

Watching the effects of TV

The Australian federal government recently released new guidelines advising that children up to the age of two should not be exposed to television. At the ECC's annual conference in Christchurch in May, Australian expert Dr Estelle Irving will present the research findings that led to the government's decision and ask: Is television compatible with the care of young children?

'Children in the twenty-first century typically develop in front of a screen.' That was the conclusion of a 2008 report by American researchers Sandra Calvert and Barbara Wilson. Television is particularly significant in early childhood: it is an integral part of the environment in which early childhood development occurs and the interconnection begins at the start of life – with television used as a 'baby-sitter', even from earliest infancy (Edgar and Edgar, 2009). That makes exposure to television one of the most enduring and consistent experiences of childhood, and arguably one of the most powerful in its impact.

Without doubt, then, different forms of media are an important issue in relation to child health, well-being and development (RACP: Paediatrics & Child Health Division, 2004). Despite this, attention has only recently been given to the impact of television on infants and very young children. Cognitive, social-emotional and physical development is occurring while children experience both background and foreground exposure to television, thereby affecting child development (including brain development), health and well-being, as well as the ways in which children see and understand the world and their place in it. A growing body of evidence now highlights a range of negative impacts on early development.

To put this in context, children are heavy consumers of television. According to recent Australian data, very young children typically spend more time watching television than in any single other

waking activity. Television is increasingly watched by young children on their own, without the presence of a parent to regulate or mediate their experiences (RACP, 2004). Reflecting this, children do not exclusively or even preferentially watch designated children's programs.

Traditionally, concerns about television and children have focused on the content of television programs, particularly violent and, more recently, sexualised themes. Concerns also focus on the amount of time spent watching television, as the negative effects of television intensify as exposure increases. The related issue of what children are *not* doing when they are watching television, links directly to more recent worries about childhood obesity. These concerns remain and are worth briefly reviewing.

Viewing violence is associated with a range of problems including: desensitisation; a lack of empathy with victims of violence; an increased tendency to aggression; and the perception of the world as scary (RACP, 2004). Violent content may also suggest to children that violence is inevitable, and a normal and acceptable way to resolve conflict.

These effects are not just social and emotional: some evidence suggests that 'repeated exposure to violent content in the media modifies brain function. The consequences of this could lead to a blunting or desensitisation to the emotional effects of violence . . .' (RACP, 2004). Viewing violence does not make all children violent, but the evidence suggests that for some children (i.e. those with a genetic predisposition), viewing violence may trigger the expression of specific genes and alter the architecture of the brain (RACP, 2004).

The growing incidence of childhood obesity is linked to television viewing. An Australian study found that watching 20 hours or more of television per week doubled the risk of being overweight or obese compared with children who watch less television (Wake et al, cited in ACMA, Dec 2007). Research also now demonstrates a link between adiposity (higher fat mass) and more TV viewing with smaller increases in bone area and bone mass in preschoolers (Wosje et al, 2009).

While there is evidence that children aged three and over may gain from exposure to educational media, this is not the case for children aged two and younger (Kirkorian et al, 2008) . More recent concerns relating specifically to very early development include a focus on language development and play. Language development is one of the key developmental tasks of early childhood: it is promoted by certain types of experiences, including interactions with adults (Christakis et al, 2009).

A recent US study of young children aged from 2 months to 48 months found that language development is negatively affected when televisions are on. Parent–child vocal interactions significantly decreased when the TV was audible. The study showed that adults spoke less to young children, who in turn responded with fewer vocalisations.

A correlation between exposure to background television and delayed language development was also found by Chonchaiya et al, 2008. The study highlighted the relationship between the distracting and interfering effects of background television on the child’s attempts at toy play and family interaction, and noted a ‘negative impact on the dynamics and interactive process of developing language milestones in children’.

Background television exposure was an issue in a recent, small US study (Schmidt et al, 2008), which demonstrated that exposure to background television disrupts children’s play behaviour.

Television viewing also negatively affects the quality of children’s sleep, with studies reporting effects ranging from sleep-onset delay to sleep anxiety (ACMA, Dec 2007). While most of the research focuses on older children (4–10 years old), an association between television viewing and irregular sleep schedules has been identified in infants and children younger than three years of age (Thompson, D.A. & Christakis, D.A, 2005).

More generally, Nunez-Smith et al (2008) identified 173 quantitative studies on the relationship between media and seven health outcomes (childhood obesity, tobacco use, drug use, alcohol use, low academic achievement, sexual behaviour and attention deficit disorder with hyperactivity). Of the studies considered, 80 per cent found greater media exposure associated with negative health outcomes for children and adolescents. Of studies examining media content, 93 per cent found associations between increased media exposure and negative health outcomes. Similarly, 75 per cent of studies evaluating sheer quantity of media exposure reported an association with a negative health outcome. Importantly, there was no result identified for which increased media exposure is associated with a positive health outcome (ibid).

The compelling evidence about the importance of early experiences (including relationships) in the development or ‘architecture’ of the brain, as well as in physical, social and emotional development, together with the growing evidence of the negative impact of television on early childhood development has implications for early childhood education and care settings that need to be

carefully considered.

Minimising harm is a key consideration, with the American Academy of Pediatrics (AAP) recommending 'no screen' exposure before age two. Turning off televisions is necessary, but we need also to build environments that nurture optimal development. Relationships are crucial to this: face-to-face interactions and responsive, engaged relationships provide the foundation for all child development. For young children, particularly for infants and children under the age of two, television is incompatible with the 'hands on' experiences and the responsive, engaged relationships that scaffold and optimise their development.

This article is adapted from a Policy Brief developed by Dr Estelle Irving for the Centre for Community Child Health, Murdoch Children's Research Institute, Royal Children's Hospital, Melbourne, where she is a senior research fellow. For more information go to: www.rch.org.au/ccch.