adiposity, were measured directly. Study participants were traced, mailed a health questionnaire in 1962/1966 (mean age 45.1 years) which included enquiries regarding self-reported height and weight, and were followed for subsequent mortality experience – with > 99% completion – until the end of 1998. BMI was categorised into quartiles in the present analyses.
Setting: USA.
Participants: 14 638 men enrolled in Harvard University in the given years, who completed the subsequent health questionnaire, and whose vital status could be ascertained.
Main Outcome Measure: CHD death.
Results: Over a maximum of 82.5 years of follow-up (median 56.5 years), there were 1401 deaths from CHD. Following adjustment for age and other CHD risk factors (cigarette smoking, physical activity, blood pressure) at college entry, relative to the lowest weight quartile (mean BMI = 18.7 kg/m^2), there was an elevated risk of CHD mortality in men in the highest quartile (mean BMI = 25.0 kg/m^2; hazards ratio 1.28, 95% CI 1.10 to 1.49) but not the intermediate groups. Following additional control for BMI in middle-age, this increased CHD risk in the highest quartile was eliminated (1.03; 0.87 to 1.21).
Conclusion: In this cohort, higher BMI in early adulthood was associated with an elevated risk of CHD mortality several decades later but this effect appeared to be entirely meditated via BMI in middle-age.

056 THE LONG TERM EFFECTS OF CHILDBEARING AND BREASTFEEDING ON BODY MASS INDEX IN MIDDLE AGED WOMEN RESULTS FROM THE MILLION WOMEN STUDY

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Objectives: To examine the relation between childbearing and breastfeeding and subsequent body mass index (BMI) in middle-aged women.
Design: Cross-sectional analysis within a large prospective study.
Participants: One million UK women recruited into the Million Women Study during 1996–2001. Participants completed questionnaires collecting information on personal and lifestyle characteristics, medical and reproductive history including questions on childbearing and breastfeeding, anthropometry, physical activity, and socio-demographic in factors.
Main Outcome Measures: Mean BMI stratified by parity and breastfeeding and adjusted for age, geographical region, socio-economic status, smoking status, strenuous physical activity, age at first birth, and years since last birth.
Results: 980 474 women were included in the main analysis. 87% of the study population were parous, mean parity was 2.1 (1.2) and 68% of parous women ever breastfed. The mean lifetime duration of breastfeeding per child was 3.8 (SD 3) months. Mean BMI increased significantly with each birth from 25.8 (95% CI 25.7 to 25.8) for nullips to 28.1 (95% 28.1 to 28.3) for women with five or more births. Parous women who breastfed had significantly lower BMIs than their non-breastfeeding counter parts. The effect was attenuated by adjusting for socio-economic status but remained significant even after full adjustment The mean BMI decreased as lifetime duration of breastfeeding increased: compared with women who never breastfed, mean BMI decreased by 0.8 (95% CI 0.71 to 0.82)kg/m^2 in those with a lifetime breastfeeding duration of more than 9 months. This relationship was statistically significant ($p<0.0001$) and maintained at each parity level.
Conclusions: In this analysis including one million middle-aged women in the UK we found that BMI increased with increasing parity, but that this increase would be offset if women breastfed. These relationships were independent of socioeconomic status, geographic region, smoking, exercise, age at first birth and time since last birth. These findings contribute to the body of evidence that childbearing and breastfeeding have sustained long term effects on the health status of women.

