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Research Article

Fermented Herbal Decoction Adjusted both Proportion of Intestinal Flora and Odor Regulation

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Received: June 13, 2019; **Published:** July 18, 2019

Abstract

Background: It has been claimed that life-related diseases are regulated by discovering several alternative medical processes to regulate the intestinal environment.

Objective: The aim of this study was to find a cool method to control biases from lifestyle-related diseases through regulation of the intestinal environment in both young and elderly subjects.

Methods: Fermented herbal decoction (FHD) was prepared with 80 fruit and herbal remedies. These products have been shown to be safe in animal safety studies. This study was conducted to investigate the progress of the ratio of intestinal microbiota in both geysers and villi.

Results: Our results indicated that FHD is safe for animal safety studies. At 10 and 30 days after the administration of FHD, the ratio of intestinal microbiota was reversibly adjusted from the main group to the lender group in a dose-dependent manner. This regulatory mechanism was triggered by the initiation of complement activation by absorbed FHD fragments into the lymph via the intestinal wall.

Conclusions:

1) FHD increased the Goody *Bacillus* just after 10 days in an intestine.
2) FHD decrease the Villainous *Bacillus* after 10 days.
3) As a result of this populational change, the odor in the feces was down regulated.
4) This regulation was reversible, the villainous *Bacillus* increased after just 10 days without FHD.

Keywords: *QOL; Digital Labeling; Fermented Herbal Infusion; Intestinal Flora; Guddy Bacillus; Bowl Movement; Odor*

Abbreviations

CAM: Complementary and Alternative Medicine, beside the western medicine, there are many traditional medicine and/or health promoting menu all over the world; CD: Cluster of Differentiation. Each lymphocyte has name that expressed CD number, for example CD2, CD4, etc.; DM: Diabetes Mellitus; Emotional Hormone: Adrenaline, Dopamine and Cortisone were selected as emotional hormones for this trial; FCM: Flow Cytometry; G-rich type: The individual that exhibit over 60% of granulocyte in peripheral blood, finding many in young gentleman might be kept warm around the nee but the Head kept rather cool; L-rich type: The individual that exhibit over 40% of lymphocyte in peripheral blood, finding lot in ladies and senile; MHC: Major histocompatibility antigen; Self marking constructions that express almost all the cell surface. Immune response can start with coincides of same MHC. Tumor cell and virus-infected cell lose this MHC that can attacked by tumor cell and virus-infected cell; QOL: Quality of Life; FHD: FHD, a main subject of this paper

Introduction

Folk decoction have been found in many parts of the world where indigenous people started living. According to the WHO report, traditional medicine accounted for 65 ~ 85% of the medical field. In fact, since the introduction of these products, the proportion of these products is considered as complementary and alternative medicine (Cam) [1]. Japan is located in the Far East and therefore is a substyle of medicine that arose along with century and geographical conditions such as Oriental medicine like TCM [2-8]. Therefore, estimation between major types [9-14] and subtypes of traditional medicine requires detailed evaluation and review. This paper attempts to report the effect of FHD [15] as a digital methodology and problem modeling as a new CAM-style digital presentation in Japan. Therefore, we attempted to characterize the quality of FHD for human physical factors. Therefore, the purpose of this report was to demonstrate the importance of writing digital words to clarify the status of each physiological condition including intestinal flora. The selection of health menus associated with each constitution is difficult due to the lack of information about these interactions among the public and among health professionals resulting in potentially significant health scales [16-30]. In other words, there is still no interim measure to assess the degree of concentration of each trial.

Methodology

Preparation of FHD

Commercial fermented herbal contemplation labeled MANNYOH (FHD) was purchased with (Echigo Yakusa Co., Ltd. Joetsu City, Niigata Prefecture). The conventionally available purified water prepared by reverse dialysis in the laboratory of Kanazawa Medical University was set as the control [31].

FHD preparation, fermentation and GABA generation

Commercially available 80 sorts of wild herbs were prepared and extracted by 100 ml of hot water (98°C) to 10 gr grained the roasted material, for 3 minutes. The fermentation was carried out by *Lactobacillus leuteria* for 5 days at 40°C. Each ratio of powdered, lactobacilli and water was 100:50:850, prepared by ECHIGO YAKUSOU, Ltd. (Niigata, Jyoestu, Japan). After the centrifugation of 2000 xg for 10 minutes in a room temperature and supernatant was served for FHD. GABA: gamma amino acid butyric acid was evaluated by the test system [32]. Followings were the method for quantifying γ-aminobutyric acid, which comprises the steps of producing reduced nicotinamide adenine di-nucleotide phosphate by using a specific aminotransferase and a dehydrogenase that needs to use oxidized nicotinamide adenine dinucleotide phosphate as a coenzyme and deactivating the enzymes, thereby removing any amino acid having a similar structure to that of GABA and acting an electron carrier on NADPH produced in the aforementioned step in the presence of a tetrazolium salt that can produce a water-soluble formazan dye and measuring the water-soluble formazan dye described and reported in references [33].

