COCHRANE COMMENTARIES

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The World Health Organization Health Promoting School Framework is important for some child health outcomes

Langford R, Bonell CP, Jones HE, et al. The WHO Health Promoting School framework for improving the health and well-being of students and their academic achievement. Cochrane Database of Systematic Reviews 2014, Issue *4*. Art. No.: CD008958. DOI: 10.1002/14651858.CD008958.pub2.

Link: http://www.cochrane.org/CD008958/BEHAV_the-who-health-promoting-school-framework-for-improving-the-health-and-well-being-of-students-and-their-academic-achievement

What is this review about?

The effectiveness of school-based interventions designed to improve child health outcomes across a wide range of health and well-being issues and academic achievement. Interventions included in this review specifically relate to the Health Promoting Schools (HPS) framework as per the World Health Organization values set out in the Ottawa Charter (WHO 1986) community.

What are the findings?

Interventions that include all aspects of the HPS program have been shown to reduce body mass index (BMI), increase physical activity, increase fruit and vegetable consumption, and reduce reports of bullying and reduce tobacco use. However findings were not consistent for BMI reduction when BMI was standardised by age and gender, and tobacco use was decreased by a wide range of intervention types. Anti-bullying interventions showed an average reduction of 17% for reports of being bullied, but heterogeneity was substantial.

There was no evidence of effect for interventions to reduce fat intake, alcohol or drug use or violent behaviours or to reduce depression or bullying of others. There was insufficient data about the effectiveness of interventions relating to sexual health, hand-washing, accident prevention, body image, sun safety or oral health. Very few studies reported academic performance or school attendance outcomes.

What are the findings based on?

This systematic review included 67 cluster randomised trials identified by searching 20 health, education and social science databases. Only studies with cluster design at the school, district or other geographical area were included. The 67 trials included 1345 schools and 98 districts and were conducted in high (59), upper-middle (5), lower middle (2) and lower (1) income countries (determined by the World Bank's economic classification). More than half the studies were from North America. The duration of intervention and age of participants tended to vary by type of intervention. For example, physical activity and nutrition studies focused on younger children, with interventions typically lasting less than 12 months, and mental health initiatives focused on adolescents and tended to be of longer duration.

All interventions had to address the three points in the HPS framework: (i) health education, (ii) changing the social or physical environment of the educational institution; and (iii) involving students' families or the local community. This meant that studies which did not explicitly refer to HPS could still be included. Control schools were those that did not implement all three aspects of the HPS framework.

A broad range of health outcomes were identified and categorised into the following health topic areas; obesity/overweight/BMI, physical activity/sedentary behaviours, nutrition, tobacco use, alcohol use, other drug use, sexual health, mental health/emotional wellbeing, violence, bullying, infectious diseases, safety/accident prevention, body image/eating disorders, skin/sun safety, and oral health. Academic outcomes, categorised as student standardised academic test scores, IQ or other validated scales, and school academic performance, were also studied.

Few studies reported data on adverse effects of intervention and few assessed socioeconomic status, gender and, or ethnicity. Only 10 studies measured the impact of HPS interventions on academic outcomes, and cost effectiveness was only reported in two studies.

Studies were assessed for bias and quality using the GRADE system. Risk of bias was high for blinding, due to the cluster randomised methods used, and also high or unclear for most studies because of incomplete outcome data, insufficient or missing data, and selective reporting. The quality of evidence was low to moderate for most outcomes due to bias or unexplained heterogeneity. Only 37 studies reported sample size calculations.

Although there was a difference in BMI (Figure 1) there was no difference for zBMI (standardised body mass index) for physical activity plus nutrition interventions, or for interventions addressing nutrition alone. The effectiveness of different approaches to reducing tobacco smoking is shown in Figure 2.

Implications for practice

Obesity and tobacco use can be difficult to change using traditional individualised health care approaches[1 2]. Bullying and being bullied are known to have longer term physical and mental health associations[3]. A partnership between health and education is warranted, makes sense and is necessary if we are to make decisions about implementing the best of these approaches to optimise positive outcomes.

Clinical perspective

Connecting health and education through the universal platform of schools offers

important opportunities to improve child health, well-being and academic performance concurrently, noting they are often intrinsically linked. Health Promoting Schools is a well-established and sound public health approach to addressing health outcomes within an education environment. In 1997, the Australian federal government commissioned the Australian Health Promoting Schools Association (AHPSA) to develop a national framework for Health Promoting Schools.[4] Today there are well established state associations, as well as the national body. AHPSA has recently partnered with the Australian Council for Health, Physical Education and Recreation (ACHPER) to further promote the opportunities for improving health outcomes in schools and communities[5]. In 2010 The Ministry of Health in New Zealand commissioned a National Strategic Framework 'Cognition' to support HPS, and in 2009, 67% of schools were part of the HPS programme[6]. There are many examples of current HPS programmes in Australia and New Zealand, including the Achievement Program, which is part of 'Healthy Together Victoria' launched in 2012, which involves over 3000 early childhood, school and workplaces[7].

