even in healthy infants,[5] unmasks the true nature of the underlying disorder in many such infants who, already profoundly salt-depleted and unable to tolerate further fluid loss, sink rapidly into severe dehydration and shock. The aldosterone content of breast milk is unknown, but it may, as in the case of progesterone, reflect blood concentration.[6] The possibility that this or other breast milk steroids might exert a therapeutic effect on breast-fed infants with SL-CAH cannot be excluded, but given the profound salt wasting present in these infants, the plasma concentration of such hormones after absorption from the gastrointestinal tract would seem to be insufficient to influence renal sodium conservation.

SL-CAH should be included in the differential diagnosis of failure to thrive at the breast, and plasma electrolytes determined before the introduction of formula which may precipitate vomiting. For this reason, although breast feeding should always be encouraged, it is particularly desirable in babies with suspected SL-CAH while the results of confirmatory diagnostic tests are awaited and treatment is begun.

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Supplementary water for breast-fed babies in a hot and dry climate—not really a necessity

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SUMMARY Urine osmolarity under hot and dry climatic conditions remains within the expected physiological ranges and thus shows that supplementary water for breast-fed infants is not necessary.

It is generally agreed that infants in a hot and dry climate need extra water. This assumption was based more on caution than on knowledge.[1] Recently breast-fed infants in a hot and humid climate were found to do well without supplementary water.[2 3]

A field study was undertaken in two bedouin villages on the coastal side of the Sinai desert during the summer to find out the fluid requirement of totally breast-fed infants in a hot and dry climate.

Materials and methods

Fifteen healthy exclusively breast-fed infants (9 boys, 6 girls) were studied. They were aged between 40 and 150 days.

Urine was collected using adhesive collector bags. The samples were taken either after 1000 hours or before 1600 hours. Urine was then frozen and analysed within 24 hours using the Fiske osmometer (Fiske Associates, Burlington, Mass. 01803).

Temperature and humidity readings for the duration of the study were provided by the Israeli Meteorological Service.

Results

Urine osmolarity measurements are shown in the

Table *Urine osmolarity measurements*

Case	*Gender*	*Age (days)*	*Urine osmolarity (mmol/kg)*
1	Male	45	215
2	Female	70	55
3	Female	60	60
4	Male	60	80
5	Male	45	272
6	Male	45	315
7	Female	60	209
8	Male	120	164
9	Male	120	320
10	Female	60	99
11	Male	90	65
12	Female	150	286
13	Male	45	120
14	Female	30	82
15	Male	120	125

Table. Osmolarity ranged between 55 and 320 mmol/kg, with a mean of 164·5 mmol/kg.

The temperature during the study varied between 32 and 37°C, with a mean temperature of 32·9°C. Humidity varied between 13 and 41%, with a mean of 26·7%.

Discussion

A newborn baby can concentrate his urine to 700 mmol/kg. By age 3 months he is expected to reach the adult osmolarity (1200 mmol/kg).[4] It was calculated that a 4-month-old, totally breast-fed model infant, who weighed 6·3 kg would have a urinary osmolarity of 216 mmol/kg[2]. Theoretically, he should manage well in hot climates without additional water.[2] Most of the infants in our study had a urine osmolarity which was less than 216 mmol/l. All of them had a urine osmolarity considerably less than the maximum which the kidney can produce.

In dry climates water loss is high. This would explain the assumption that breast-fed infants in a hot and dry climate should receive supplementary water.

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