Trial by human volunteer

Volunteers aged 65 ± 6.7 were nominated as this trial. Prior to the final step, all the applier were given self-questionnaires. At the final stage of this trial, volunteer were selected according their medical history. To confirm their condition, each participant gave written informed and consented in this trial according to the Ethics of Kanazawa Medical University Hospital.

Statistical considerations

The data were expressed as mean +/− standard deviation. The WBC is number of cells, granulocytes and lymphocytes were shown as % of total leukocytes and adrenalin content was expressed by pg (pico-gram/ml). Group comparison of data was performed by ANOVA and post hoc multiple test.

Result

Effects of goody *bacillus* and villainous *bacillus* on population analysis

The subject was a healthy subject, and there was no large change in the health problem. FED was administered for 3 weeks by getting notice and agreement of Kanazawa Medical Univ. ethics committee. Ammonia and sulfide were detected every week after the start. As shown in table 1.

Ammonia and sulfide in the feces significantly decreased after 10 days from the start. *Bifidobacterium, Bacteroides, Escherichia coli* and *Streptococcus*, as representatives of the intestinal flora, were selected for this follow-up. SRE was compared with the Health Promotion Standard, yogurt, chitosan, oligosaccharide and lactulose. The results are shown in tables 1a-1d, respectively. From the results of this study, SRE was the best material for upregulating good *Bacillus*. In the same trend, FED was found to be most suitable for down-regulation of ciliated rod counts in the intestine.

Dynamics of intestinal flora after FHD ingestion

Four groups of bacteria, *Bifidobacterium, Bacteroides, Clostridium*, etc. were selected as this marker, as in the same trend of tests for the analysis of intestinal flora. The relative value of *Bifidobacterium* increased significantly after 10 days and reached a maximum after 30 days. However, it gradually decreased even on 10th day after the FHD administration. On the other hand, the anaerobic bacterium *Clostridium* decreased after 10 days, and hardly decreased after 10 and 30 days. This analysis also showed a causal relationship with FHD administration (Figure 1a-1d).

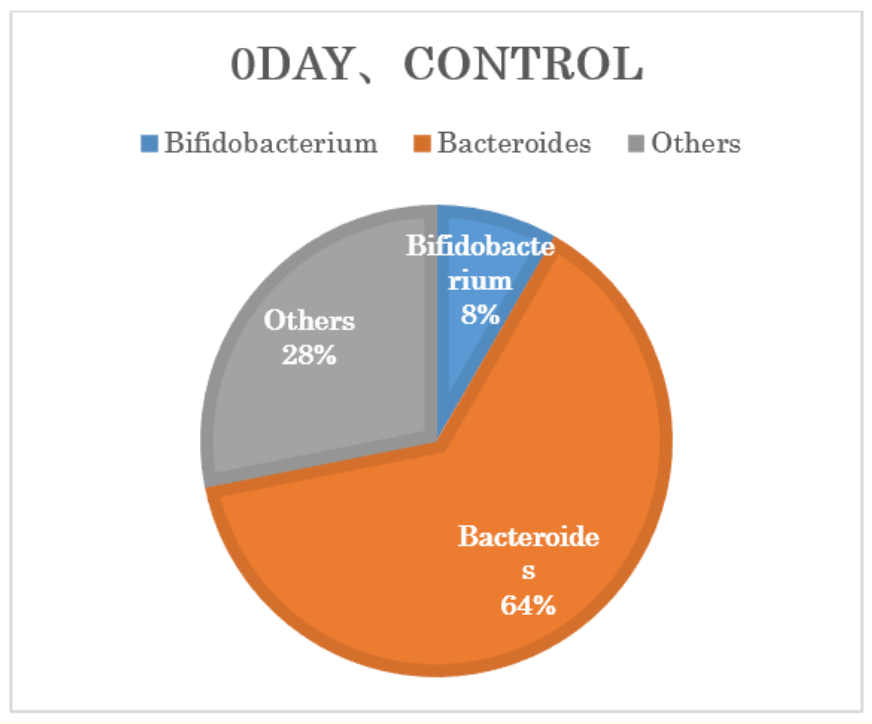

Figure 1a: *As a representative of intestinal flora, Bifidobacterium, Bacteroides, Escherichia Coli and Streptococcus were selected for this tracing before the test.*

