CORRESPONDENCE

Maternal nutrition, breast-feeding, and contraception

D B Jelliffe, FRCP, and E F Patrice Jelliffe, MPH 806

Sulpiride improves inadequate lactation
R M O'Leary, BA; D P Davies, FRCP 807

Postmenopausal osteoporosis

A M Smith, FRCOG; Jean Coope, MRCP; G S Rai, MRCP 807

Hypertension: comparison of drug and non-drug treatments

J Sommers, and D B Jeffrey, PHD 808

Do alcoholics recover?
M M Glatt, FRCPsych 808

Benoxaprofen
A Blum, MD; S M Wolfe, MD, and Eve Bargmann, MD 809

Prescription-event monitoring
W H W Inman, FRCP 809

Chest radiography as a marker of alcoholism
A D Redmond, FRCSed 810

Diabetic complications: retinopathy
C Townsend, FRCS 810

ABC of Diabetes: diabetic emergencies
P Baker, MB; O M P Jolobe, MRCP 810

The arms race and health care
C de B White, MRCPsych 810

Cigarette consumption and biochemical measures of smoke intake
R Peto, MSC 811

Nicotine chewing-gum
R F Hyde, MRCP; R Paxton, PHD; T E A Carr, FRCP; N B Taylor, BA 811

Warfarin and albumin

A L Tárkony, FRCPATH 812

Methaemoglobinaemia due to monolinuron—not paraquat
A T Proudfoot, FRCPed 812

Interaction between flurbiprofen and coumarins
B H Ch Stricker, MD, and J L Delhez, MD 812

Chaplain to casualty
Valerie Hartley-Brewer, MD; Reverend R Lapwood 813

Careers of doctors qualifying in Britain in 1974
J A Gilmore, MB; J Parkhouse, FFARCS 813

Electric convulsion therapy apparatus
J S Pippard, FRCPsych 813

Asbestos and the media
J Cutler 814

Unusual complication of perforated appendix
R M Watkins, FRCS 814

Bromocriptine in management of large pituitary tumours
J A H Wass, MRCP, and others 814

Postoperative infection in shunts for hydrocephalus
J O N Lawson, FRCS; B P Gardner, FRCS 815

After-exercise thermography
H P Henderson, FRCS 815

Laser photoradiation for lung cancer
M R Hetzel, MRCP, and others 815

Psychological impairment and low-dose benzodiazepine treatment
H Petrusson, MRCPsych, and M H Lader, FRCPsych 815

Healthier children

C R Haines, MFCM 816

Claims about compression treatment for venous disease
D J Tibbs, FRCP 816

Paediatric surveillance
P D Hooper, FRCP, and G H Curtis Jenkins, MB 816

GMC finance
M R Draper, BA 816

Medical communication: the old and the new
M O'Donnell, MB 816

Points Women in medicine (Susan E Lessels; T B Boulton); University cuts (P O Yates); Persistent irritation of the eyelid margins (H Ippen); Let he who is without sin ... (R I Keen); Diabetic neuropathy (J L Verbov); Diabetic complications: retinopathy (B W Fleck); Shortening waiting lists in orthopaedic surgery outpatient clinics (J A Lourie); Maternal anti-D concentrations and outcome in rhesus haemolytic disease of the newborn (J W Crawford) 817

The late Sir John Charnley (D L Griffiths); Immune response of infants in tropics to injectable polio vaccine (S C Arya); Part-time training (Jean E Lawrie); Changes in home visiting and night and weekend cover: the patient's view (W G Westall); Whom does BUPA care for? (S L Kaye); Fees for cervical smears (Patricia Martin); Reuse of haemodialysis equipment (P Hautekiet) 818

We may return unduly long letters to the author for shortening so that we can offer readers as wide a selection as possible. We receive so many letters each week that we have to omit some of them. Letters should be typed with double spacing between lines and must be signed personally by all their authors, who should include their degrees. We cannot acknowledge their receipt unless a stamped addressed envelope or an international reply coupon is enclosed.

