Can the Traditional Food "Dadih" be Used for Treating Diarrhea?

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Normal microflora is important as protection of the host against diseases in the gastrointestinal tract. During periods of acute diarrhea, the normal gastrointestinal microflora is radically changed, including decrease of *Lactobacillus, Bacteroides,* and *Bifidobacterium* species. Several studies have indicated that the administration of probiotic agents may modulate the microbial balance of the host and reduce the acute episodes of diarrhea. Meta analysis showed that probiotic has strong evidence to overcome diarrhea.[1]

In daily food products, yoghurt is daily food that enriched by probiotics. Some observational study showed that people who drink yoghurt routinely be healthier than people who don't drink yoghurt. In Indonesian culture, the food that have functional ingredient such as probiotic can be found in Indonesian community. Milk curd or "dadih" is a traditional fermented buffalo milk that have functional ingredients.[2] It may be used to support or maintain normal body functions or reduce the risk of disease in the generally healthy population. However, this food need further study to evaluate what are its function and role for human health. A study from Surono, et al found that one of a novel probiotic from "dadih", *Enterococcus faecium* IS 27-526 has significant positive effects on humoral immune response, salivary sIgA, in underweight pre-school children, and on weight gain of pre-school children.[3]

One of clinical study of this issue reported the effect of *Pediococcus pentosaceus (P. pentosaceus)* on stool frequency, TNF-α level, gut microflora balance in diarrhea-induced Mice. In this study, Yuliawati et al, was aimed to recognize the effect of *P. pentosaceus* supplementation on stool frequency, tumor necrosis factor-α (TNF-α) and gut microflora balance in experimental mice with EPEC-induced diarrhea.[4] This study used *P. pentosaceus* that was isolated from "dadih", a traditional fermented buffalo milk. *P. pentosaceus* are Gram-positive, facultatively anaerobic, non-motile and non-spore-forming, members of lactic acid bacteria. Like other lactic acid bacteria, *P. pentosaceus* are acid tolerant, can't synthesize porphyrins, and possess a strictly fermentative metabolism with lactic acid as the major metabolic end product.[5-6] In their study, Yuliawati et al, using the experimental animals were randomly categorized into two factors. The first factor was the dose of isolates *P. pentosaceus* from the "milk curd" and the second factor was the duration of treatment, i.e. 0 hour, 12 hours, 24 hours and 36 hours.[4]

The result of this study found that the 12-hour *Pediococcus pentosaceus* supplementation in a dose of 2×10^8 cfu/g may reduce stool frequency, lower TNF-α level and improve the balance of gut microflora in EPEC-induced diarrhea mice. The study conducted on animals proved that "dadih" could improve the immune system and its use is indeed to be proven in humans. But in general turns traditional food products can be recommended for continuous use as beneficial for health.

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