

# NUTRITION & HEALTH

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## Influence of sago in improving a weight gain of rats and the health profile of the small intestine of rats infected by enteropathogenic *Escherichia coli* (O127:H6)

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**Background:** Sago is one potential source of traditional food contain carbohydrates and have benefits as an anti-diarrheal. *Escherichia coli* is a member of the normal intestinal flora. However, one of the serotypes of this bacterium, *E. coli* (O127: H6) can be an important cause of diarrhea in infants.

**Objective:** The objective of this study was to analyze the sago effect on weight gain of rats and the profile morphology of small intestine that infected by *E. coli* (O127: H6).

**Methods:** An experimental research using 20 wistar rats from April to June 2015. Rats were divided into four groups; Negative control 14 days (A), giving sago for 14 days (B), giving *E. coli* (O127: H6) and body weight lowered 20% from baseline weight for seven days (C), giving *E. coli* (O127: H6) and body weight lowered 20% from baseline weight for seven days simultaneously with giving sago for 14 days (D). Weight gain measured daily, tissue biopsy of the small intestine is processed by using paraffin embedding and stained with hematoxylin eosin. Data were analyzed using Analysis of Varian (ANOVA) and to determine the differences in respectively group continued with the Last Significant Different (LSD).

**Results:** Total body weight increase: (A) 19.80gr±1.64, (B) 12.80gr±1.64, (C) 27.40gr±2.40, (D) 14.20gr±0.44. Percentage villi damage (%): (A) 1.80±0.44, (B) 1.60±0.54, (C) 28.00±6.70, (D) 3.80±0.83. Sago decreased percentage of small intestine villi damage 24.20%.

**Conclusion:** Sago can increase the body weight and protect the small intestine villi damage from *E. coli*.

### Biography

Sarah M Warouw is a Consultant in Pediatric Gastroenterology she is working as a Lecturer, Researcher and Clinical Pediatric Consultant at General Hospital Prof. Dr Kandou and Faculty of Medicine Sam Ratulangi University, Manado, Indonesia. She is graduated as a Pediatrician from Faculty of Medicine, Airlangga University, Indonesia and got PhD in Biomedic Science from Hassanuddin University, Indonesia. Prior former as a Dean of the Faculty of Medicine Sam Ratulangi University, Indonesia she had completed a training in Clinical Pediatric Gastroenterology in Dhaka, Bangladesh, ICCDR. She is trained as a Clinical Gastroenterology and Hepatology at Sophia Children Hospital Rotterdam, Netherlands and also at Children Hospital Amsterdam Medical Centre (AMC) and also trained in management and research from Colorado State University, Fort Collins, USA.

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