

Pengaruh terapi probiotik terhadap komposisi mikrobiota usus pada anak dengan diare akut: studi pendahuluan = Effect of probiotic treatment on gut microbiota in children with acute diarrhea: a pilot study

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Abstrak

ABSTRAK

Latar belakang: Diare akut merupakan masalah kesehatan yang penting dengan morbiditas dan mortalitas yang cukup tinggi. Perubahan komposisi mikrobiota usus pada diare akut ditandai dengan menurunnya komposisi bakteri yang menguntungkan bagi tubuh, yaitu Bifidobacterium dan Lactobacillus, dan peningkatan bakteri patogen seperti Enterobacter dan Clostridium. Kondisi ini disebut disbiosis. Pemberian probiotik pada kasus diare akut dapat mengatasi disbiosis, mempercepat masa penyembuhan, dan mengurangi komplikasi. Sampai saat ini, belum terdapat penelitian di Indonesia mengenai pemberian probiotik untuk mengatasi disbiosis pada diare akut. Tujuan: Membuktikan bahwa terjadi disbiosis pada diare akut, yang dapat diseimbangkan dengan pemberian probiotik. Metode: Studi uji klinis, kontrol plasebo, dilakukan di RSUD Budhi Asih Jakarta, sejak Januari hingga Maret 2018. Penelitian melibatkan 36 orang anak berusia 6-48 bulan yang datang dengan keluhan diare akut. Spesimen tinja diperiksa menggunakan teknik non culture real time PCR untuk mendeteksi jumlah Lactobacillus, Bifidobacterium, Enterobacter, Clostridium dan all bacteria, kemudian dilakukan pemberian probiotik atau plasebo selama 5 hari, kemudian dilakukan pemeriksaan mikrobiota kembali 2-3 minggu kemudian. Hasil: Jumlah bakteri Lactobacillus lebih tinggi pada kelompok diare akut dibandingkan anak sehat yaitu dalam median jarak interkuartil : $1,52 \times 10^3$ $1,22 \times 10^4$ vs $6,87 \times 10^2$ $2,41 \times 10^2$ p

ABSTRACT

Background Acute diarrhea is an important health problem with high morbidity and mortality. During acute diarrhea, changes in gut microbiota is marked by decreased of beneficial microbes such as Bifidobacterium and Lactobacillus, and increase of pathogenic bacteria such as Enterobacter and Clostridium, which is also known as dysbiosis. Treatment with probiotic may help to repair dysbiosis, quickens healing time, and decrease complications. Currently there is no research to investigate dysbiosis in acute diarrhea in Indonesia. Objective To prove that there is dysbiosis during acute diarrhea, and can be normalize by giving probiotic. Methods Placebo controlled, unblinded clinical trial was performed in RSUD Budhi Asih, Jakarta from January until March 2018. 36 children age 6 48 months with acute diarrhea were enrolled. Fecal specimen was taken and analyzed using non culture real time PCR to detect the presence of Lactobacillus, Bifidobacterium, Enterobacter, Clostridium, and all bacteria. Children were then given probiotic or placebo for 5 days. Second fecal sample was taken 2 3 weeks afterwards. Results Higher amount of Lactobacillus are observed in children with acute diarrhea vs healthy control with a median interquartile range $1,52 \times 10^3$ $1,22 \times 10^4$ vs $6,87 \times 10^2$ $2,41 \times 10^2$ p