Ethnicity and young people

057 EXPLAINING THE MENTAL HEALTH ADVANTAGE OF BRITISH INDIAN CHILDREN

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Objective: To investigate the causes of the lower rate of mental disorders diagnosed in British Indian children compared to White children.
Design: Secondary analysis of two population-based, cross-sectional surveys of child mental health (the British Child and Adolescent Mental Health Surveys of 1999 and 2004).
Setting: Great Britain (nationally-representative sample). Mental health outcome measures: Parent Strengths and Difficulties Questionnaire (SDQ); teacher SDQ; child SDQ; multi-informant clinical diagnosis.
Participants: 16 449 White and 419 Indian children aged 5–16. The detailed multivariable models focused on the 13 868 White and 361 Indian children from England whose parents had completed an SDQ in English.
Results: There was a substantially lower prevalence ($p<0.001$) of any mental disorder in Indians (3.4%, 95% CI 1.9 to 5.9) compared to Whites was (9.6%, 95% CI 9.1 to 10.2). Strong evidence ($p<0.002$) of an Indian advantage for externalising problems/disorders was consistently observed for the parent, teacher, child SDQs and for clinical diagnosis. Detailed psychometric analyses of the SDQ and clinical interview measures provided no evidence that this Indian mental health advantage could be explained by a measurement bias in the assessment of mental health. In multivariable analyses the unexplained difference between Indians and Whites decreased somewhat after adjusting for the fact that Indian children were more likely to live in two-parent families (92.2% vs. 65.4%) and less likely to have academic difficulties (e.g. 2.9% vs. 8.6% for parent-reported learning difficulties). In models adjusting for a larger number of child, family, school and area variables the difference reduced only by about a quarter (e.g. from 1.08 to 0.75 SDQ points on the parent SDQ) and remained highly significant ($p<0.001$). There was little or no evidence of an ethnic difference for internalising problems/disorders in unadjusted or adjusted models.
Conclusions: The mental health difference between Indian and White children is specific to a substantial advantage for externalising disorders, and this advantage appears to be real rather than due to a reporting bias. This advantage is largely unexplained by major risk factors for child mental health problems available in this dataset. Further qualitative and quantitative research into the causes of this advantage has the potential to yield insights which could improve the mental health of children of all ethnic groups.

058 EMERGENCE OF ETHNIC DIFFERENCES IN BLOOD PRESSURE IN ADOLESCENCE: THE DETERMINANTS OF ADOLESCENT SOCIAL WELL-BEING AND HEALTH LONGITUDINAL STUDY

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Objective: To examine ethnic differences in changes in Blood Pressure (BP) between early and late adolescence in the UK.

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Design: Determinants of Adolescent Social well-being and Health (DASH) study: A cohort observational study.
Setting: Schools in ten London boroughs with high proportions of the main ethnic minority groups, UK.
Participants: White British (692), Black Caribbeans (670), Black Africans (772), Indians (384), and Pakistanis and Bangladeshis (402) children were surveyed in 2003/2004 (11–13 years) and followed up in 2005/2006 (14–16 years).
Main outcome measures: Longitudinal measures of systolic (sBP) and diastolic BP (dBP). Predicted age, gender and ethnic specific mean BP, adjusted for anthropometry (Body mass index (BMI), height, weight, leg length (LL)), smoking, socio-economic circumstances (SEC) and psychological well-being were derived using mixed models.
Results: Among boys, sBP did not differ by ethnicity at 12 y but the greater increase among Black Africans than Whites led to higher sBP at 16 y (+2.9 mm Hg). The age trends for dBP suggest earlier divergences and increasing disparities with significantly higher dBP than Whites from 12 y for Indians, 14 y for Pakistanis-Bangladeshis and from 15 y for Black Africans. Among girls, ethnic differences in mean sBP were not significant at any age but larger increases were observed for Black Caribbeans and Black Africans than for Whites. At 12 y, dBP was lower among Black Caribbean and African girls than White girls but the faster rise led to similar levels by 14 y. Indians had significantly higher dBP from 13 y and Pakistanis/Bangladeshis from 15 y. Body mass index, height and leg length were independent predictors of BP, with few ethnic specific effects. Socio-economic disadvantage had a disproportionate effect on BP for girls in minority groups.
Conclusions: The findings suggest that ethnic divergences in BP begin in adolescence, particularly striking for boys. They signal the need for early prevention of adverse CVD risks in later life.

