

Communication

Microbiome Restoration via Fecal Transplant: A Novel Approach to Feline Gut Health

Ayat Fatima^{*}, Sayyed Aun Muhammad, Abdul Mateen

Department of Clinical Sciences, College of Veterinary and Animal Sciences, Jhang, Pakistan

Abstract

The gut microbiome is an extremely complex ecosystem made up of different microorganisms, including viruses, bacteria, fungus, and protozoa. It plays an important role in maintaining host health through protection provided by the immune system against the colonization of the gastrointestinal tract by harmful enteropathogens, ensuring integrity of the epithelial cells, and enhancing absorptive capability of nutrition by enterocytes. The scientific literature of the last years underlined the role of metabolites produced by intestinal microbiota, better known as intestinal metabolome, and how much it can influence the general health of the host. In particular, from literature, it emerged that some metabolites produced by gut microbiota can affect the immune system, metabolism, and gut health. Fecal microbiota transplantation is one method of restoring or augmenting gut microbiota in an individual, especially when one has gastrointestinal problems. While it has also been employed in cases of chronic enteropathies in cats when conventional therapy has failed. Despite the limited application of FMT in cats, there is a requirement for evidence-based guidelines on its implementation in clinical settings to ensure that the intestinal health of felines is at an optimum best after FMT. In this way Veterinarians will have a new way of treating gastrointestinal disorders that are not responding to conventional medications more effectively. That's why standardized protocols are important to improve the overall health and wellness in the feline patient. The following article highlights the importance and implementation of FMT in feline practice to ensure sound gut health.

Keywords

Microbiome, Faecal, Transplant, Feline, Chronic Diarrhea

1. Introduction

Due to various reasons, intermittent episodes of gastrointestinal distress occur in felines, making this disorder one of the most common illnesses that veterinarians treat. Cats with gastrointestinal disorders experience pain and related problems concerning their stomach and intestines. For the growth of a cat, the repair of tissue, and gaining energy, there should be proper digestion. GI problems may cause poor nutrition, acid-base and electrolyte imbalance, and dehydration. A

stepwise approach is suggested, which includes dietary manipulation, antibiotic interventional, and steroid medication. Unfortunately, a large number of felines, especially those suffering from chronic enteropathies [3] such as inflammatory bowel disease, become resistant to conventional treatment. This hence highlights the need for additional treatments for full recovery. For that matter, intestinal health should be maintained in felines to ensure proper growth and healthiness

^{*}Corresponding author: ayatfatimavet@gmail.com (Ayat Fatima)

Received: 8 September 2025; **Accepted:** 13 October 2025; **Published:** 31 October 2025



Copyright: © The Author(s), 2025. Published by Science Publishing Group. This is an **Open Access** article, distributed under the terms of the Creative Commons Attribution 4.0 License (<http://creativecommons.org/licenses/by/4.0/>), which permits unrestricted use, distribution and reproduction in any medium, provided the original work is properly cited.

[5]. Its efficiency in the treatment of infections caused by *Clostridium difficile* points toward its potential use in veterinary medicine for treating chronic gastrointestinal disorders [1].



Figure 1. Uses of FMT.

2. FMT

Perhaps the most exciting treatment option is fecal microbiota transplantation which in clinical practice has shown only positive outcomes in patients and experiments on the animals [8]. Fecal microbiota transplantation is the process in which faecal matter, along with its fermented products, is injected into the GIT of a diseased person. The wastes get deposited into the gastrointestinal track of the recipient. This pod jand for this study can be administered through either enteric-protected oral capsules or a clinical environment using techniques such as colonoscopy, retention enema or endoscopy [2]. There is a possibility that FMT can reduce various symptoms of dysbiosis by the introduction of Healthy gut microorganisms that are specific to the host [4]. FMT can be used to treat various immune-related diseases, skin diseases, such as atopic dermatitis, and gut conditions like inflammatory bowel disease (IBD) [2].

2.1. FMT: In Small Animal Perspective

Since the 17th century, veterinary therapy in large animals has involved fecal microbiota transplantation (FMT).

This technique is referred to as 'transfaunation' in the case of horses and cattle. Until the time when FMT became available for clinical use in the treatment of patients with *C. diff* during the middle of the last century, little progress has

been made through the use of FMT in small-animal veterinary therapy in the treatment of chronic diarrhea in dogs and cats. There are sufficient studies conducted for animals, providing evidence that FMT can resolve skin diseases such as atopic dermatitis and diarrhea due to parvovirus infection and IBD [10].

2.2. Routes of Administration

This novel fecal transplant treatment by AnimalBiome can clinically be administered with the help of enteric-protected capsules or even through colonoscopy, retention enema, endoscopy, or other techniques [2]. Their innovative FMT Gut Restore Supplement saves cats and dogs from sedation or surgery and delivers the benefits of fecal transplantation in a convenient and safe way.

