Conflicts of interest

The World Health Assembly Resolution 49.15 of May 25, 1996 urges member states "to ensure that the financial support for professionals working in infant and young child health does not create conflicts of interest". But what is a conflict of interest? This is one of the accepted definitions: "A set of conditions in which professional judgment concerning a primary interest tends to be unduly influenced by a secondary interest". There is no doubt about the primary interest of a health professional: to act for the maximum benefit and do the minimum harm to the individual and the community he or she serves. But what is a secondary interest and where does it come from?

A health professional can have a political, academic, religious or personal conflict of interest, but very often the nature of a secondary interest is financial. Sixteen different forms of financial entanglement between health professionals and companies have been described: acceptance of direct and indirect gifts to attendance at sponsored dinners and social or recreational events, ownership of stock or equity holdings to conducting sponsored research, funding of academic chairs or medical associations to paid consultancies and ghost-writing of "scientific" articles... From this short list it is clear that a financial conflict of interest can be individual and/or collective; i.e. a health professional may have no individual entanglement with a company, but may belong to an association or attend an event that does.

Collective conflicts of interest may involve huge amounts of money. In 2001-03, for example, the American Academy of Pediatrics (AAP) sold a total of 600,000 copies of "The New Mother’s Guide to Breastfeeding" to Abbott Ross, for an undisclosed amount of money. Abbott Ross distributed the book to mothers of newborn infants, with its name and logo, through doctors and nurses. More recently, Nestlé paid for each AAP member (more than 60,000 in total) to receive a copy of the "Pediatric Nutrition Handbook". Both instances are good examples of "image transfer", a strategy to enhance image by association with respected professional bodies. Similar links between health professionals and their associations, and industry, are common. The magnitude of financial conflicts of interest is even larger when drug companies are involved. A recent analysis of 37 biomedical research articles from major medical journals found that a third of the lead authors had financial conflicts of interest: for example, patents, shares, or remuneration for being on advisory boards. Infant food and drug companies do not reveal the amount of money they spend on health professionals, individually or collectively, but they spend 10-15% of their budget on marketing, and a large proportion of this could be used for such funding.

It is often said that conflict of interest is a "condition", not a "behaviour". As a consequence, the suggested solution is transparency: health professionals and their associations should disclose and declare competing financial interests. Unfortunately this does not happen. Most health professionals do not declare their conflict of interest because they think they are honest and unbiased. It is probably true that most health professionals are honest but at the same time, they are very likely to be biased, i.e. unconsciously influenced by their funders. Both social science and medical research show this. For example, when the results of studies sponsored by industry were compared with those of non-sponsored studies, results more favourable to industry were almost four times more likely to be found in sponsored studies than in non-sponsored ones. The reason is that “even when individuals try to be objective, their judgments are subject to an unconscious and unintentional self-serving bias”. Disclosing one’s financial attachments is not only difficult to enforce, but more seriously, it does not eliminate the influence of industry funding on research or doctors’ behaviour. Putting limits to the amount of funds given to individuals or associations, as recently done by the American Medical Association, does not solve the problem: even small gifts feed an unconscious and unintentional self-serving bias. More radical proposals, such as recommending that health professionals should receive no payment of any kind from industry, are unlikely to be accepted: most medical conferences would be cancelled!

There is no simple solution. The first thing to do is to recognise that the problem exists, that it is huge, and that it is complex. All health professionals should then ask themselves the following questions: what would our patients, the people we are serving, think if they were aware that part of our income comes from the manufacturers of the products we prescribe, and that the cost is retrieved in the price of these same products? What would they think if they knew that our advice is not based on independent judgment, but that indeed it is biased? Failure to give an adequate individual and collective response to these questions will progressively undermine the image of health providers and the confidence of users.

5. Dana J, Lowenstein G. A social science perspective on gifts to physicians from industry. JAMA 2003;290:252-5
As pointed out by law professor Mark A. Rodwin, disclosing financial links is only a first step: “Disclosure can help address conflicts of interest, but only if it is a part of a coordinated policy that sets high standards of conduct, clearly delineates the permissible from the unacceptable, develops institutions to monitor behaviour and imposes meaningful sanctions to ensure compliance.” And as noted by Dana and Lowenstein, “Because bias induced by monetary interests is unconscious and unintentional, there is little hope of controlling it when monetary interests exist. The implication for industry gifts is straightforward: they should be prohibited.”

