EDITORIAL

Food and Play Preferences - Does Cancer Prevention Require Targeting the Child?

Two of the papers in the present issue of the journal point to benefits of garlic consumption for chemoprevention of tumour development (Das, 2002; Shimpo et al., 2002), but while its use might therefore be recommended there would be major problems with acceptance in many countries because of odour. Cultural determinants are clearly of prime importance, as well as socieconomic factors, with regard to choice of food and play activities. Since these latter are directly relevant to cancer prevention, research needs to be conducted into how intervention measures could be optimally directed to of influence behaviour. This is equally the case for tobacco control and promotion of physical exercise, two major new relevant publications being reviewed in the present volume(Mackay and Eriksen, 2002; Vainio and Bianchini, 2002).

In this context we need to concentrate on the ages at which preferences become established and there is in fact evidence of early consolidation of attitudes to physical activity, food and smoking behavior (Kelder et al., 1994). Childhood obesity deserves espeical attention given its long term health effects (Maffeis and Tato, 2001). An overview of factors which might be of importance throught to the young adult is given in the Figure. The available information implies that interventions should begin early, before behavioral patterns become resistant to change. With regard to nutrition, even very early infancy may be important, given the differences oberved in taste preference between babies raised on soy or milk formulas (Menella and Beauchamp, 2002). Children's intake of snack foods, fruit and vegetables correlates with that of their mothers, emphasizing the need for change at a family level if guidelines on diet are to be implemented (Fishet et al., 2002; Longbottom et al., 2002). The role of the maternal choice is paramount, for example in determining exposure to fast food. Young children can also be positively influenced, for example to try a new vegetable, by storybook coverage (Byrne and Nitzke, 2002).

In school age children, especially in early youth, while the mother continues to play a major role (Fisher et al., 2002) the external environment becomes more important, so that we need to concern ouselves with food advertising to children and especially the seductive appeal of toys provided by fast food chains. At later ages, while peer group pressure and related self-image may exert a positive influence, with up to one-quarter of young adolescent girls dieting linked to vegetarianism to lose weight, less-healthy foods may be chosen, not only because of their taste, but as an act of defiance (Hill, 2002). A better understanding is crucial to informing how we might modify nutritional behaviour during youth. It has in fact been found to be very difficult to achieve sustained dietary changes in the eating habits of secondary school children, even with considerable input (Parker and Fox, 2001). However, a garden-enhanced nutrition curriculum may improve school children's knowledge of nutrition and preferences for some vegetables (Morris and Zidenberg-Cherr, 2002). When developing intervention messages and strategies, nutrition educators need to be aware of the increasing role of "away" food in diets, consumed outside of the home setting (Guthrie et al., 2002). In a study of effects of family-togetherness on food selection by primary and junior high school students Kusano-

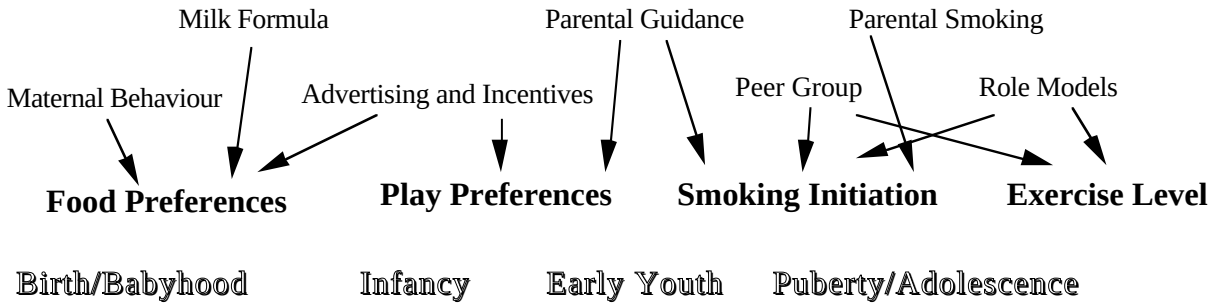

Figure. Stages in Individual Human Development to the Young and Major Influences Impacting on Cancer Risk

Tsunoh et al (2002) further found that eating as a group generally means better food.

The growth of the industry for television games and the associated decrease in physical activity and increase in obesity, and the possible links with aggressive and anti-social behaviour (Wiegman and van Schie, 1998) are clear causes of worry. Means to maximise the benefits of the new electronic age while controlling its potential harm present us with a research challenge which may need the type of community based approach advocated for the APOCP Practical Prevention Program (Tajima and Moore, 2001), hopefully with input from an 'IARC' for the Asian Pacific (Moore and Tajima, 2002). Here in our region there are many candidate foods whose consumption could be encouraged for prevention of cancer or other chronic diseases (Lukito, 2001). Do we need to concentrate our focus on these, perhaps with establishment of a 'healthy fast food' culture attractive to youth, along with promotion of enticing forms of physical activity in tobacco-free settings?

