



Research

Open Access

 Nutrition Journal
 Volume 4

Viewing options:

- [Abstract](#)
- [Full text](#)
- [PDF \(245KB\)](#)

Associated material:

- [Readers' comments](#)
- [Pre-publication history](#)
- [PubMed record](#)





Related literature:

- [Articles citing this article on Google Scholar on PubMed Central](#)
- [Other articles by authors](#)
 - ⊖ [on Google Scholar](#)
 Valois S
 Costa-Ribeiro H
 Mattos Â
 Ribeiro TC
 Mendes CM
 Lifshitz F
 - ⊖ [on PubMed](#)
 Valois S
 Costa-Ribeiro H
 Mattos Â
 Ribeiro TC
 Mendes CM
 Lifshitz F
- [Related articles/pages on Google on Google Scholar on PubMed](#)






Tools:

- [Download references](#)
- [Download XML](#)
- [Email to a friend](#)
- [Order reprints](#)
- [Post a comment](#)
- [Sign up for article alerts](#)



Post to:

-  [Citeulike](#)
-  [Connotea](#)
-  [Del.icio.us](#)
-  [Digg](#)
-  [Facebook](#)

Controlled, double-blind, randomized clinical trial to evaluate the impact of fruit juice consumption on the evolution of infants with acute diarrhea

 Sandra Valois¹ , Hugo Costa-Ribeiro Jr¹ , Ângela Mattos¹ , Tereza Cristina Ribeiro¹ , Carlos Maurício Mendes¹  and Fima Lifshitz² 
¹ Department of Pediatrics, Hospital Professor Edgar Santos, Universidade Federal Da Bahia, Salvador, Bahia, Brazil

² Department of Pediatrics, Sansum Medical Research Institute, Santa Barbara CA, USA

 author email  corresponding author email

Nutrition Journal 2005, 4:23 doi:10.1186/1475-2891-4-23

Published: 9 August 2005

Abstract

In order to assess the effects of juice feedings during acute diarrhea a double-blind, randomized study was performed in 90 children, mean age of 10 ± 4.28 months. Thirty patients with acute diarrhea were fed twice-daily 15 ml/kg of Apple Juice (AJ), 30 received White Grape Juice (WGJ), and 30 were given colored and flavored water (WA) as part of their age appropriate dietary intake. The duration and severity of diarrhea were the main endpoint variables of the study performed in a metabolic unit. The patients were similar among the 3 groups, had diarrhea for 50–64 hours prior to admission, and were dehydrated when admitted to the unit for study. Half of the patients in each group were well nourished and the others had mild to moderate degrees of malnutrition. Rotavirus infection was the agent causing the illness in 63% of the patients. The infants fed juice ingested 14–17% more calories than those given WA, (those receiving AJ and WGJ ingested 95 and 98 Calories/Kg/d respectively) whereas those receiving WA consumed 81 cal/kg/d). The increased energy intake was not at the expense of other foods or milk formula. The mean body weight gain was greater among patients receiving WGJ (+ 50.7 gm) as compared with the patients in the AJ group (+ 18.3 gm) or the patients fed WA (- 0.7 gm) ($p = 0.08$). The duration of the illness was longer in the infants fed juice as compared with those given WA ($p = 0.006$), the mean \pm SD duration in hours was 49.4 ± 32.6 , 47.5 ± 38.9 and 26.5 ± 27.4 in patients fed AJ, WGJ and WA respectively. All patients improved while ingesting juice and none of them developed persistent diarrhea; most recovered within 50 hours of the beginning of treatment and less than one fourth had diarrhea longer than 96 hours in the unit. The fecal losses were also increased among the juice fed patients ($p = 0.001$); the mean \pm SD fecal excretion in g/kg/h was 3.94 ± 2.35 , 3.59 ± 2.35 , and 2.19 ± 1.63 in AJ, WGJ and WA respectively. The stool output was highest during the first day of treatment among all the patients, though those fed AJ had the highest volume of fecal losses and those who received WA had the lowest stool excretion. After the first day of treatment the differences in fecal excretion were not significant. The ability to tolerate carbohydrates during the illness and immediately after recovery was similar among the 3 groups of patients. Intake of juices with different fructose/glucose

ratios and osmolarities resulted in more fecal losses and more prolonged diarrhea as compared with water feedings, but the patients given juice ingested more calories and gained more weight, particularly among those being fed the juice with equimolar concentrations of fructose and glucose.

Stay up to date with content from



Published by The Open Access Publisher

© 1999-2008 BioMed Central Ltd unless otherwise stated < info@biomedcentral.com > [Terms and conditions](#)