Correspondents should present their references in the Vancouver style (see examples in these columns). In particular, the names and initials of all authors must be given unless there are more than six, when only the first three should be given, followed by et al; and the first and last page numbers of articles and chapters should be included. Titles of papers are not, however, included in the correspondence section.

Maternal nutrition, breast-feeding, and contraception

SIR,—The recent leading article by Professor John Dobbing (12 June, p 1725) seems to us to confuse what is biologically obvious. The situation is really simple. All mammals have evolved appropriate spacing mechanisms for their offspring depending on the species' mode of life and the needs and maturity of their young; and these mechanisms are capable of responding to severe local food shortages. In most wild primates lactation anoestrus is mainly responsible.¹ Similarly in humans lactation amenorrhoea is the ancestral endocrinological means of child spacing.^{2,3} However, and this is the point, effectiveness varies with the pattern of breast feeding, or more correctly the cumulative sucking stimulus as measured by the length of nursing, the vigour of the baby, and, probably most importantly, the number of times the infant takes the breast⁴ minus deviation of sucking stimulus (complementary bottle feeds, paci-

fiers) or blunting of appetite (early introduction of semi-solids).

For 99% of human existence as gatherer-hunters the dyadic closeness of mother and young child was accompanied by extremely frequent sucking throughout the 24 hours. Few such societies exist today, but these show highly effective and prolonged child-spacing. The !Kung are classical, with mean birth intervals of about four years.⁵ With the development of agriculture and village settlements (and the availability of cereals and animal milk)⁴ and of early urbanisation, and especially with current technological urbanisation, the amount of sucking, the length of lactation amenorrhoea, and hence the effectiveness of biological child spacing declined, so that its existence was denied by modern medicine until very recent years.

Maternal malnutrition plays only a very small part in this postpartum amenorrhoea.⁶⁻⁸

In severe food shortages, however, as in famines, menstruation ceases in all females as a form of nutritional and biological protection for women and for the community.⁹ Conversely, well nourished women in the UK and USA who breast-feed frequently without supplements do not menstruate for well over two years after delivery.^{10,11}

General public health guidelines accepted by current international consensus are straightforward for many developing country circumstances^{3,12} and are similar nutritionally to those suggested in WHO publications 27 years ago¹³: (1) Ensure as good a diet as possible for mothers in pregnancy (lactation stores of subcutaneous fat, fetal stores, avoidance of low-birth-weight neonates) and in lactation—often feasible, but economically and culturally difficult because of restrictions on readily available foods. (2) Breast-feed alone on an unrestricted 24-hour schedule for at least four to

six months. (3) Introduce other foods together with continuing, so-called "prolonged" breast-feeding (two to three years) from four to six months together with the most locally appropriate technological contraceptive which has no adverse effect on lactation (for example, especially excluding oestrogen preparations).

Breast milk production from six months to two or more years has been shown to supply a small but very important nutritional supplement.¹⁴ Conversely, breast-feeding alone and unsupplemented into the second year of life has long been recognised as a problem in parts of India¹⁵ and Bangladesh, leading to "late marasmus." From a more flexible viewpoint the appropriate age at which technological contraceptives are needed to reinforce the waning effects of breast-feeding varies with the community and the many details of local infant feeding practices, essentially with their influence on sucking stimulation and prolactin secretion. There is in fact a gradient from the !Kung to the partially breast-fed to the entirely bottle-fed.

In breast-feeding communities the usual length of lactation amenorrhoea in the particular society minus two months seems a reasonable rule-of-thumb for introducing technological contraceptives, allowing for the well recognised anovulation that can occur before menstruation. Indeed, it is our view that the bacteriologically and endocrinologically dangerous time for introducing foods other than human milk, and hence the need for technological contraceptives, may often be later than currently believed. Ultimately this hinges on a balance of risks and benefits.

