



KEY WORDS

- ✓ Gut Microbiota
- ✓ Dysbiosis
- ✓ Fecal Microbiota Transplantation
- ✓ Nesfatin-1
- ✓ sOB-R

CONTACT

E-MAIL:
Fidansongul54@gmail.com

THESIS SUPERVISOR

TELEPHONE:
+90 224 294 12 28

E-MAIL:
muraty@uludag.edu.tr

INVESTIGATION OF THE EFFECTS OF DYSBIOSIS ON PLASMA NESFATIN-1 AND BODY DEVELOPMENT

SONGÜL FIDAN BULUT

0009-0008-8171-9223

BURSA ULUDAĞ UNIVERSITY

GRADUATE SCHOOL OF HEALTH SCIENCES

Faculty of Veterinary Medicine / Department of Physiology
MSc

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SUPERVISOR

Prof. Dr. Murat Yalçın

ORCID: 0000-0002-5600-8162

Bursa Uludağ University

Institute of Health Sciences

Department of Physiology



THESIS ABSTRACT

In this thesis, the effects of antibiotic-induced gut dysbiosis during the weaning period on microbiota composition, growth, feed intake, and appetite-regulating biomarkers in rats were investigated. Additionally, the corrective role of fecal microbiota transplantation (FMT) on these alterations was evaluated.

Antibiotic administration reduced microbial diversity, decreased body weight gain and feed intake, and increased nesfatin-1 and soluble leptin receptor (sOB-R) levels. FMT application partially improved microbiota balance and metabolic parameters.

APPLICATION AREAS OF THE THESIS RESULTS

The findings of this study reveal the effects of antibiotic use during early life on gut microbiota, growth, and appetite regulation, providing important implications for pediatric nutrition and preventive health practices. Alterations in nesfatin-1 and sOB-R levels suggest that microbiota-neuroendocrine interactions may be clinically evaluated through measurable biomarkers.

Furthermore, fecal microbiota transplantation and other microbiota-based approaches emerge as potential strategies for the prevention or treatment of dysbiosis-associated growth retardation and metabolic dysregulation. These results offer new therapeutic targets for the microbiota-mediated regulation of appetite and energy metabolism.

