UNIVERSITY OF BIRMINGHAM
University of Birmingham Research at Birmingham

National survey of practice of faecal microbiota transplantation for Clostridium difficile infection in the UK

Quraishi, Mohammed Nabil; Segal, J; Mullish, B.; McCune, V.L.; Hawkey, Peter; Colville, A.; Williams, H; Hart, A; Iqbal, T.H.

DOI:
10.1016/j.jhin.2016.10.023

License:
Creative Commons: Attribution-NonCommercial-NoDerivs (CC BY-NC-ND)

Document Version
Peer reviewed version

Citation for published version (Harvard):
Quraishi, MN, Segal, J, Mullish, B, McCune, VL, Hawkey, P, Colville, A, Williams, H, Hart, A & Iqbal, TH 2017, 'National survey of practice of faecal microbiota transplantation for Clostridium difficile infection in the UK', *The Journal of hospital infection*, vol. 95, no. 4, pp. 444-445. https://doi.org/10.1016/j.jhin.2016.10.023

Link to publication on Research at Birmingham portal

General rights
Unless a licence is specified above, all rights (including copyright and moral rights) in this document are retained by the authors and/or the copyright holders. The express permission of the copyright holder must be obtained for any use of this material other than for purposes permitted by law.

•Users may freely distribute the URL that is used to identify this publication.
•Users may download and/or print one copy of the publication from the University of Birmingham research portal for the purpose of private study or non-commercial research.
•User may use extracts from the document in line with the concept of 'fair dealing' under the Copyright, Designs and Patents Act 1988 (?)
•Users may not further distribute the material nor use it for the purposes of commercial gain.

Where a licence is displayed above, please note the terms and conditions of the licence govern your use of this document.

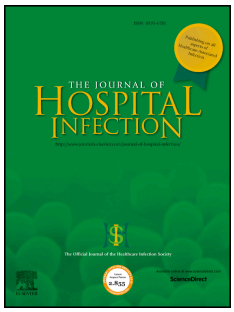
When citing, please reference the published version.

Take down policy
While the University of Birmingham exercises care and attention in making items available there are rare occasions when an item has been uploaded in error or has been deemed to be commercially or otherwise sensitive.

If you believe that this is the case for this document, please contact UBIRA@lists.bham.ac.uk providing details and we will remove access to the work immediately and investigate.

Download date: 24. Apr. 2024

Accepted Manuscript



National survey of practice of faecal microbiota transplantation for *Clostridium difficile* infection in the United Kingdom

Mohammed N. Quraishi, Jonathan Segal, Benjamin Mullish, Victoria L. McCune, Peter Hawkey, Alaric Colville, Horace Williams, Ailsa Hart, Tariq H. Iqbal

PII: S0195-6701(16)30502-3

DOI: 10.1016/j.jhin.2016.10.023

Reference: YJHIN 4952

To appear in: *Journal of Hospital Infection*

Received Date: 25 October 2016

Accepted Date: 25 October 2016

Please cite this article as: Quraishi MN, Segal J, Mullish B, McCune VL, Hawkey P, Colville A, Williams H, Hart A, Iqbal TH, National survey of practice of faecal microbiota transplantation for *Clostridium difficile* infection in the United Kingdom, *Journal of Hospital Infection* (2016), doi: 10.1016/j.jhin.2016.10.023.

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

ACCEPTED MANUSCRIPT

Title: National survey of practice of faecal microbiota transplantation for *Clostridium difficile* infection in the United Kingdom

Authors:

