Bacterial food contamination and its impact on diarrhea and nutritional status of children 6 months to 2 years old

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Abstrak

ABSTRACT
Worldwide it is estimated that 1400 million episodes of diarrhea occur annually in children under the age of 5 years. In 1990, over 3 million of such children died. Up to 70% of diarrhea episodes could be due to pathogens transmitted through food (Motarjemi, et. al., 1993). A prospective cohort study was conducted in Kelurahan Kapuk, West Jakarta. The purpose was to identify relationship between food contamination, diarrhea, and nutritional status of children age 6 months to 2 years.

Food samples such as drinking water (DW), rice mixture (RH), and milk formula (ME) consumed by 99 children were tested for contamination of Escherichia coli, total coliform, and total aerobic bacteria (APO). Diarrhea occurrence during 2-weekperiod were noted along with measurements of weight and height.

The results were as follow: 6% DW, 18% RM, and 7% MF were contaminated by faecal coliform; 29% DW, 26% RM, and 46% MF had total coliform below the recommenced guideline values of Health Department and WHO (Depkes, RI 1990, Depkes, RI 1991 & WHO, 1985); as well as 74% DW, 43% RM, and 12% MF for APC. However, no statistical significant relationship was found between food contamination and diarrhea.

Seventeen children suffered diarrhea during the 2-week study period; ranging from 1-6 days with average of 3 days. No persistent diarrhea was found. About half (53%) of the diarrhea children had mild dehydration problem.

Mean x-scores of weight-for-height for the diarrhea children at food sampling and 7 day afterward were (-1.39±1.03) and (-0.62+2 90). Six children were wasted at food sampling day, but only 5 were still wasted at 7th day visit. No statistical significant relationship was found between diarrhea and nutritional status after the disease.