NIHR) Health Technology Assessment (HTA) programme outside the submitted work. Graham Scotland reports non-financial support from Merck KgaA (Darmstadt, Germany) outside the submitted work. Graeme MacLennan reports grants from the NIHR HTA programme outside the submitted work. John Norrie reports grants from the University of Aberdeen and the University of Edinburgh during the conduct of the study and declares membership of the following NIHR boards: CPR Decision-making Committee (2016), HTA Commissioning Board (2010–16), HTA Commissioning Sub-Board (EOI) (2012–16), HTA Funding Boards Policy Group (2016), HTA General Board (2016–19), HTA Post-Board funding teleconference (2016–19), NIHR Clinical Trials Unit Standing Advisory Committee (2017–present), NIHR HTA and Efficacy and Mechanism Evaluation (EME) Editorial Board (2014–19), and the Pre-exposure Prophylaxis Impact Review Panel (2017–present). Erol Gaillard reports consultancy work for Boehringer Ingelheim (Ingelheim am Rhein, Germany), with money paid

to the institution (University of Leicester); an investigator-led research grant from Circassia, Gilead (Foster City, CA, USA) and Chiesi Ltd (Manchester, UK); and research collaboration with Medimmune (Gaithersburg, MD, USA). David Price has board membership with AstraZeneca (Cambridge, UK), Boehringer Ingelheim, Chiesi, Mylan (Canonsburg, PA, USA), Novartis (Basel, Switzerland), Regeneron Pharmaceuticals (Tarrytown, NY, USA), Sanofi Genzyme (Cambridge, MA, USA), Thermofisher (Waltham, MA, USA) and Zentiva (Sanofi Generics) (Prague, Czech Republic); holds consultancy agreements with Airway Vista Secretariat (Seoul, South Korea), AstraZeneca, Boehringer Ingelheim, Chiesi, EPG Communication Holdings Ltd (Kent, UK), FIECON Ltd (St Albans, UK), Fieldwork International (London, UK), GlaxoSmithKline (Brentford, UK), Mylan, Mundipharma (Limburg an der Lahn, Germany), Novartis, OM Pharma SA (Meyrin, Switzerland), PeerVoice (London, UK), Phadia AB (Uppsala, Sweden), Spirosure Inc. (Pleasanton, CA, USA), Strategic North Ltd (Hale, UK), Synapse Research Management Partners (Barcelona, Spain), Talos Health Solutions (Brussels, Belgium), Theravance (South San Francisco, CA, USA) and WebMD Global LLC (New York, NY, USA); has received grants and unrestricted funding for investigator-initiated studies [conducted through Observational and Pragmatic Research Institute Pte Ltd (Norwich, UK)] from AKL Research and Development Ltd (Stevenage, UK), AstraZeneca, Boehringer Ingelheim, British Lung Foundation (London, UK), Chiesi, Mylan, Novartis, Regeneron Pharmaceuticals, Respiratory Effectiveness Group (Ely, UK), Sanofi Genzyme, Theravance, UK NHS and Zentiva (Sanofi Generics); has received payment for lectures/speaking engagements from AstraZeneca, Boehringer Ingelheim, Chiesi, Cipla (Mumbai, India), GlaxoSmithKline, Kyorin, Merck (Kenilworth, NJ, USA), Mylan, Mundipharma, Novartis, Regeneron Pharmaceuticals, Sanofi Genzyme and Zentiva (Sanofi Generics); has received payment for travel/accommodation/meeting expenses from AstraZeneca, Boehringer Ingelheim, Mundipharma, Mylan, Novartis, Thermofisher; has received stock/stock options from AKL Research and Development Ltd, which produces phytopharmaceuticals; owns 74% of the social enterprise Optimum Patient Care Ltd (Australia and UK) and 92.61% of Observational and Pragmatic Research Institute Pte Ltd (Singapore); has a 5% shareholding in Timestamp (Tel Aviv-Yafo, Israel), which develops adherence monitoring technology; is peer reviewer for the grant committees of the UK EME and HTA programmes; and was an expert witness for GlaxoSmithKline.

Published May 2022
DOI: 10.3310/AWOI5587

Plain English summary

The RAACENO RCT

Efficacy and Mechanism Evaluation 2022; Vol. 9: No. 4
DOI: 10.3310/AWOI5587

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Plain English summary

We wanted to find out whether or not a simple breath test (to measure how much nitric oxide is breathed out) might help doctors to decide the best treatment for children with asthma. Better treatment might reduce the chance of children having an asthma attack.

In total, 509 children aged 6–15 years took part in the study. They either had their asthma treatment guided by their symptoms in the usual way or had their asthma treatment guided by their asthma symptoms plus their nitric oxide result. Information about symptoms and nitric oxide was entered into a computer system that made a recommendation about treatment (to keep treatment the same, or to increase or decrease the treatment). The doctors could follow this recommendation or make a different decision about treatment. Children were in the study for 12 months and had a treatment recommendation when they joined the study and then every 3 months. While they were in the study, we collected information about any asthma attacks that they had. The average age of the children in the study was 10 years and 60% were boys.

There was no difference in the proportion of children who had an asthma attack when comparing those who had their asthma treatment guided by symptoms alone with those who had their asthma treatment guided by symptoms plus their nitric oxide result. We looked at several other asthma outcomes (e.g. asthma symptoms, emergency visits and breathing tests) and none of these was different between treatment groups.

This means that adding the breath test to measure nitric oxide did not help doctors to decide the best treatment for children with asthma.

We interviewed some families and staff involved in the RAACENO (Reducing Asthma Attacks in Children using Exhaled Nitric Oxide) trial. They told us that taking part in RAACENO was a positive experience and that having treatment guided by a breath test and computer was broadly acceptable.

Efficacy and Mechanism Evaluation

ISSN 2050-4365 (Print)

ISSN 2050-4373 (Online)

This journal is a member of and subscribes to the principles of the Committee on Publication Ethics (COPE) (www.publicationethics.org/).

Editorial contact: journals.library@nihr.ac.uk

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The EME programme is funded by the Medical Research Council (MRC) and the National Institute for Health and Care Research (NIHR), with contributions from the Chief Scientist Office (CSO) in Scotland and National Institute for Social Care and Health Research (NISCHR) in Wales and the Health and Social Care Research and Development (HSC R&D), Public Health Agency in Northern Ireland.

This report

The research reported in this issue of the journal was funded by the EME programme as project number 15/18/14. The contractual start date was in February 2017. The final report began editorial review in April 2021 and was accepted for publication in September 2021. The authors have been wholly responsible for all data collection, analysis and interpretation, and for writing up their work. The EME editors and production house have tried to ensure the accuracy of the authors' report and would like to thank the reviewers for their constructive comments on the final report document. However, they do not accept liability for damages or losses arising from material published in this report.

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