

make precise conclusions about the size of the effect, though the consistency of the associations we observed between both infant size and growth and later obesity across a range of settings and time periods suggest that the association is robust.

As this review was part of a much larger review it was impractical to obtain original data from study authors to carry out secondary analyses.

Conclusions

Infants in the highest end of the distribution for weight or body mass index and those who grow rapidly are at increased risk of obesity in childhood and adulthood. This suggests that factors during infancy or before that are related to infant growth influence the risk of later obesity. The relation of infant growth with other health outcomes should be explored to assess whether interventions to alter infant growth to prevent obesity are likely to be associated with other benefits or harms. It will also be important to assess whether factors influencing infant growth are amenable to change, to establish which strategies might alter infant growth, and to find out whether these are acceptable to parents.

We thank our advisory group for their input to the project, especially Paul Dieppe for chairing it. We also thank Liz Payne for carrying out our searches and colleagues at Medical Research Council Epidemiology Resource Centre, Institute of Child Health, University College London, and the Centre for Reviews and Dissemination, University of York, for their assistance and support. We are grateful to those who have reviewed this project and thank the experts and first authors of papers that we contacted for their assistance.

Contributors: See bmj.com

Funding: Department of Health. JB is an MRC special training fellow in health services and health of the public research.

Competing interests: None declared.

Ethical approval: Not required.

- 1 Department of Health. *Health survey for England 2003*. London: Stationery Office, 2004.
- 2 Stamatakis E. Anthropometric measurements, overweight, and obesity. In: Sproston K, Primates P, eds. *Health survey for England 2002: the health of children and young people*. London: Stationery Office, 2002.
- 3 Parsons TJ, Power C, Logan S, Summerbell CD. Childhood predictors of adult obesity: a systematic review. *Int J Obes Relat Metab Disord* 1999;23:S1-107.
- 4 Parsons TJ, Power C, Manor O. Fetal and early life growth and body mass index from birth to early adulthood in 1958 British cohort: longitudinal study. *BMJ* 2001;323:1331-5.
- 5 Stettler N, Zemel BS, Kumanyika S, Stallings VA. Infant weight gain and childhood overweight status in a multicenter, cohort study. *Pediatrics* 2002;109:194-9.
- 6 Eriksson J, Forsen T, Osmond C, Barker D. Obesity from cradle to grave. *Int J Obes Relat Metab Disord* 2003;27:722-7.
- 7 Cole TJ. Secular trends in growth. *Proc Nutr Soc* 2000;59:317-24.
- 8 Poskitt EM, Cole TJ. Do fat babies stay fat? *BMJ* 1977;3:7-9.
- 9 Mei Z, Grummer-Strawn LM, Scanlon KS. Does overweight in infancy persist through the preschool years? An analysis of CDC pediatric nutrition surveillance system data. *Soz Preventivmed* 2003;48:161-7.
- 10 Reilly JJ, Armstrong J, Dorosy AR, Emmett PM, Ness A, Rogers I, et al. Early life risk factors for obesity in childhood: cohort study. *BMJ* 2005;330:1357.
- 11 Wilkinson PW, Parkin JM, Pearson J, Philips PR, Sykes P. Obesity in childhood: a community study in Newcastle upon Tyne. *Lancet* 1977;3:350-2.
- 12 Asher P. Fat babies and fat children. The prognosis of obesity in the very young. *Arch Dis Child* 1966;41:672-3.
- 13 He Q, Karlberg J. Prediction of adult overweight during the pediatric years. *Pediatr Res* 1999;46:697-703.
- 14 Monteiro PO, Victora CG, Barros FC, Monteiro LM. Birth size, early childhood growth, and adolescent obesity in a Brazilian birth cohort. *Int J Obes Relat Metab Disord* 2003;27:1274-82.
- 15 Heald FP, Hollander RJ. The relationship between obesity in adolescence and early growth. *J Pediatr* 1965;67:35-8.
- 16 Johnston FE, Mack RW. Obesity in urban black adolescents of high and low relative weight at 1 year of age. *Am J Dis Child* 1978;132:862-4.
- 17 Tienboon P, Wahlqvist ML. A prospective study of weight and height going from infancy to adolescence. *Asia Pac J Clin Nutr* 2002;11:42-7.

