

Pengaruh suplementasi probiotik terhadap perubahan frekuensi defekasi, kandungan asam butirat dan konsistensi feses, serta skor flatulensi pada pekerja kantor dengan penurunan frekuensi defekasi = Effect of probiotic supplementation on changes of frequency defecation, stool butyric acid content and consistency, and flatulence score among office and factory workers with decreased defecation frequency

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Abstrak

**ABSTRAK**

Penurunan frekuensi defekasi PFD memiliki korelasi antara host, diet, dan lingkungan. Gaya hidup sedentary merupakan faktor risiko PFD pekerja pabrik serta kantor, dan sering disertai konsistensi feses keras dan flatulensi. Penelitian sebelumnya menunjukkan probiotik memperbaiki PFD melalui produksi SCFA yang menstimulasi pergerakan kolon melalui berbagai mekanisme. Penelitian ini merupakan studi acak tersamar ganda, terkontrol terhadap pekerja kantor dan pabrik dengan PFD. Secara acak subjek dialokasikan selama 6 minggu untuk suplementasi probiotik kombinasi strain *L.plantarum* KCTC 10782 BP, *S.thermophilus* KCTC 11870 BP, *B.bifidum* KCTC 12199 BP 4x10<sup>9</sup> CFU/hari dan 1920 mg Fructooligosaccharide/hari atau kelompok kontrol hanya diberikan 1920 mg Fructooligosaccharide/hari. Hasil menunjukkan sebagian besar subjek adalah perempuan, dengan rerata usia 29,6 untuk kelompok intervensi dan 25,2 tahun untuk kelompok kontrol, memiliki status gizi berlebih, kebiasaan olahraga kurang, memiliki konstipasi fungsional, frekuensi defekasi 3 kali/minggu, dan kadar asam butirat feses rendah. Perbedaan rerata perubahan frekuensi defekasi, kadar asam butirat feses, skor flatulensi, dan distribusi skor Bristol tidak berbeda antara kedua kelompok, meskipun dilakukan adjusted terhadap usia dan nilai baseline asupan serat. Penelitian ini menyimpulkan bahwa kombinasi probiotik dalam penelitian ini tidak memperbaiki frekuensi buang air besar, kadar asam butirat feses, skor flatulensi, dan distribusi skor Bristol secara signifikan dibandingkan kelompok kontrol.

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**ABSTRACT**

Decreased defecation frequency DDF has a correlation between host, diet, and environment. Sedentary lifestyle is risk factors of DDF in factory and office workers, and often accompanied by hard stool consistency and flatulence. Previous study showed that probiotics improve DDF through SCFA production that stimulates bowel motility through few mechanisms. This is a double blind, randomized controlled trial was conducted among office and labour worker who experienced DDF. They were randomly allocated to receive 6 weeks probiotic supplementation of strain *L.plantarum* KCTC 10782 BP, *S.thermophilus* KCTC 11870 BP, *B.bifidum* KCTC 12199 BP 4x10<sup>9</sup> CFU day and 1920 mg FOS day or control group with 1920 mg FOS day only. Results showed most subjects in this study were women, with mean age 29.6 and 25.2 years for the intervention group and control group, had excess nutritional status, less exercise habits, had functional constipation, defecation frequency 3 times week, and low levels of butyric acid stool. Mean difference in changes of defecation frequency, butyric acid stool, flatulence score, and Bristol score distribution did not differ between two groups even after adjustment for age and baseline value of fiber

intake. It concluded that a mixture of probiotics strain in this study did not significantly improve DDF compared to control