3. Prospects for the Future

Most of the scientific research has, until now, confirmed that FMT can cure a host of ailments and disorders [11]. Other benefits that FMT therapy offers to general well-being will be more obvious once further study is carried out on the complex relationship between microbiota imbalance and illnesses.

Within the veterinary area, FMT has developed to be a valuable approach to treat the most common health problems of cats and dogs, such as disorders related to GIT and skin.

3.1. GIT Affections

Diarrhea, constipation, emesis, regurgitation, and unintentional weight loss are but a few conditions causing clinical signs within the digestive tract. Evaluation of gut flora is necessary in the case of excluding common diseases or when a case which seems resistant to therapy [12]. The gut microbiome test can provide insight into the composition change of microbiota, such as overgrowth of pathogenic bacteria or an insufficient amount of the good bacteria. Although *Escherichia coli* is a helpful member of gut microbiota in small quantities, its overgrowth may present clinical gastrointestinal symptoms. It is frequent to observe, in cats and dogs, increased amounts of *Escherichia*. Fecal microbiota transplantation treats diarrhea and re-establishes proper digestive function through the administration of a diverse consortium of useful bacteria that compete against pathogenic germs [9].

3.2. Skin Affections

Gut microbiota has been closely associated with chronic skin conditions such as edema, atopic dermatitis, alopecia, and otitis.

Since most immune cells are concentrated in the GI tract, skin conditions usually result from dysfunctions in the im-

immune system [6]. A gut flora imbalance can lead to a porous gut barrier, which relates to food allergies. Leaky gut syndrome or even a weakened immune system can cause skin problems. The unhealthy gut can get inflamed, thereby releasing an immunological response manifested as dermatitis, erythema, and itching [4].

4. FMT Procedure

This includes the recipient's and donor's preparation [7]. Samples of stool are kept in anaerobic conditions as part of the donor's preparation. Dilution, homogenization, filtration, centrifugation, and preservation are the ensuing processes, in that order [2]. However, the GIT of the recipient has to be prepared by either treating it with antibiotics and eradicating the bacteria, or treating it with polyethylene glycol, and hence the environment into which the stool is being inserted is changed to an aerobic one [7].

A non-antibiotic approach to deplete gut microbiota before transplantation of donor gut microbiome is the use of laxative-based colon preparation methods like PEG. The PEG increases the fluid volume through osmotic flow and hence effortlessly washes out the luminal microorganisms out. It further increases the colonic oxygen concentration and decreases nutritional supply to microbes [13].

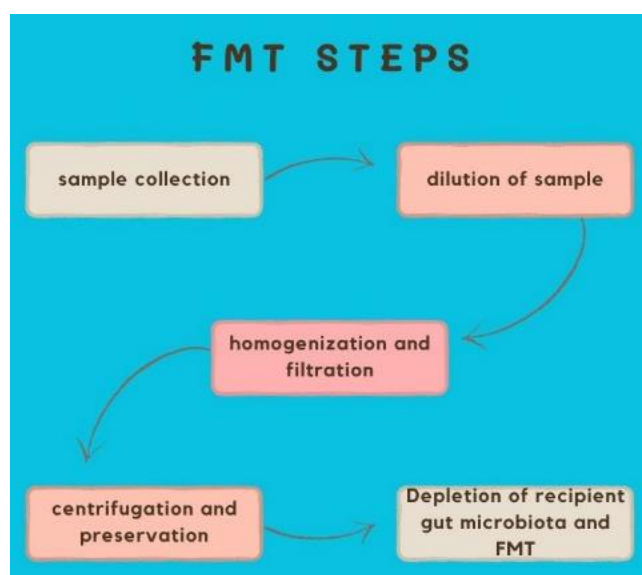


Figure 2. Steps involved in FMT Procedure.

Dosage Selection

The ideal FMT dosing regime would depend on the illness and bacterial type being researched. The long-term donor microbiota durability and ideal FMT dosage is not known. Further studies will be required to determine the optimum dosage, as well as how the composition of the microbial population impacts the effectiveness of FMT [2].

5. Discussion

FMT capsules restore balance and alleviate symptoms by restocking your patient's microbiome with the right bacteria in the right quantities. This would mean that these capsules can help restore balance and address a range of health concerns by adding a carefully selected blend of beneficial bacteria into the gut. For example, imagine a patient who has suffered from chronic issues with digestion and now is finally on FMT pills. They could exhibit increased appetite, regularity of stool, and, in some instances, reduced itching with time. The positive results can occur some weeks into the practice, and this is a sure testament to how effective the methodology is. The gut microbiota of individuals that is highly out of balance might take longer to start their healing process. Patience is cardinal in such situation as it may take a little longer for the newly introduced germs to replicate and start working.

Age and presence of any other medical complications are another set of variables which may influence the pace at which the improvements take place. It can take as long as two to three months in aged patients or patients with history of other involved pathologies to develop a healthy gut microbial flora. Here, the extended duration demonstrates the care that is required in the provision of these individualized steps and treatment programs to ensure that every client makes a tailored and personalized journey towards the improvement of intestinal health.