1. Mohammed N Quraishi; University Hospital Birmingham NHS Foundation Trust, University of Birmingham, Birmingham, United Kingdom
2. Jonathan Segal; St Mark's Hospital, IBD Unit, London, United Kingdom
3. Benjamin Mullish; Imperial College London, London, United Kingdom
4. Victoria L McCune; PHE Public Health Laboratory Birmingham, Birmingham, United Kingdom
5. Peter Hawkey; University of Birmingham, Birmingham, United Kingdom
6. Alaric Colville; Royal Devon and Exeter NHS Foundation Trust, Exeter, United Kingdom
7. Horace Williams; Imperial College London, London, United Kingdom
8. Ailsa Hart; St Mark's Hospital, IBD Unit, London, United Kingdom
9. Tariq H Iqbal; University Hospital Birmingham NHS Foundation Trust, University of Birmingham, Birmingham, United Kingdom

Keywords: Clostridium difficile, faecal microbiota transplantation, survey, United Kingdom

Running title: UK survey of FMT for CDI

Corresponding author: Tariq H Iqbal**;** University of Birmingham, Birmingham, United Kingdom, B15 2TT (t.h.iqbal@bham.ac.uk)

Alternate corresponding author: Mohammed N Quraishi; University of Birmingham, Birmingham, United Kingdom, B15 2TT (m.n.quraishi@bham.ac.uk)

ACCEPTED MANUSCRIPT

ACCEPTED MANUSCRIPT

National survey of practice of faecal microbiota transplantation for *Clostridium difficile* infection in the United Kingdom.

Sir

We read with interest the recent editorial on faecal microbiota transplantation for recurrent or refractory *Clostridium difficile* infection (CDI) in which Dr Goldberg summarizes the efficacy of this treatment but also the obstacles in the way of undertaking this treatment.[1] Indeed although the National Institute of Health and Care Excellence advocate the use of faecal microbiota transplantation (FMT) for recurrent or refractory *Clostridium difficile* infection (CDI) when antibiotics fail, our perception is that it has not been widely adopted in the UK. Although the Medicines and Healthcare products Regulatory Agency (MHRA) recently announced that FMT falls within the definition of a medicinal product in the context of clinical trials, this is not the case for CDI treatment and in this context the practice of FMT has not yet been standardised or regulated in the UK.[2] We conducted a national survey to explore current experience with FMT and challenges faced by hospitals in setting up this service. We invited gastroenterologists, microbiologists and infectious disease physicians in the UK to take part in national survey by completing an online questionnaire in 2015.

A total of 255 responses were obtained, of which 204 were included from 120 microbiologists and infectious disease physicians and 84 gastroenterologists following exclusion of incomplete and invalid responses. The survey covered 130 independent sites including 112 acute hospital NHS Trusts in England, 9 in Scotland and 9 in Wales. We found that of these 130 sites only 28% (36/130) had ever performed FMT for refractory or recurrent CDI (Table 1). Furthermore, although 21 of these 36 sites reported having had experience of providing FMT for over one year, only seven sites had treated at least 10 patients. Of the sites that delivered this treatment 24 made the product up on site while 12 obtained FMT from other sites to administer at their hospital. A map of sites currently performing FMT or not is shown in Figure 1. One site performed FMT for refractory ulcerative colitis in a single patient. There were no other indications for its use.

Our survey showed that 94 independent sites did not perform FMT and of these 27 (29%) had referred their refractory or recurrent CDI patients elsewhere for FMT; primarily to Glasgow (in Scotland), Birmingham (in the English midlands) and Exeter (in south-west England). Of sites that were not undertaking FMT, 66 (70%) were keen to have support in setting up an FMT service for CDI locally. On surveying reasons for lack of local provision for FMT at these non-FMT sites, 42 (45%) believed that they were unable to do it due to lack of facilities and 36 (38%) did not know where to start. However only five (5%) felt reluctant to do it because of its perceived unpleasantness. Only a few physicians commented that they were not convinced with the evidence of its efficacy and safety, therefore would not recommend it for their patients.