DERRICK B JELLIFFE
E F PATRICE-JELLIFFE

Division of Population and
Family Health,
School of Public Health,
University of California,
Los Angeles CA 90024

- ¹ Harcourt AH, Fossey D, Stewart KJ, Watts DP. *J Reprod Fertil (Suppl)* 1980;28:59-70.
- ² Jelliffe DB, Jelliffe EFP. *J Pediatr* 1972;81:829-30.
- ³ Jelliffe DB, Jelliffe EFP. *Human milk in the modern world*. Oxford: Oxford University Press, 1978.
- ⁴ Short RV. *The biological basis for the contraceptive effects of breast feeding*. Geneva: WHO (in press).
- ⁵ Howell N. *The demography of the Dobe !Kung*. New York: Academic Press, 1979.
- ⁶ Howie PW, McNeilly AS. *Europ J Clin Invest* 1979;9:237-8.
- ⁷ Bongaarts J. *Science* 1980;208:564-9.
- ⁸ Delgado H, Martorell R, Klein RE. *Am J Clin Nutr* 1982;35:1468-76.
- ⁹ Jelliffe DB, Jelliffe EFP. In: Blix G, Hofvander Y, Vahlquist B, eds. *Famine—nutrition and relief operations in times of disaster*. Uppsala: Almqvist and Wiksells, 1971.
- ¹⁰ Howie PW, McNeilly AS, Houston MJ, Cook A, Boyle H. *Br Med J* 1981;283:757-9.
- ¹¹ Kippley SA, Kippley JF. *Breast feeding and natural child spacing*. New York: Harper and Row, 1974.
- ¹² Underwood BA, Hofvander Y. *Acta Paediatr Scand* 1982;294:1-32.
- ¹³ Jelliffe DB. *Infant nutrition in the subtropics and tropics*. Monograph No 29, 1st Ed. Geneva: WHO, 1955.
- ¹⁴ Rohde JE. *Paediatr Indones* 1975;14:198-202.
- ¹⁵ Jelliffe DB. *Pediatrics* 1957;20:128-33.

Sulpiride improves inadequate lactation

SIR,—On reading the research by Professor O Ylikorkala and others (24 July, p 249) I was surprised to find that tests with drugs are being considered useful in improving breast-milk yields, while the usual method used by mothers—that is increasing the number and frequency of nursings—was not mentioned.

The significant factor in the study—the number of nursings a day—was mentioned in the table. None of the babies in the test group was nursed more than seven times a day, and

some as few as four times a day. The average was 5.3 ± 0.3 . There are some babies who can maintain their mother's milk production at a level adequate for growth and contentment on nursings as infrequent as this, but they are rare and should not be considered the norm.

In countries where breast-feeding is unrestricted babies may nurse every hour day and night with little disturbance to the mother. In the less supportive culture of the West embarrassment, ignorance, and the habit of bottle-feeding combine to separate mother and baby and restrict the number of feeds given in the 24-hour period. Still many mothers find it quite possible and very restful and relaxing to nurse their babies upwards of eight times a day.

Mothers often find it helpful to discuss with a group of other mothers the practical problems involved in arranging sleeping quarters so that mother and baby can sleep close together, choosing clothes for discreet nursing away from home, and so on. The emotional support of a friendly peer group can also provide the key to successful lactation in a non-supportive culture. The self-help organisation for breast-feeding mothers, La Leche League (Box BM 3424, London WC1V 6XX), is particularly useful in this context.

This raises the question of why the medical community should be investigating the effects of drugs on lactation rather than the simpler but cheaper management techniques used by women. Doubtless the answer is partly technical, since measurement of breast-milk quantities in the intimacy of successful lactation is impossible. Partly no doubt it is financial since no-one stands to make a profit out of successful breast-feeding (although the benefits to the community in financial terms are evident.) The political aspect should not be ignored, however. Taking politics in its widest sense as relating to power and control, successful breast-feeding managed and supported by women places power in the hands of women. Dependence on drugs for the maintenance of lactation places power (and money) in the hands of corporations. It is worth thinking about.

