

Food, nutrition, anti-social behaviour and criminality

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Introduction

It is now generally accepted that foods, or specific constituents of them, can make some people ill. These adverse responses to food, or 'food allergies', as they are popularly called, vary from somewhat trivial unwell feelings to life-threatening anaphylactic responses. They are idiosyncratic reactions and are sometimes, but not always, linked with atopic tendencies and may affect any of the body systems (Dickerson, 1986). The effects may be immediate or delayed. Moreover they may vary with time due to the varying degree of sensitivity of the individual. When the reaction is immediate, the association of a clinical condition with a particular food is easily identified, but when it is delayed, an association may often be unsuspected. An example of an unsuspected association was the recent evidence that gluten sensitivity, without accompanying manifestations of coeliac disease, could play a part in causing neurological disease (Hadjivassiliou *et al*, 1996). The purpose of the present brief communication is to draw attention to evidence for the involvement of food and nutrition in the aetiology of disruptive and possibly also criminal behaviour.

Attention deficiency and hyperkinesis

In 1975, more than 20 years ago, Feingold suggested that hyperkinesis and learning disabilities could be due to artificial food flavours and colours. Many studies that have sought to disprove this hypothesis have been seriously flawed (Rippere, 1983), but recent reviews (Robinson & Ferguson, 1992;

Millstone, 1997) show that these effects can occur, albeit in a minority of children. However, there is also evidence that independent of food additives, a wide range of foods, varying in their nature from one child to another, may be involved in causing attention deficiency and hyperactivity in susceptible children (Eisert, 1994; Egger, 1997). Is it possible that reactions to foods (or to food additives) are responsible for the unruly, disruptive behaviour of some of the children who are being expelled from our schools? Unless such reactions are seriously looked for, the possibility of their existence cannot lightly be dismissed. A case could be made for such children to be under the care of a dietitian as well as a child psychologist, or perhaps a child psychiatrist.

Violent and criminal behaviour

A potentially more serious extension of such an association of food with behaviour is that adverse responses (or nutritional deficiencies) may result in delinquent or criminal behaviour. This possibility was discussed by a number of authors in a book edited by Hippchen and published in 1978. It was mentioned again in a review by Robinson and Ferguson (1992). There have been a number of reports of open trials in which dietary changes made in prison have been followed by a significant decrease in violence. The changes to the diets made in these trials resulted in an increase in nutrient density and were accomplished by replacing high fat and sugary foods with fruits and vegetables and with whole grains in proportions recommended by the US National