

correlation=0.87, $p<0.001$) extracted two discriminant functions that accounted for 95.4% of the variance, with the first function, reflecting global cognitive function, accounting for 83%. Reclassification using the canonical variables was 72.9% correct. Predicted values from the first discriminant function revealed that the interaction between health status and physical fitness was due to the latter improving global cognitive function in the dementia group [$t(25)=2.90$, $p<0.01$], but not in the healthy group ($p>0.10$). A regression analysis showed that although global functioning decreased with the number of years since dementia diagnosis [unstandardised regression coefficients (b)=-0.25, 95% CI (-0.47, -0.04), $p<0.05$], physical fitness was still associated with improved cognitive functioning [$b=1.54$, 95% CI (.49, 2.59)], with no interaction ($p>0.05$).

Conclusion Physical fitness was associated with improved cognitive functioning, particularly for individuals with dementia. This benefit was present independent of exercise history, age, or duration of dementia. These findings provide empirical support for the development of fitness programmes for dementia patients to offset the cognitive deterioration associated with the condition.

P58

BARRIERS AND FACILITATORS TO IMPLEMENTATION OF DIET AND PHYSICAL ACTIVITY INTERVENTIONS IN SCHOOLS-A DEDIPAC (DETERMINANTS OF DIET AND PHYSICAL ACTIVITY) QUALITATIVE STUDY

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Background This case study was undertaken in Ireland as part of the European **D**eterminants of **D**iet and **P**hysical **A**ctivity (DEDIPAC) Knowledge Hub. Two national interventions were chosen based on predetermined selection criteria: a Healthy Eating Programme (HEP) to encourage primary schoolchildren to consume more fruit and vegetables, and a Travel to School Programme, (TSP) to promote sustainable modes of transport, car-pooling and public transport use in primary and secondary schools. The HEP is EU and government funded, the TSP entirely government funded. TSP adopts a flexible approach where schools can set their travel targets. School coordinators (teachers) cascade both programmes to classroom teachers.

Methods Seven of eight schools invited to participate based on predetermined criteria took part in the study. Face-to-face interviews (n=15) were conducted with teachers, project managers and key stakeholders using a topic guide developed by the international DEDIPAC team and informed by a prior systematic umbrella review of conditions influencing implementation. Data were coded in NVIVO using a common categorization matrix and thematic analysis carried out using parameters of the RE-AIM (Reach, Effectiveness, Adoption, Implementation, Maintenance) evaluation framework.

Results Good working relationships were critical to adoption, successful implementation and sustainability in line with findings from case studies in other EU countries. Organisational

and leadership ability of coordinators was key to successful delivery. Incentives and rewards acted as motivators to engage children's interest, which motivated teacher and parent involvement. Particular challenges faced by the TSP included a lack of funding security and timetable constraints within secondary schools. HEP was based on well-funded external research with clearly defined core components and has been frequently externally evaluated. TSP core components were broad rather than specific, implementation was flexible and there was a lack of agreement among stakeholders on how targets were set and the accuracy of these.

Conclusion Good relationships, organisational and leadership ability, and secure funding were key conditions for implementation, sustainability and dissemination of promising public health interventions. The findings have informed the DEDIPAC-KH Pan European Toolbox set up for researchers and practitioners who want to develop, evaluate or implement multicomponent interventions on physical activity, sedentary behaviour or dietary behaviour.

P59

LIFELAB SOUTHAMPTON: IMPROVING SCIENCE LITERACY AS A TOOL FOR INCREASING HEALTH LITERACY IN TEENAGERS – A PILOT CLUSTER-RANDOMISED CONTROLLED TRIAL

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Background Behavioural risk factors are the largest contributor to the non-communicable disease burden, and those of parents can affect prenatal and infant development with lasting impact on children's long-term health. Adolescence offers a window of opportunity during which improvements in health behaviours would not only benefit long-term health of individuals, but also enable them to be better prepared for parenthood and pass better health prospects to their children. We have developed an educational intervention, LifeLab, based around a purpose-built laboratory in University Hospital Southampton with support from teachers, to engage adolescents in understanding effects of their health behaviours for themselves and their future children.

Aims To assess whether engaging adolescents with the science behind health messages, thus improving their science literacy, increases their health literacy and hence their health behaviours.

Methods In a pilot study, in preparation for a large cluster randomised trial of LifeLab, we recruited six schools. Three were randomised to the LifeLab intervention and three to control, with 392 students completing online questionnaires at baseline and 12 months follow up. Summary statistics were used to examine differences between groups. The categorical outcome variables were dichotomised and Poisson regression with robust variance used to obtain prevalence rate ratios (PRRs) for the outcome in relation to the intervention,

adjusted for baseline values, sex and Index of Deprivation Affecting Children (IDACI) score.