059 NUTRITIONAL COMPOSITION OF THE DIETS OF SOUTH ASIAN, BLACK AFRICAN CARIBBEAN AND WHITE EUROPEAN CHILDREN IN THE UK: THE CHILD HEART AND HEALTH STUDY IN ENGLAND

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Background: Compared with UK white Europeans, South Asian adults have increased risks of obesity, type 2 diabetes, stroke and coronary heart disease (CHD); black African-Caribbean adults have increased risks of obesity, type 2 diabetes and stroke with lower CHD risk. Dietary differences could be important in explaining these ethnic differences, which appear to emerge in early life. However, few systematic attempts have been made to define the extent of ethnic differences in diet, particularly in children.
Objective: To examine ethnic variations in nutritional composition of the diets of children of South Asian, black African-Caribbean and white European origin in the UK.
Design: 24 hour recalls of dietary intake were carried out during a cross-sectional survey of children attending 85 Primary Schools in London, Birmingham and Leicester.
Participants: 2210 children aged 9–10 years, including 567 of South Asian, 595 of black African-Caribbean and 601 of white European origins.
Results: Compared to white Europeans, South Asian children reported higher mean total energy intake (mean difference 96 kcal, 95% CI 35 157 kcal), fat % energy (mean difference 1.3%, 95% 0.5 to 2.1%) and protein % energy (mean difference 0.9%, 95% CI 0.5 to 1.3%). Their intakes of carbohydrate as a proportion of energy (particularly sugars), vitamin C and D, calcium and haem iron intakes were lower. These differences were especially marked for Bangladeshi children. Black African Caribbean children had lower intakes of total fat % energy (mean difference −1.3%, 95% CI −2.0 to −0.5) and saturated fat % energy (mean difference −1.2%, 95% CI −1.6 to −0.8). They also consumed less non-starch polysaccharide, vitamin D and calcium; whilst intakes of haem iron were higher. The lower intakes of fat (including saturated fat) were particularly marked among black African children.
Conclusions: Appreciable ethnic differences exist in the nutritional composition of children's diets. These patterns could influence early emerging differences in disease risk and, if maintained, could contribute to continuing ethnic differences in disease risk in the next generation.

060 PATTERNS OF ADIPOSITY AND OBESITY AMONG SOUTH ASIAN AND WHITE EUROPEAN CHILDREN: CHILD HEART AND HEALTH STUDY IN ENGLAND

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Background: The prevalence of obesity is increasing markedly both in UK adults and children. Risks of obesity and its consequences (particularly type 2 diabetes) are particularly marked among South Asians. Earlier studies have suggested that adiposity patterns in Asian populations differ from those in Europeans, making standard weight-for-height measures misleading. However, few studies have made detailed assessments of adiposity and obesity among UK South Asian and white European children.
Objective: To examine ethnic differences in adiposity/obesity patterns and their inter-relations in UK children of South Asian and white European origin.
Design and Methods: Cross-sectional survey of children (Child Heart and Health Study in England (CHASE)) recruited from a sample of 200 Primary schools with high prevalences of children of South Asian origin in London, Birmingham and Leicester. Standardised measurements of anthropometry (weight, height, waist circumference, multiple skinfolds) and of body fat % by bioelectrical impedance were made. Ethnic origin was defined primarily by parental self-report. Statistical analyses were adjusted for age and gender and included a random effect to allow for clustering within schools. All body size measurements were log transformed with the exception of body fat %. Obesity cut-offs were defined using International Obesity Task Force guidelines.
Participants: 5759 children aged 9–10 years, of whom 1490 were of white European and 1543 were of South Asian origin (overall response rate 68%).
Results: South Asian children were lighter (% difference −2.7, 95% CI −4.3 to −1.0), had a lower body mass index (% difference −2.2, 95% CI −3.5 to −0.9) and a lower waist circumference (% difference −1.5, 95% CI −2.5 to −0.5) than white Europeans; there was no appreciable difference in height. However, South Asian children had a higher body fat % (mean difference 1.7, 95% CI 1.0 to 2.4) and a higher combined skinfold thickness (% difference 5.1, 95% CI 1.4 to 9.0). For a given BMI, mean body fat % among South Asians was 2.3% (95% CI 2.0% to 2.7%) higher; this difference varied only slightly by gender and ethnic subcategory. The unadjusted prevalence of obesity based on body mass index was 0.1% lower among South Asians than white Europeans, but when based on body fat % was 9% higher.
Conclusions: Patterns of adiposity/obesity differ between UK children of South Asian and white European origin and may have adverse long-term health consequences. However, the differences are not well represented by simple measures based on weight and height alone.

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