7. Dana J, Lowenstein G. op. cit.

Breastfeeding why...

Hospitalization for respiratory disease


The risk of hospitalization for lower respiratory tract diseases in healthy, full-term breastfed infants who were exclusively breastfed for 4 months. This effect remained stable and statistically significant after adjusting for the effects of smoking or socio-economic status.

Asthma and allergy


Allergy has been consistently related to artificial feeding among children. To investigate the effect of breastfeeding on allergic diseases up to 2 years of age, a birth cohort of 4,089 infants was followed prospectively in Stockholm. Children exclusively breastfed during 4 months or more had about 30% less asthma, 20% less atopic dermatitis, and 30% less suspected allergic rhinitis by 2 years of age. There was also a significant 30% risk reduction for asthma if partial breastfeeding had been maintained 6 months or more.

Might there be a minimal duration of exclusive breastfeeding necessary for optimal neurological outcome? The quality of general movements (GM), a sensitive marker of neurological condition, was assessed at 3 months in 147 breastfed, healthy, term infants followed from birth. GM were classified as normal-optimal, normal-suboptimal, mildly abnormal and definitely abnormal. Information on social and pre- and perinatal conditions, and the duration of breastfeeding, was collected prospectively. After adjustment for these factors, there was a positive association between breastfeeding duration and GM quality until approximately 6 weeks of age. In infants exclusively breastfed for 6 weeks or less (n = 55), 18% exhibited normal-optimal, 47% normal-suboptimal, and 47% mildly abnormal GM. In contrast, in infants exclusively breastfed for more than 6 weeks (n = 92), 43% exhibited normal-optimal, 45% normal-suboptimal, and 12% mildly abnormal GM.

Brain development


The concentration of sialic acid in the brain has been linked to learning ability in animal studies. Human milk is a rich source of sialic acid. In this study, the sialic acid concentration in the brain of breastfed and formula-fed infants was compared in 25 samples of frontal cortex derived from infants who died of sudden infant death syndrome. Higher sialic acid concentrations in infants fed human milk suggest an increased potential for brain development.

Good night!

Horne RS, Parslow PM, Ferens D, Watts AM, Adamson TM. Comparison of evoked arousability in breast and formula fed infants. Arch Dis Child 2004;89:22-6

Arousal from sleep is believed to be an important survival mechanism that may be impaired in victims of sudden infant death syndrome (SIDS). In this...
study of 43 healthy term infants, arousal thresholds were measured at 2-4 weeks, 2-3 months, and 5-6 months. Arousal thresholds were not different between breastfed and formula-fed infants in quiet sleep. However, in active sleep, breastfed infants were more easily arousable than formula-fed infants at 2-3 months of age, the age with the peak incidence of SIDS. There was no difference between groups of infants when the sleep period length was compared.

Breastfeeding how...

Preterm infants


In this study, the clinical charts of 151 pre-term infants (34 weeks gestational age or less) admitted in a neonatal intensive care unit of a regional hospital in the USA were reviewed. About 51% of the infants were fed formula exclusively. On average, the remaining infants received at least one breastmilk feeding per day for 44% of their hospital stay. Higher maternal age and an Apgar score higher than 6 at 6 minutes were the two factors associated with a higher probability of breastmilk feeding.

Community-based promotion


This study assessed the feasibility, effectiveness, and safety of an educational intervention to promote exclusive breastfeeding for 6 months in India. Eight pair-matched communities were randomised; one of each pair received the intervention and the other received none. In the intervention communities, health and nutrition workers were trained to counsel mothers for exclusive breastfeeding at multiple opportunities. After training, 1,115 infants were enrolled, 552 in the intervention and 473 in the control communities. At 3 months, exclusive breastfeeding reached 79% in the intervention and 48% in the control communities. The 7-day diarrhoea prevalence was lower in the intervention communities at 3 months (about 30% less) and 6 months (about 15% less). The mean weights and lengths and the proportion of malnourished infants did not differ between groups. Promotion of exclusive breastfeeding till 6 months through existing primary health care services is feasible, reduces the risk of diarrhoea, and does not lead to growth faltering.