Results 12 months post intervention, intervention students had greater understanding than control students of the influences of health behaviours on their long term health and that of their children. Compared with control students those in the intervention were more likely to agree that nutrition starts to affect our future health early in life (PRR 1.87 (95%CI 1.42–2.45) and that the food a father eats before having a baby could affect the health of his children (PRR 4.05 (95%CI: 2.34–7.01)), but no more likely to agree that it was important to eat healthy food now (PRR 1.19 95% CI: 0.79–1.79)). The students in the intervention groups took similar amounts of exercise and their diets were comparable to those in the control group.

Discussion It is possible to change students' scientific awareness and health literacy as measured 12 months after the Life-Lab intervention, but this does not necessarily translate into behaviour change. Interventions require more than knowledge acquisition in order to motivate and sustain behaviour change.

P60

HOW CAN MENTORING PROGRAMMES FOR YOUNG PEOPLE IN SECONDARY SCHOOLS IN THE UNITED KINGDOM BE CLASSIFIED? DEVELOPING A TYPOLOGY USING QUALITATIVE METHODS

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Background Despite a lack of robust evidence of effectiveness, mentoring programmes are commonplace in various settings and contexts in the United Kingdom (UK). Due to their potential to influence health and educational outcomes, it is of public health interest to obtain a better understanding of the types of mentoring programmes currently available to comprehend what 'mentoring' means and to aid the evaluation of such programmes. The aim of this study was to develop a typology of currently active mentoring programmes that provide formal mentoring for young people in UK secondary schools.

Methods Eight websites were searched to retrieve details of UK organisations that provide mentoring programmes for young people. Maximum variation sampling based on country and the type of mentoring programme was used to include a variety of different programmes. Programme managers from purposefully selected organisations were invited to take part in semi-structured telephone interviews to obtain a thorough account of their mentoring programme(s). Interviews were facilitated using a topic guide and were audiotaped and transcribed verbatim. Thematic data analysis occurred iteratively to data collection and was facilitated using NVivo10 software. A framework matrix was established to compare programmes (cases) with categories derived from the analysis (codes) to aid the development of a typology.

Results Of 29 invited programme managers, 23 agreed to take part (79% response rate) and described a total of 28 mentoring programmes. The typology drawn from this work differentiates mentoring programmes by three overarching categories: mentoring programmes' overall aim and target group; type of mentor and mentoring programme setting. These categories each have a range of sub-categories. Based on different

combinations of these sub-categories, 12 'mentoring models' were identified within two broad groupings of 'personal and developmental' and 'educational and employability' mentoring programmes.

Conclusion Although mentoring programmes are heterogeneous, it is possible to identify key characteristics and distinguish between different models. Using semi-structured telephone interviews allowed for a thorough investigation of differences between mentoring programmes that was grounded in participants' accounts of their programmes. The typology enables mentoring programmes to be categorised into one of 12 'mentoring models'. A future study is needed to test the typology's generalisability in the UK. Such a typology can help us to understand what is being delivered, for whom, and how, which is a necessary precursor to any public health evaluation.

P61

MEDIA REPRESENTATIONS OF SUGAR CONSUMPTION AND SUGAR-SWEETENED BEVERAGE TAX IN UK NEWSPAPERS: IMPLICATIONS FOR PUBLIC HEALTH POLICY

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Background Modifiable risk factors such as unhealthy diet, including excess sugar consumption, and physical inactivity are common causes of overweight and obesity, which are in turn risk factors for type-2 diabetes and other non-communicable diseases. Sugar-sweetened beverages (SSBs) have been identified as a key target for fiscal policy interventions designed to reduce sugar consumption, particularly in young people. Research shows that the media play a powerful role in forming public perceptions, and thus likely acceptance, of such public health policies. This study assessed how the UK print media presented the debate around the issue of sugar consumption, SSBs and the UK Government's planned soft drinks industry levy.

Methods Quantitative and qualitative content analysis of articles regarding sugar, SSBs and taxation published in a diverse sample of 11 UK national newspapers from 1 April 2015–30 November 2016. Articles were identified by a systematic search of the Nexis database. A coding frame was piloted with a randomised 10% subsample, and revised to include additional emergent codes. Two researchers double-coded the 10% subsample to ensure consistency in the definition and application of codes. Cohen's kappa coefficient was used to measure inter-rater agreement. All remaining articles were coded by one researcher. Qualitative data were analysed thematically, following the principle of constant comparison, with attention paid to contradictory data.

Results The database search returned 3127 articles, of which 1495 were manually excluded due to insufficient relevance, producing a final sample of 1632 relevant articles. None of the articles presented a positive slant on sugar or SSB consumption, whereas representations of SSB taxation were more heterogeneous. The debate initially framed high sugar consumption, particularly SSBs, as problematic, especially for young people. A high proportion of articles framed the problem as being driven by failures of industry, such as the formulation of "unhealthy" products and advertising and marketing