Faecal microbial transplant: Therapy of the past, magic pill of the present?

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Madam, several recent ground-breaking studies have caught the attention of scientists focused around gut microbiome. The gut microbiota provides a protective barrier against pathogens and plays an essential role in human body functions. Changes in gut microbiota composition, called 'dysbiosis', have been associated with several metabolic, autoimmune, allergic, and neuropsychiatric disorders.[1]

The upsurge in metagenomics studies has shown how manipulation of the microbiota can potentially cure many of these diseases. Faecal microbial transplant (FMT), also called stool transplantation,[1] is one such example that involves introduction of colonic microrganisms from a healthy donor into a recipient. Faeces are prepared by mixing with water/normal saline, followed by a filtration step. Infusion is performed via nasogastric tube, colonoscopy or retention enema.[2]

The concept of FMT dates back some 1700 years ago when a Chinese medical scientist used the idea to treat diarrhoea.[1] FDA originally approved it as a 'biologic' for the treatment of recurrent Clostridium difficile infection (rCDI) and it has shown miraculous success rates.[1] It is note worthy that CDI is the leading cause of nosocomial infection and carries a high recurrence rate.[3] The problem of recurrence is compounded in developing countries by the unregulated and inappropriate use of antibiotics. In Pakistan, Naqvi et al found that 40% of patients who received antibiotics developed diarrhoea and 29% of them tested positive for C.diff.[4] Here FMT stands as a low cost, low risk and highly effective treatment.

Studies have also established a link between microbes and obesity, metabolic syndrome, cardiovascular disease, inflammatory bowel disease, diabetes and colorectal cancer.[5] While experimental studies have tried to explain the pathophysiology, they conclude that FMT may potentially cure these diseases. Needless to say, the future of FMT is very bright.

FMT appears to be safe with short-term benign side effects that include diarrhoea, constipation, bloating, abdominal discomfort and vomiting. However, one worrisome long-term effect is the transmission of infections such as Hepatitis C and HIV. This requires further study.[1]

In Pakistan, there has been no research elaborating FMT. Healthcare professionals here are not even aware of FMT. This calls for research in this avenue that holds a lot of promise. This would not only ease our burden of CDI but also other chronic diseases that might engulf our country as we adopt a more Western lifestyle.

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