- 18 Rolland-Cachera MF, Deheeger M, Guillaud-Bataille M, Avons P, Patois E, Sempe M. Tracking the development of adiposity from one month of age to adulthood. *Ann Human Biol* 1987;14:219-29.
- 19 Charney E, Goodman HC, McBride M, Lyon B, Pratt R. Childhood antecedents of adult obesity. Do chubby infants become obese adults? *N Engl J Med* 1976;295:6-9.
- 20 Whitaker RC, Wright JA, Pepe MS, Seidel KD, Dietz WH. Predicting obesity in young adulthood from childhood and parental obesity. *N Engl J Med* 1997;337:869-73.
- 21 Guo SS, Roche AF, Chumlea WC, Gardner JD, Siervogel RM. The predictive value of childhood body mass index values for overweight at age 35 y. *Am J Clin Nutr* 1994;59:810-9.
- 22 Garn SM, LaVelle M. Two-decade follow-up of fatness in early childhood. *Am J Dis Child* 1985;139:181-5.
- 23 Mossberg HO. 40-year follow-up of overweight children. *Lancet* 1989;ii:491-3.
- 24 Stettler N, Kumanyika SK, Katz SH, Zemel BS, Stallings VA. Rapid weight gain during infancy and obesity in young adulthood in a cohort of African Americans. *Am J Clin Nutr* 2003;77:1374-8.
- 25 Eid EE. Follow-up study of physical growth of children who had excessive weight gain in first six months of life. *BMJ* 1970;ii:74-6.
- 26 Mellbin T, Vuille JC. Physical development at 7 years of age in relation to velocity of weight gain in infancy with special reference to incidence of overweight. *Br J Prev Soc Med* 1973;27:225-35.
- 27 Stettler N, Bovet P, Shamlaye H, Zemel BS, Stallings VA, Paccaud F. Prevalence and risk factors for overweight and obesity in children from Seychelles, a country in rapid transition: the importance of early growth. *Int J Obes Relat Metab Disord* 2002;26:214-9.
- 28 Stettler N, Stallings VA, Troxel AB, Zhao J, Schinnar R, Nelson BA, et al. Weight gain in the first week of life and overweight in adulthood: a cohort study of European American subjects fed formula milk. *Circulation* 2005;111:1897-903.
- 29 Toschke AM, Grote V, Koletzko B, von Kries R. Identifying children at high risk for overweight at school entry by weight gain during the first 2 years. *Arch Pediatr Adolesc Med* 2004;158:449-52.

(Accepted 16 August 2005)

doi 10.1136/bmj.38586.411273.E0

Corrections and clarifications

BMA warns against unnecessary screening tests in private sector

In the fourth paragraph of this News article by Lynn Eaton the reported equivalent radiation dose of a whole body scan is underestimated (*BMJ* 2005;331:475, 3 Sep). A whole body scan involves the equivalent dose of hundreds of (not 100) chest radiographs.

Taking the final step: changing the law on euthanasia and physician assisted suicide. Time for change

The end of the final summary point went awry during last minute changes to this article by M A Branthwaite (*BMJ* 2005;331:681-3, 24 Sep). The statement should have read: "Terminally ill patients seeking assistance to die should be given the same respect for self determination as those who can end their lives by refusing life sustaining treatment."

Regulating the drugs industry transparently

The author's competing interest somehow "dropped off" this article during the editorial process (*BMJ*, 2005;331:528-9, 10 Sep). John Abraham had asked us to state that he is a specialist expert adviser to the Commons Health Committee.

Radiotherapy improves outcome in patients with locally advanced prostate cancer

In redrawing the graph that accompanied this Short Cut item, compiled by Christopher Martyn, we inadvertently got our labels the wrong way round and didn't notice (*BMJ* 2005;331:477, 3 Sep). The top (red) curve, reflecting better survival, represents the irradiation group, not the "wait and see" group.