Abstract

Food preferences and habits regarding physical exercise and play regimens appear to become set relatively early in life, the mother being the major influence at this stage. Subsequently, the peer group takes on increasing importance, with continued roles for teachers and parents in providing an environment and guidance leading to adoption of a healthy or an unhealthy lifestyle. Since so many of the decisions that will determine exposure to risk and beneficial factors hinge on experience up to and through adolescence, the question arises as to whether more cancer prevention efforts should be directed at children and youths.

References

Birch LL, Davison KK (2001). Family environmental factors influencing the developing behavioral controls of food intake and childhood overweight. *Pediatr Clin North Am*, **48**, 893-907.

Byrne E, Nitzke S (2002). Preschool children's acceptance of a novel vegetable following exposure to messages in a storybook. *Nutr Educ Behav*, **34**, 211-3.

Davis SP, Northington L, Kolar K (2000). Cultural considerations for treatment of childhood obesity. *J Cult Divers*, **7**, 128-32.

Fisher JO, Mitchell DC, Smiciklas-Wright H, Birch LL (2002). Parental influences on young girls' fruit and vegetable, micronutrient, and fat intakes. *J Am Diet Assoc*, **102**, 58-64.

Guthri JF, Lin BH, Frazao E (2002). Role of food prepared away from home in the American diet, 1977-78 versus 1994-96: changes and consequences. *J Nutr Educ Behav*, **34**, 140-50.

Hill AJ (2002). Developmental issues in attitudes to food and diet. *Proc Nutr Soc*, **61**, 259-66.

Jansen A, Tenney N (2001). Seeing mum drinking a 'light' product: is social learning a stronger determinant of taste preference acquisition than caloric conditioning? *Eur J Clin Nutr*, **55**, 418-22.

Kelder SH, Perry CL, Klepp KI, Lytle LL (1994). Longitudinal tracking of adolescent smoking, physical activity, and food choice behaviors. *Am J Public Health*, **84**, 1121-6.

Longbottom PJ, Wrieden WL, Pine CM (2002). Is there a relationship between the food intakes of Scottish 5(1/2)-8(1/2)-year-olds and those of their mothers? *J Hum Nutr Diet*, **15**, 271-9.

Lukito W (2001). Candidate foods in the Asia-Pacific region for cardiovascular protection: nuts, soy, lentils and tempe. *Asia Pac J Clin Nutr*, **10**, 128-33.

Mackay J, Eriksen M (2002). The Tobacco Atlas, World Health Organization, Geneva.

Maffeis C, Tato L (2001). Long-term effects of childhood obesity on morbidity and mortality. *Horm Res*, **55 Suppl 1**, 42-5.

Mennella JA, Beauchamp GK. (2002) Flavor experiences during formula feeding are related to preferences during childhood. *Early Hum Dev*, **68**, 71-82.

Moore MA, Tajima K (2002). Coordinated research and the question of an 'IARC' for the Asian-Pacific? *Asian Pacific J Cancer Prev*, **3**, 273-8.

Morris JL, Zidenberg-Cherr S (2002). Garden-enhanced nutrition curriculum improves fourth-grade school children's knowledge of nutrition and preferences for some vegetables. *J Am Diet Assoc*, **102**, 91-3.

Parker L, Fox A (2001). The Peterborough Schools Nutrition Project: a multiple intervention programme to improve school-based eating in secondary schools. *Public Health Nutr*, **4**, 1221-8

Tajima K, Moore MA (2001). Risk and beneficial factors - fallacy at the individual but not the population level? Relevance to a Practical Prevention Program. *Asian Pacific J Cancer Prev*, **2**, 83-7.

Tsunoh A, Nakatsuka H, Satoh H, et al (2001). Effects of family-togetherness on the food selection by primary and junior high school students: family-togetherness means better food. *Tohoku J Exp Med*, **194**, 121-7.

Vainio H, Bianchini F (Eds) (2002). Weight Control and Physical Activity. IARC Handbooks of Cancer Prevention. Vol. 6. IARC Press, Lyon.

Wiegman O, van Schie EG (1998). Video game playing and its relations with aggressive and prosocial behaviour. *Br J Soc Psychol*, **37**, 367-78.

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