In-hospital education of mothers


Is just one session on breastfeeding education enough? To determine whether a single one-to-one in-hospital education session could increase the rate of breastfeeding at 17 weeks, a randomised trial was conducted in a maternity hospital in France. 106 mother-infant pairs were allocated to the intervention group (a structured, one-to-one in-hospital education session) and 104 to the control group (usual verbal encouragement). The rate of any breastfeeding (34.4% vs. 40.2% in the control group) and of exclusive breastfeeding (14.0% vs. 14.4%) at 17 weeks was not significantly different. Guidance provided by maternity staff should be reinforced by a long-term, multifaceted support programme in countries with a low to intermediate rate of breastfeeding.

Human milk banks


One important constraint to the establishment of human milk banks is the availability of donors. While the characteristics of blood donors are well known, those of lactating women who decide to donate their milk are largely unknown. Seventeen milk banks in France were contacted and eight accepted to participate in a study examining donor characteristics. The results showed that among 103 donors, the majority were women with strong support at home; more than a half worked outside of the home particularly in health and social services. Only 11.7% reported practical problems in donating their milk. The main reasons for giving their milk were altruism and an optimistic attitude; close to 60% indicated having "too much milk". This study can give leads for the recruitment of potential donors of breastmilk.

Working mothers


International recommendations advise exclusive breastfeeding for 6 months. There would be consid-
erable potential for labour policy and practice, particularly maternity/parental leave provisions, to positively influence breastfeeding practice. Taking the case studies of Ireland, Sweden, and the United States, this paper concludes that both socio-cultural support and labour market/health/early childhood policy are important if high rates of both breastfeeding and women’s employment are to be achieved in industrialised countries.

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**Less pain**


Is breastfeeding effective for pain relief during venous puncture in neonates? A study was carried out to compare the effect of breastfeeding with that of oral glucose combined with a pacifier, in 180 randomised, term newborns, 45 in each group. During venous puncture, infants were either breastfed (group 1), held in their mother’s arms without breastfeeding (group 2), given a placebo (group 3), or given glucose and a pacifier (group 4). Video recordings of the procedure were assessed by two observers blinded to the purpose of the study. Median pain scores for breastfeeding, held in mother’s arms, placebo, and 30% glucose plus pacifier groups were 1, 10, 10, and 3 with one pain scale, and 4.5, 13, 12, and 4 with another pain scale, with a significant difference among groups. Breastfeeding effectively reduces response to pain during minor invasive procedures in term neonates.

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**Mother-to-child transmission of HIV**


From November, 1997, to April, 1999, 313 HIV-1 infected pregnant women were randomly assigned nevirapine (200 mg at labour onset and 2mg/kg for babies within 72 hours of birth) and the other 313 HIV-infected pregnant women zidovudine (600 mg orally at labour onset and 300 mg every 3 hours until delivery, and 4 mg/kg orally twice daily for babies for 7 days); 99% of babies were breastfed (median duration 9 months). The estimated risks of HIV-1 transmission in the zidovudine and nevirapine groups were 10.3% and 8.1% at birth; 20.0% and 11.8% by age 6-8 weeks; 22.1% and 13.5% by age 14-16 weeks; and 25.8% and 15.7% by age 18 months. Nevirapine was associated with a 41% reduction in relative risk of transmission through to age 18 months. The nevirapine regimen is simple, inexpensive, well-tolerated, and has the potential to significantly decrease HIV-1 perinatal transmission in less-developed countries.

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**Cochrane reviews**

**Early skin-to-skin contact**


To assess the effects of early skin-to-skin contact on breastfeeding, behaviour, and physiology in mothers and their healthy newborn infants, 17 studies, involving 806 participants, were included in this systematic review. Early skin-to-skin contact was found to have statistically significant positive effects: more than twice the number of infants were still breastfed at 1-3 months, breastfeeding duration increased by 42 days on average, infant temperature and blood glucose were better kept in the normal range, infant crying was greatly reduced, and the scores of maternal affectionate behaviour improved. No statistically significant benefit of early skin-to-skin contact was noted for other major clinical variables: breastmilk maturation, maternal chest circumference, and infant heart rate. Early skin-to-skin contact appears to have some clinical benefit especially regarding breastfeeding outcomes and infant crying, and has no apparent short or long-term negative effects.