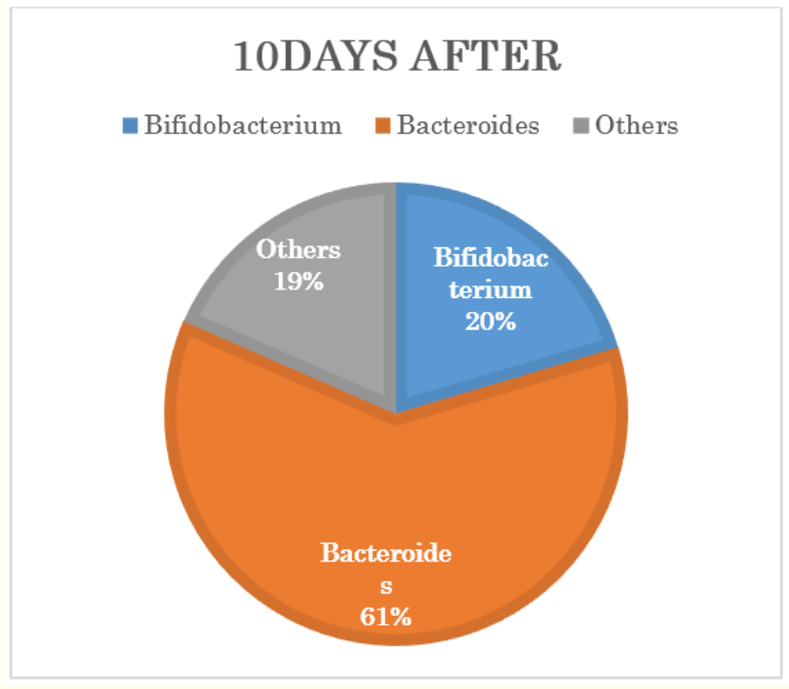

Figure 1b: *As a representative of intestinal flora, Bifidobacterium, Bacteroides, Escherichia Coli and Streptococcus were selected for this tracing, after 10 days.*

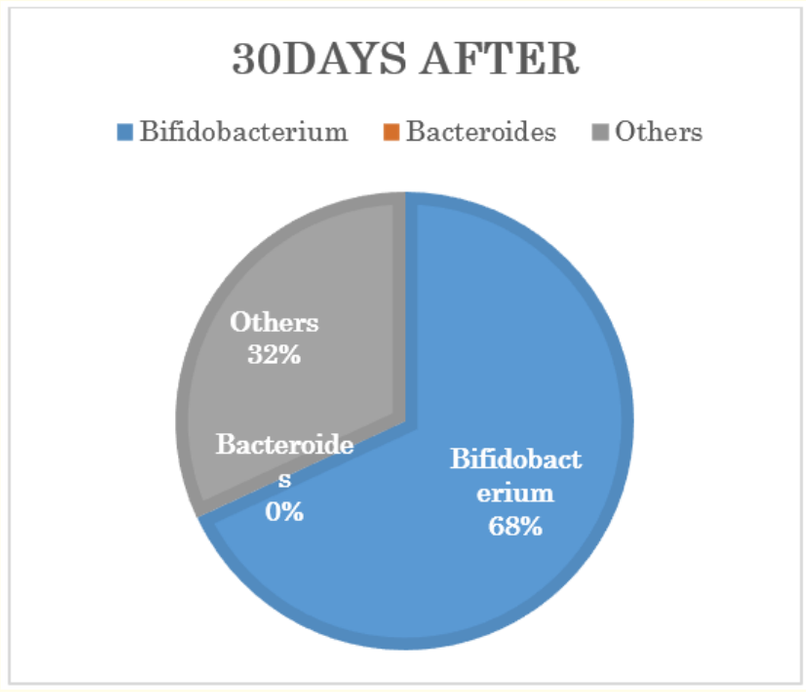

Figure 1c: *As a representative of intestinal flora, Bifidobacterium, Bacteroides, Escherichia Coli and Streptococcus were selected for this tracing, after 30 days.*