6. Conclusion

Literature indicates FMT as a promising approach in companion animal gastroenterology with limited adverse effects. Even though dosages and procedural methodologies applied by companion animal clinicians vary slightly, a shared series of treatment guidelines are expected to emerge. FMT is promising in the treatment of a majority of the cats that are suffering from incurable chronic enteropathies. It is useful in quite a number of clinical settings that range in treating panleukopenia infection to chronic non responsive gut issues in felines. The use of FMT could reduce antibiotic administration in some cases as well.

Abbreviations

FMT Feecal Microbiota Transplant

Acknowledgments

I acknowledge Department of Clinical Sciences, CVAS, Jhang for guidance and support throughout the preparation of this manuscript.

Author Contributions

Ayat Fatima: Methodology, Software, Writing - original draft, Writing - review & editing

Sayed Aun Muhammad: Supervision, Validation, Visualization

Abdul Mateen: Supervision, Visualization, Writing - review & editing

Conflicts of Interest

The authors declare no conflicts of interest.

References

- [1] Paul A, Stayt J. The intestinal microbiome in dogs and cats with diarrhoea as detected by a faecal polymerase chain reaction - based panel in Perth, Western Australia. *Australian Veterinary Journal* 2019; 97: 418-21. <https://doi.org/10.1111/avj.12867>
- [2] Tuniyazi M, Hu X, Fu Y, Zhang N. Canine Fecal Microbiota Transplantation: Current Application and Possible Mechanisms. *Veterinary Sciences* 2022; 9: 396. <https://doi.org/10.3390/vetsci9080396>
- [3] Berlanda M, Innocente G, Simionati B, Di Camillo B, Facchin S, Giron M, et al. Faecal Microbiome Transplantation as a Solution to Chronic Enteropathies in Dogs: A Case Study of Beneficial Microbial Evolution. *Animals* 2021; 11: 1433. <https://doi.org/10.3390/ani11051433>
- [4] Amorim N, McGovern E, Raposo A, Khatiwada S, Shen S, Koentgen S, et al. Refining a Protocol for Faecal Microbiota Engraftment in Animal Models After Successful Antibiotic-Induced Gut Decontamination. *Frontiers in Medicine* 2022; 9. <https://doi.org/10.3389/fmed.2022.770017>
- [5] Rojas CA, Entrolezo Z, Jarett JK, Jospin G, Kingsbury DD, Martin A, et al. Microbiome Responses to Fecal Microbiota Transplantation in Cats with Chronic Digestive Issues. *Veterinary Sciences* 2023; 10: 561. <https://doi.org/10.3390/vetsci10090561>
- [6] Sugita K, Shima A, Takahashi K, Ishihara G, Kawano K, Ohmori K. Pilot evaluation of a single oral fecal microbiota transplantation for canine atopic dermatitis. *Scientific Reports* 2023; 13. <https://doi.org/10.1038/s41598-023-35565-y>
- [7] Secombe KR, Al-Qadami GH, Subramaniam CB, Bowen JM, Scott J, Van Seville YZA, et al. Guidelines for reporting on animal fecal transplantation (GRAFT) studies: recommendations from a systematic review of murine transplantation protocols. *Gut Microbes* 2021; 13. <https://doi.org/10.1080/19490976.2021.1979878>
- [8] Keubler LM, Talbot SR, Bleich A, Boyle EC. Systematic review and meta-analysis of the effect of fecal microbiota transplantation on behavior in animals. *Neuroscience & Biobehavioral Reviews* 2023; 153: 105316. <https://doi.org/10.1016/j.neubiorev.2023.105316>
- [9] Fecal transplant for managing GI disorders | Vet Focus n.d. <https://vetfocus.royalcanin.com/en/scientific/fecal-microbiota-transplantation-for-gi-disorders>
- [10] Takáčová M, Bomba A, Tóthová C, Micháľová A, Turňa H. Any Future for Faecal Microbiota Transplantation as a Novel Strategy for Gut Microbiota Modulation in Human and Veterinary Medicine? *Life* 2022; 12: 723. <https://doi.org/10.3390/life12050723>
- [11] Bokoliya, S. C., Dorsett, Y., Panier, H., & Zhou, Y. (2021b). Procedures for Fecal Microbiota Transplantation in Murine Microbiome Studies. *Frontiers in Cellular and Infection Microbiology*, 11. <https://doi.org/10.3389/fcimb.2021.711055>
- [12] Ryu, M. O., Lee, S. Y., Kim, S. H., Youn, H. Y., & Seo, K. W. (2024b). Fecal Microbiota Transplantation via Commercial Oral Capsules for Chronic Enteropathies in Dogs and Cats. *Journal of Veterinary Clinics*, 41(3), 150-156. <https://doi.org/10.17555/jvc.2024.41.3.150>
- [13] Suchodolski, J. S. (2021b). Analysis of the gut microbiome in dogs and cats. *Veterinary Clinical Pathology*, 50(S1), 6-17. <https://doi.org/10.1111/vcp.13031>