Breastfeeding only milk: Water requirements of breast-fed infants in a hot climate

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Year: 1978
Resource type: Article

Almroth SG. Am J Clin Nutr 1978 Jul;31(7):1154-7

Death from dehydration is not due to lack of water, but electrolyte imbalance. These babies have a diet with such a low renal solute load that they have a large margin of safety. As Almroth shows in theoretical calculations.

Abstract only available in this resource library

Abstract: To estimate the water requirements of exclusively breast-fed infants in a hot climate, theoretical calculations of water requirements were made and a field study was carried out in Jamaica. Three urine samples were collected from each of 16 infants. The specific gravity of individual urine samples ranged from 1.005 through 1.015, with a mean of 1.009 (SD +/- 0.002). Corresponding values for osmolality were calculated to be 103 through 468 mOsmole/liter with a mean of 258 mOsmole/liter. The mean specific gravity for an infant ranged from 1.006 through 1.012, or 139 through 358 mOsmole/liter. The mean outdoor temperature was 27.6 C and the humidity 76%. Because the values for specific gravity were universally low it was concluded that healthy, exclusively breast-fed infants living in a hot and humid climate will manage well without additional water. Additional water may be desirable during illness.

PIP: Theoretical calculations of water requirements were made and a field study was conducted in Jamaica in an effort to estimate the water requirements of exclusively breast-fed infants in a hot climate. 3 urine samples were collected from each of 16 healthy infants. The specific gravity of individual urine samples ranged from 1.005 through 1.015 with a mean of 1.009. Corresponding values for osmolality were calculated to be 103 through 468 mOsmole/liter with a mean of 258 mOsmole/liter. The mean specific gravity for an infant ranged from 1.006 through 1.012, or 139 through 358 mOsmole/liter. 27.6 centigrade was the mean outdoor temperature; the humidity was 76%. As the values for specific gravity were universally low, it was concluded that healthy and exclusively breast fed infants living in a hot and humid climate will manage well without additional water. During illness additional water may be desirable. Diarrheal disease is often associated with contaminated water. Consequently, in areas where supplementary water is unlikely to be safe, exclusive breast feeding should be recommended for the first 4 months.

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