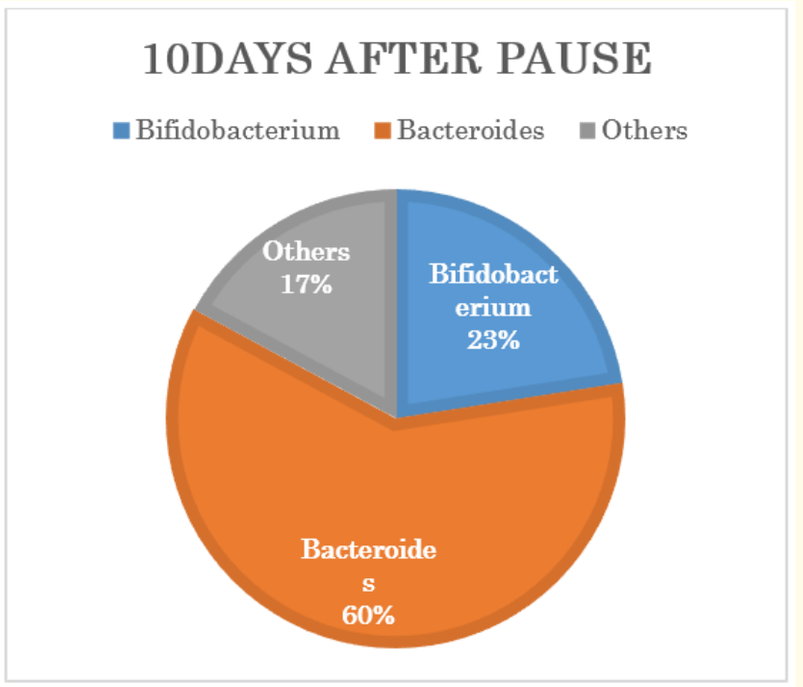

Figure 1d: *As a representative of intestinal flora, Bifidobacterium, Bacteroides, Escherichia Coli and Streptococcus were selected for this tracing, stopped after 10 days.*

Access to fecal biochemicals, ammonia, and sulfides after FHD

First, we asked volunteers in writing that they were healthy. By getting notice and agreement of Kanazawa medical university ethics committee, FHD was administered after 10 days, 30 days and 10 days of the stop. Ammonia and sulfide were detected every week after the start. As shown in figure 2, both ammonia and sulfide in feces were significantly decreased from the 10th day after the start. However, discontinuation after administration increased both levels to the initial level, suggesting a close causal relationship with FHD administration. Addition of floras classified according to the object *Bifidobacterium, Bacteroides, Escherichia coli* and *Streptococcus*, as representatives of the intestinal flora, were selected for this follow-up. FHD was compared with the health promotion criteria known for nutrients such as intestinal flora, yogurt, chitosan, and oligosaccharides. The results are shown in tables 1a-1d, respectively. From the results of this study, FHD was the best material for upregulating goody *Bacillus*. A similar trend revealed that FHD was most suitable for down-regulation of ciliated rod counts in the intestine.