Our survey provides the most comprehensive representation of FMT service and delivery in UK to date and these findings uncover a surprising lack of uptake for a highly effective, cheap and safe treatment for refractory or recurrent CDI.[3] With just over a quarter of sites in the UK performing FMT and less than one-third referring patients to other hospitals, it is clear that this geographical inconsistency in treatment availability needs to be urgently addressed. Consistent with a survey conducted three years ago,[4] logistical hurdles, costs and local expertise continue to be the primary barriers in set up this service in hospitals in the UK. Despite the MHRA's reasonably permissive approach on FMT as a treatment for CDI, there are considerable challenges and implications in setting up a safe, efficient and regulated FMT

ACCEPTED MANUSCRIPT

service. This is especially with regard to donor screening (which can be laborious and expensive to perform) and preparation of stool prior to transplantation. The lack of protocols and guidelines for safe and regulated FMT preparation and delivery means it is likely there are significant differences in levels of governance amongst sites that perform FMT nationally.

It was clear from the survey that despite these significant challenges faced by hospitals, most would welcome support in providing FMT. Similar to the OpenBiome service established in Boston which caters to over 500 hospitals in USA,[5] a central or regional quality controlled and regulated FMT preparation, delivery and support service for the UK may be an appropriate and safe strategy.[6] There needs to be agreed national guidelines and protocols for patient and donor selection and screening as well as FMT preparation and delivery based on current evidence for efficacy and safety. Indeed a joint working group involving the Hospital Infection Society and the British Society of Gastroenterology are working on such guidelines. Additionally, there is an urgent need to establish a national registry of patients treated with FMT, in order to review long term outcome and safety data and improve our understanding of disease and treatment mechanisms.

Acknowledgement / Financial section: No acknowledgements. We received no financial support for this survey. All authors declare that they have no conflict of interest.

References

1. Goldberg SD. Faecal microbiota transplantation for recurrent *Clostridium difficile* infection and beyond: risks and regulation. *j Hosp Infect* 2016;**92:**115-116.
2. Medicines and Healthcare Regulatory Agency in the UK (MHRA) [https://www.hta.gov.uk/policies/regulation-faecal-microbiota-transplant].
3. Kassam Z, Lee CH, Yuan Y, Hunt RH. Fecal microbiota transplantation for *Clostridium difficile* infection: systematic review and meta-analysis. *Am J Gastroenterol 2013;***108:**500–508.
4. Porter RJ, Fogg C. Faecal microbiota transplantation for *Clostridium difficile* infection in the United Kingdom. *Clin Microbiol Infect* 2015;**21:**578–582.
5. Smith M, Kassam Z, Edelstein C, Burgess J, Alm E. OpenBiome remains open to serve the medical community. *Nat Biotechnol* 2014;**32:**867.
6. Mullish BH, Williams HRT. Obstacles to establishing an NHS faecal transplant programme. *BMJ*2015;**351:**h6043.

ACCEPTED MANUSCRIPT

Table 1: Results of survey of practice of faecal microbiota transplantation for *Clostridium difficile* infection in the United Kingdom

	England	Scotland	Wales
Total sites responding to survey	112	9	9
Sites FMT performed in	32	1	3
Sites performing FMT for > 1 year	17	1	3
Sites performing FMT for < 1 year	15	0	0
Sites that delivered FMT in ≥ 10 patients	5	0	2
Sites that delivered FMT in < 10 patients	27	1	1

Figure 1: Map of sites of hospitals responding to the of survey of practice of faecal microbiota transplantation for *Clostridium difficile* infection in the United Kingdom

ACCEPTED MANUSCRIPT

Don't perform FMT
Perform FMT
United Kingdom
Isle of Man
WALES
ENGLAND
Paisley
Ayr
Dumfries
Durham
Middlesbrough
Scarborough
Hull
Peterborough
Colchester
Swansea
Bath
Exeter
Torquay
Plymouth
Brighton
Canterbury
Ipswich
Norwich
Leicester
Oxford
Swindon
Cardiff
Bournemouth
Southampton
Lake District National Park
North Pennines AONB
Yorkshire Dales National Park
North York Moors National Park
Peak District National Park
Snowdonia National Park
The Cotswolds AONB