R M O'LEARY

Burwell,
Cambridge

SIR,—The study by Dr O Ylikorkala and colleagues on the value of sulpiride to improve lactation performance by increasing prolactin secretion (24 July, p 249) is a valuable contribution to knowledge of substances which can enhance lactation (galactagogues). Throughout the ages methods to improve lactation have occupied much attention in many and widely diverse populations. An ancient Slavonic galactagogue was for the mother to tickle and catch a trout and to swallow it. Larvae of blow flies, cuttlefish soup, dried udder of goat, and even the husband suckling were remedies widely used in not so ancient China.¹ Perhaps the simplest galactagogue, however, is the most effective—the baby who suckles when and as often as it wants to.

The most frequent explanations mothers in Britain give for stopping breast-feeding early and introducing complementary foods are that they are not able to make enough milk (a truly remarkable admission, surely, at a time when our mothers enjoy better health during pregnancy than ever before) and their babies cry after a feed or wake early before the next feed. What many mothers, in company with all too

many doctors and nurses, seem not to realise is that frequent suckling is in fact vital to allow the mother to continue to provide adequate amounts of milk. Studies in Zaire by Delvoye *et al* of lactating mothers between two and 22 months' postpartum have shown that basal prolactin concentrations correlate well with the frequency of suckling.² Suckling more than six times a day results in basal prolactin concentrations which are unchanged for about 12 months. When the number of breast-feedings fall to four to six there is a marked decline in basal prolactin concentrations. The mothers in the Finnish study suckled only an average of five times a day at the time of entry into the study, so is it surprising that breast-feeding performance was so precarious? It would therefore have been interesting had Ylikorkala included a third group—namely, babies who were simply put to the breast more often.

Failure of breast-feeding in Britain does not always lead simply to a change to bottle-feeding. Inadequate breast-feeding is also an important cause of failure to thrive.³ In some of these babies breast-feeding takes place only three or four times a day. On some occasions when these babies are made to feed more often they begin to thrive, indicating improved lactation performance. Natural means of improving milk production need to be considered alongside artificial methods, particularly if the latter result in young babies receiving, in breast milk, drugs whose metabolic effects are not fully understood.

D P DAVIES

Department of Child Health,
Leicester Royal Infirmary,
Leicester LE2 7LX

- ¹ Platt BS, Gin SK. *Arch Dis Child* 1938;13:343-52.
- ² Delvoye P, Demaege M, Delogne-Desnoek J. *J Biosoc Sci* 1977;9:447-51.
- ³ Davies DP. *Lancet* 1979;ii:541-2.

Postmenopausal osteoporosis

SIR,—Your leading article on postmenopausal osteoporosis (28 August, p 585) highlights the pain and suffering in women that are the result of this process and emphasises the great cost of treatment. That prevention is possible by the administration of oestrogens is now accepted, but whether it will be easy to persuade fit postmenopausal women to take oestrogens and progestogens with the nuisance of monthly withdrawal bleeding remains to be seen. Perhaps those who have undergone hysterectomy would be more willing to take oestrogens, probably with progestogens, for 10-20 years, provided that the fear of breast cancer can be dispelled.

The main difficulty will be to reverse the adverse publicity regarding the risks of thromboembolism, believed to be associated with the ordinary combined oral contraceptive. It is very galling for the practising gynaecologist to have one of his most effective drugs rejected by his patient because of the fear of thrombosis and myocardial infarction; this is especially so when the older woman takes an oestrogen/progestogen preparation not greatly different in dosage for menopausal symptoms.

The dose of oestrogen that may help women depends, I believe, on their biological age. The younger woman requires a reasonable amount to suppress ovulation; her elder sister needs a little less; while the middle-aged woman might continue to take a perimenopausal