

Final report RGHT000405

A randomised controlled trial of tea tree oil (5%) body wash versus standard body wash to prevent colonisation with methicillin-resistant *Staphylococcus aureus* (MRSA) in critically ill adults.

Objectives

The objectives of the study were to determine if (a) MRSA colonisation among critically ill patients was reduced by daily washing with 5% Tea Tree Oil (TTO) body wash in comparison with standard body wash (Johnsons Baby Softwash); and (b) 5% TTO body wash was more cost effective than Johnsons Baby Softwash.

Method

We conducted a prospective, randomised controlled trial in a large intensive care unit in Northern Ireland. Patients were randomly assigned to one of two groups to be washed daily with either 5% TTO body wash or standard care body wash for the duration of their stay in the Intensive Care Unit. Nasal and groin swabs were taken on admission and discharge from the unit and the primary outcome measure was new MRSA colonisation.

Results

Target recruitment was 1080 patients. Over a 21-month period we recruited 445 patients and 391 completed the trial. Thirty-nine patients acquired new MRSA colonisation. There was a 2.5% difference in colonisation rates in favour of TTO, but the difference was not statistically significant (95% CI -8.95 to 3.94, $p=0.50$).

Conclusion

As a result of low accrual and low incidence of MRSA colonisation we were unable to determine the effectiveness of TTO body wash or undertake a cost effectiveness evaluation. As a result, we cannot recommend TTO body wash as an effective means of reducing MRSA colonisation. Nevertheless, this study was a useful pilot in that it (1) provides important insights regarding patient recruitment for future research in this area; and (2) highlights that tea tree oil is safe to use and well tolerated.

Publications/dissemination of research findings

During the study period we have disseminated information to both national and international audiences (see below). A paper detailing the study findings is currently in preparation.

Papers in peer reviewed journals

Thompson, G. Blackwood, B. McMullan, R. McAuley, DF. (2008) Infection Control: Helping Hands (Editorial). Practical Patient Care. <http://www.hospitalmanagement.net/features/feature1856/>

Thompson, G. Blackwood, B. McMullan, R. Alderdice, F.A. Trinder, J.T. Lavery, G.G. McAuley, D.F. (2008) A randomized controlled trial of tea tree oil (5%) body wash versus standard care to prevent colonization with methicillin resistant *Staphylococcus aureus* (MRSA) in critically ill adults: Research protocol. BMC Infectious Diseases. <http://www.biomedcentral.com/1471-2334/8/161>

International Conference Oral Presentations

Thompson G, Blackwood B, McMullan R, Alderdice FA, Lavery GG, McAuley, DF. Does tea tree oil (TTO) body wash prevent methicillin resistant *Staphylococcus aureus* (MRSA) colonization in ICU patients?

Research protocol for a randomized controlled trial. 3rd EFCCNA and 27th Aniarti Congress: Influencing critical care in Europe. Florence. Italy. 9-11th October 2008.

Thompson G, Blackwood B, McMullan R, McAuley DF. Tea tree oil for preventing colonization with methicillin resistant *Staphylococcus aureus* (MRSA): A systematic review. British Association of Critical Care Nurses, An International Perspective: Cementing Alliances and Forging Success Conference. Belfast. 14-16th September 2009.

Thompson, G. Blackwood, B. McMullan, R. McAuley, D.F. A randomized controlled trial to determine the effectiveness of tea tree oil body wash in preventing MRSA in critically ill adults. 4th EFCCNa Congress & FSAIO spring congress. European Critical Care Nursing: Working together for a better tomorrow. Copenhagen, Denmark. 24-26th March 2011.

Poster presentations

Thompson G, Blackwood B, McAuley DF, McMullan R. Tea Tree Oil (5%) body wash versus standard body wash to prevent colonization with methicillin-resistant *Staphylococcus aureus* (MRSA) in critically ill adults. The Infectious Disease Recognized Research Group Annual meeting. Ballycastle, October 2006.

Thompson G, Blackwood B, Duffy MJ, Craig TR, McMullan R, McAuley DF. Impact of colonization at admission on length of stay and mortality in the intensive care unit. Intensive Care Society of Ireland Annual Scientific Meeting. Actons Hotel, Kinsale. 13-14th June 2008.

Thompson G, Blackwood B, Craig TR, Duffy MD, Burnett C, McMullan R, McAuley DF. Comparison of legal representative and retrospective patient consent in clinical trials in the ICU. 11th Current Controversies in Anaesthesia & Peri-Operative Medicine and Intensive Care Society of Ireland Autumn Meeting. 14-18th October 2009.

B. Blackwood

Dr Bronagh Blackwood
21 July 2011