

Review: commonly recommended well-child care interventions are not supported by evidence

Moyer VA, Butler M. Gaps in the evidence for well-child care: a challenge to our profession. *Pediatrics* 2004;114:1511–21.





This article contains extra text on the EBM website


Clinical impact ratings GP/FP/Primary care ★★★★★☆ Paediatrics ★★★★★☆

Q What is the evidence base for commonly recommended clinical preventive services for children?

METHODS

 **Data sources:** Medline, CINAHL, *Cochrane Library*, *ACP Journal Club*, PsycINFO, reference lists, proceedings of the Pediatric Academic Societies (1997–2003), internet, and contact with experts.

 **Study selection and assessment:** high quality systematic reviews were sought. Randomized and controlled clinical trials published after a review's search dates were then sought. If no reviews existed, clinical trials were sought for all dates. Studies and reviews had to evaluate a well-child care intervention in healthy children between birth and 18–21 years of age. Exclusion criteria: studies assessing only change in health knowledge and attitudes, studies in non-clinical settings (eg, schools), and studies using tests for diagnosis or management rather than screening.

 **Outcomes:** prevention of disease/disability, improvements in health/wellbeing, developmental and behavioural outcomes, and healthy behaviours.

MAIN RESULTS

A table on the website summarises the evidence (www.evidence-basedmedicine.com). *Behavioural counselling.* Several high quality systematic reviews and trials evaluated injury prevention. A modest benefit was seen for counselling about car restraints, bicycle helmet use, safe road crossing behaviour, smoke alarm use, and safe tap water temperature. Modest effects were found for intensive multimodal interventions for prevention of violence and exposure to passive smoking; brief interventions were not effective. Counselling to prevent alcohol use was not effective. Intensive counselling but not office-based counselling reduced sexually transmitted diseases and pregnancy. A multimodal intervention modestly increased physical activity. One on one health education increased the initiation of breast feeding among low income women, but multifaceted interventions plus changes in hospital procedures had greater effects. No effect was seen for infant sleep position counselling or oral health counselling. No trials evaluated counselling to prevent motorcycle crashes, drowning, pedestrian injuries, alcohol related injuries, choking, lead poisoning, sun related injuries, obesity, or baby bottle tooth decay.

Screening. An intensive visual screening protocol led to less amblyopia and better visual acuity at 7.5 years of age in the intensively screened group. Chlamydia and HIV screening were effective. No evidence exists for newborn physical examinations; periodic complete examination; repeated hip examination; growth monitoring; blood pressure monitoring; assessment for physical and sexual abuse; or screening for scoliosis, visual acuity, tuberculosis, urine infections, hyperlipidaemia, anaemia, lead poisoning,

gonorrhoea, human papillomavirus, cervical cancer, or hearing after the newborn period.

Prophylaxis. Folate supplementation in women of childbearing age reduced neural tube defects. Iron supplementation reduced iron deficiency but did not clearly change developmental outcomes; the long term effect is unknown. No trials evaluated oral fluoride treatment or ocular prophylaxis in newborns at risk of gonococcal or chlamydial infection.

CONCLUSIONS

Among commonly recommended clinical preventive services for children, some evidence exists to support counselling for changing some behaviours. Intensive counselling is mostly effective, whereas brief office-based interventions are not. Only 2 screening interventions (amblyopia and chlamydia/HIV) were evaluated in trials. Folate supplements reduced neural tube defects, and iron supplements reduced iron deficiency but did not clearly change developmental outcomes. Other prophylactic interventions were not evaluated rigorously in trials.

Commentary

The review by Moyer and Butler is a good summary of the evidence for current well-child care interventions. In an increasingly evidence-based practice environment, there is a need to identify the most efficient means to identify problems in children and families for which a paediatrician and other office staff can make a real difference. It has become quite clear that child health screening has a relatively minor part to play in preventive care and that proactive health promotion using multimodal methods has a much greater effect. An important question not answered by this review is "How should practice be best organised to achieve this?" Increasing evidence from the UK, Australia, Canada, and the US shows that paediatricians need to see themselves as very much part of a health promoting community resource network. This involves keeping up to date with local social services, educational, and voluntary staff; developing good local relationships; and providing high quality parent information. Parenting support programmes have been successful in primary care settings, although it is often difficult to engage those most in need of these. Domiciliary home visiting has an important part to play in supporting "hard to reach" groups. Although the evidence base does not support certain procedures and tasks, it is important to look more closely at the actual context of how preventive interventions are delivered (ie, the value of the actual "relationship" between parent and practice staff and how this might mediate the efficacy of these). More research using varied methodologies and whole multidisciplinary teams may enable us to discover whether regular contact with the child and family has an independently beneficial effect. The social and environmental factors that determine child health and wellbeing are clearly the most important and require us to be more aware of their causal pathways and act as "upstream" clinicians who can help influence these factors through advocacy and research.

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