educational attainment and low sense of well-being. The impact of household food insecurity on an individual’s quality of diet depends on their role within the household and mothers may be more adversely affected than other family members. Studies have linked food insecurity with mental health problems in women of childbearing age. This study examines the relationship between food insecurity, well-being and quality of diet in women of childbearing age.

**Design** Cross-sectional survey of educational attainment, food insecurity, well-being and quality of diet in women of childbearing age.

**Setting** Sure Start Children’s Centres (SSCCs) in three south coast towns with high levels of disadvantage- Southampton, Gosport and Havant.

**Participants** 1022 women attending SSCCs between January and April 2009.

**Main outcome measures** Food insecurity, assessed using the short form of Blumberg household food security scale; dietary quality score from a 20-item food frequency questionnaire; well-being by the WHO-5 questionnaire.

**Results** 11% of women had insufficient money to buy food, and 9% reported going hungry. Women of lower educational attainment were twice as likely to be food insecure as women of higher educational attainment (prevalence rate ratio 2.02, 95% CIs 1.42 to 2.86). Women who reported lower well-being were three times as likely to go hungry as women of higher well-being (prevalence rate ratio 3.18, 95% CIs 2.04 to 4.93.) Women who experienced food insecurity had poorer quality diets: becoming food insecure was accompanied by a 0.79 standard deviation reduction in dietary quality score (95% CIs –1.10 to 0.48). In a multivariate regression analysis, having lower educational attainment, lower well-being, being food insecure and going hungry were significant independent predictors of dietary quality, after adjusting for age and number of children in the household. Being food insecure predicted a 0.32 standard deviation reduction in dietary quality score (95% CIs –0.61 to 0.28), and going hungry a 0.45 standard deviation reduction (95% CIs 0.77 to 0.12).

**Conclusion** Food insecurity was common: one in five women lived in food insecure households. Women of lower educational attainment were twice as likely to be food insecure as women of higher educational attainment. National survey data indicate that disadvantaged young women have diets of poor quality. Our study suggests that food insecurity and low sense of well-being are aspects of disadvantage that predict poor quality of diet.

**Results** 28 randomised and non-randomised controlled trials were identified that reported daily fruit and/or vegetable intake. A median intake of 0.4 portions more fruit and vegetables was consumed in the intervention group compared to the control group. The qualitative analysis of daily intake included 13 studies classified into one of two groups: behavioural change studies with a school and/or home component that relied on families improving eating behaviour; and free school fruit and vegetable scheme where fruit and vegetables are distributed to children. The short term impact of both types of intervention was determined using the follow up data collected within 5 months of the end of the intervention. This was the longest follow-up period in most cases. The pooled estimates (95% CI) for behavioural change studies and free fruit and vegetable schemes were 0.45 (0.21 to 0.65) and 0.44 (0.20 to 0.67) portions respectively. The pooled estimate (95% CI) for all studies was 0.42 (95% C 0.27 to 0.58) portions more in the intervention group. The majority of the difference was due to fruit not vegetables. Heterogeneity was high for the meta-analysis with lunchtime intake but reasonable for daily intake.

**Conclusion** School-based interventions have the potential to moderately improve fruit and vegetable intake in children, with approximately half of the increase attributable to improvements in lunchtime intake.

**Physical activity**

**Objective** The aims of the review were to identify school-based randomised and non-randomised controlled trials to improve daily or lunchtime fruit and vegetable intake in children and to determine the impact of school-based interventions to change fruit and vegetable consumption at lunchtime and over the whole day.

**Design** A systematic literature review was carried out to identify appropriate trials. This was followed by meta-analysis techniques to determine the pooled estimate of the difference in daily fruit and vegetable intake in the intervention group compared with the control group.

**Participants** Trials carried out in schools where children were aged 5 to 11 years were included. All trials reported in English language journals were eligible.
Grip strength, standing balance and chair rise are important given that low levels are associated with increased risk of losing independence, health problems and mortality. Studies of participation in sports/recreational activity (SR) have provided some evidence of independent positive effects of participation in sports and recreational activities prospectively at three ages across adulthood (36, 43 and 53 years), and objective measures of physical capability at age 53 year; to examine whether any associations found are independent of physical activity levels at other ages and other potential confounders.

**Background**
Maintaining high levels of physical capability with age is important given that low levels are associated with increased risk of losing independence, health problems and mortality. Studies of older people provide evidence to suggest that physical activity may be beneficial for the maintenance of physical capability however it is unclear whether the effects of physical activity accumulate over the life course.

**Objectives**
To test the associations between physical activity levels, assessed by self-report of participation in sports and recreational activities prospectively at three ages across adulthood (36, 43 and 53 years), and objective measures of physical capability at age 53 year; to examine whether any associations found are independent of physical activity levels at other ages and other potential confounders.

**Design**
Prospective cohort study.

**Setting**
England, Scotland and Wales.

**Participants**
Approximately 2400 men and women from the MRC National Survey of Health and Development, followed up since birth in March 1946.

**Main outcome measures**
Grip strength, standing balance and chair rise time assessed by nurses during home visits at age 53 year.

**Results**
Physical activity levels at all three ages in adulthood were positively associated with chair rise and standing balance performance. These associations were maintained after adjustment for sex, height, weight and socio-economic position with those people who were categorised as being most active performing better in these two tests than people reporting no activity. In models which included physical activity at all three ages simultaneously, there was evidence of independent positive effects of participation in sports and recreational activities at all three ages on chair rise performance and at ages 43 and 53 years on standing balance performance. Differences in mean chair rise time (1/time(s) × 100) between the most active and least active groups were: (at age 53 year: 0.50 (95% CI 0.14 to 0.46)); at ages 36 and 43 year: 0.36 (0.18, 0.54)) after adjustment for activity levels at the other two ages and covariates. There was no evidence of associations between physical activity levels at any age and grip strength in women and in men only physical activity at age 53 year was associated with grip strength.

**Conclusions**
Evidence of independent effects of physical activity at different ages across adulthood on chair rise and standing balance performance in mid-life suggests that there are cumulative benefits of physical activity across adulthood for physical capability in mid-life. Increased activity should therefore be promoted earlier in life.

**Background and aim**
Health services should take account of cultural and faith diversity. Pakistanis are the UK's second largest ethnic group and one of the largest Muslim communities. However, relative to other ethnic minority groups, there is a paucity of sexual health research among this group. Using community-based qualitative research we explored the social and cultural influences on sexual attitudes and experiences of young Pakistanis in East London to determine whether there is unmet sexual health need and implications for service development.

**Design**
Between June and September 2008, 50 in-depth one-to-one interviews (60–90 min) were conducted with young Pakistanis.