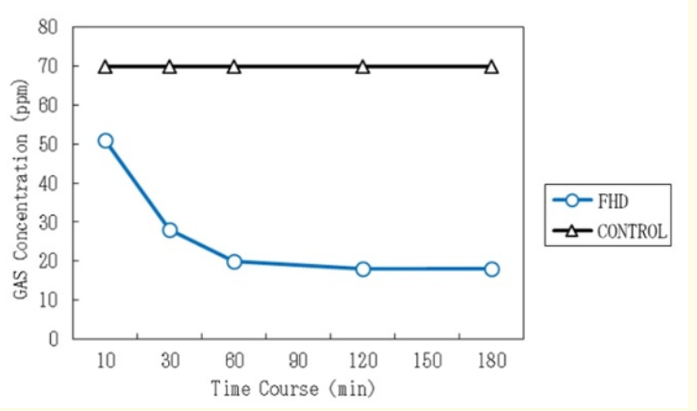

Figure 2a: *Ammonia.*

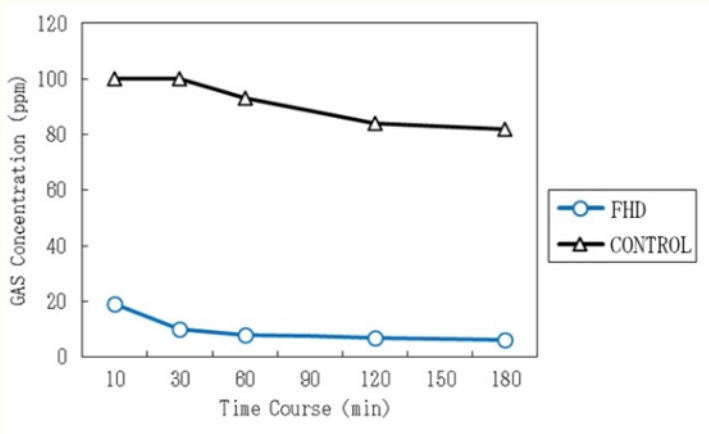

Figure 2b: *Tri-Methyl Amine.*

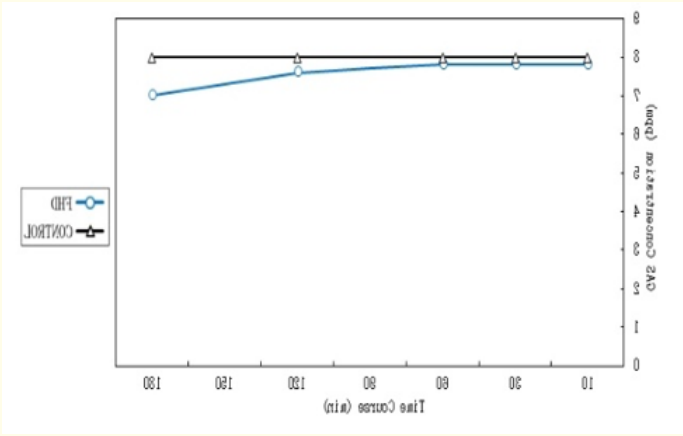

Figure 2c: *Methyl Mercaptane.*

Figure 2a-2c: *Absorbance character of FHD odor.*

One of the character of FHD was absorb capacity, especially odor element molecule. The representative s were shown in this figure. Both Ammonia and Tri Methyl Amine were quickly absorbed with this FHD as time dependent manner. Some of the molecule, such as Methyl Mercaptan was not.

Dividing subjects according to subject for intestinal additional for the flora

As a representative of intestinal flora, *Bifidobacterium, Bacteroides, Escherichia Coli* and *Streptococcus* were selected for this tracing. FHD was compared to the health promoting standard famous for the nutrient of intestinal flora, yogurt, Chitosan and Oligosaccharide. The results were shown in table 1a-1d respectively. From the result of this trial, FHD was the best material to up-regulating goody *Bacillus*. On the same trend was evident that FHD was the best one for down-regulation of villainous *Bacillus* number in the intestine.

Discussion

All subjects agreed to and were given information from the University Hospital Ethics Committee document. Kinetics of capillary length in males and females showed that males were significantly longer than females. It was interesting to discuss the biological significance of this difference. Furthermore, the dependence on length was faster after age 30, suggesting the onset of menopause. This phenomenon is of biological interest. This important turning point was also evident by the responsibility for leukocyte regulation due to the effects of CAM therapies such as hot spring water therapy, walking and acupuncture, and moxibustion [34-41]. In the animal model, FHD was shown to be safe for the animal safety test. Four weeks after administration, the ratio of granulocytes to lymphocytes was adjusted as the regulatory and neutral types. The levels of the emotional hormones adrenaline and dopamine in the serum also reversibly regulated neutrality in a dose-dependent manner. The mechanism of this regulation was caused by complement activation by the absorbed MRY fragment originating in the lymph [5] through the intestinal wall. The idea that FHD shows the therapy effect was proposed.

We propose that FHD exerts a therapeutic effect on the regulation of intestinal flora through the regulation of complement components. The activation mechanism was demonstrated by activation of the alternative pathway of complement. In a human intestinal model study, the number of lactic acid bacteria other than anaerobes increased. As for the odor factors, FHD reduced ammonia and bisulfate, the main odor components, and reduced the odor of the satiated face even after 10 days.

Conclusion

1) FHD increased the Goody *Bacillus* just after 10 days in an intestine.
2) FHD decrease the Villainous *Bacillus* after 10 days.
3) As a result of this populational change, the odor in the feces was down regulated.
4) This regulation was reversible, the villainous *Bacillus* increased just 10 days after without FHD.

Conflict of Interest

We declared that there was no conflict of interest in this study.

Acknowledgment

We all appreciated to the relevant, especially for the student members who attended for each trial.

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Volume 8 Issue 8 August 2019