Nevertheless certainty about the effectiveness of the HPS framework interventions remains limited. The GRADE assessments found the overall quality of evidence from the included trials in this review was low to moderate, heterogeneity was high, and the settings, interventions and outcomes varied. Although statistically significant, the clinical significance of short term changes in health outcomes is questioned appropriately, when post-intervention follow up is lacking in the majority of interventions.

Despite school enthusiasm and policy receptivity to HPS, well-designed trials are still needed, particularly in low to middle income countries. These could be augmented with attention to detail regarding cultural, political and social contexts as well as longer term follow up of HPS framed interventions; all necessary to determine sustainability of health effects. These more robust approaches together with economic evaluations are needed to sustain the advocacy efforts necessary to maintain program funding. Ideally programmes would also be adapted to context through iterative improvements that enable data to guide implementation for best effect. HPS also provides opportunities for health professionals to legitimately engage with schools in their own areas and assist local implementation focusing on issues of health equity known for high-risk groups, and

assisting with outcome monitoring and planning.

Bringing universal health and education approaches together makes good sense. This review suggests that improving outcomes seems possible; that should be the imperative to stimulate further rigorous research.

Figure 1 BMI outcomes for different interventions

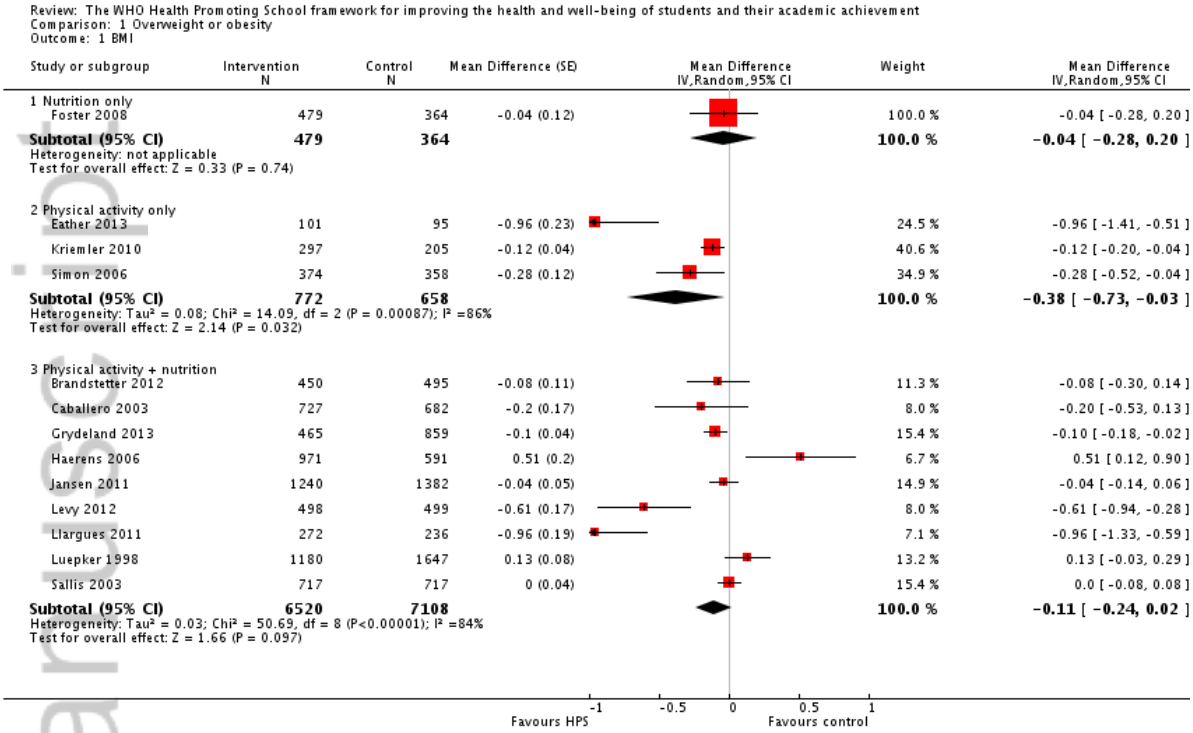
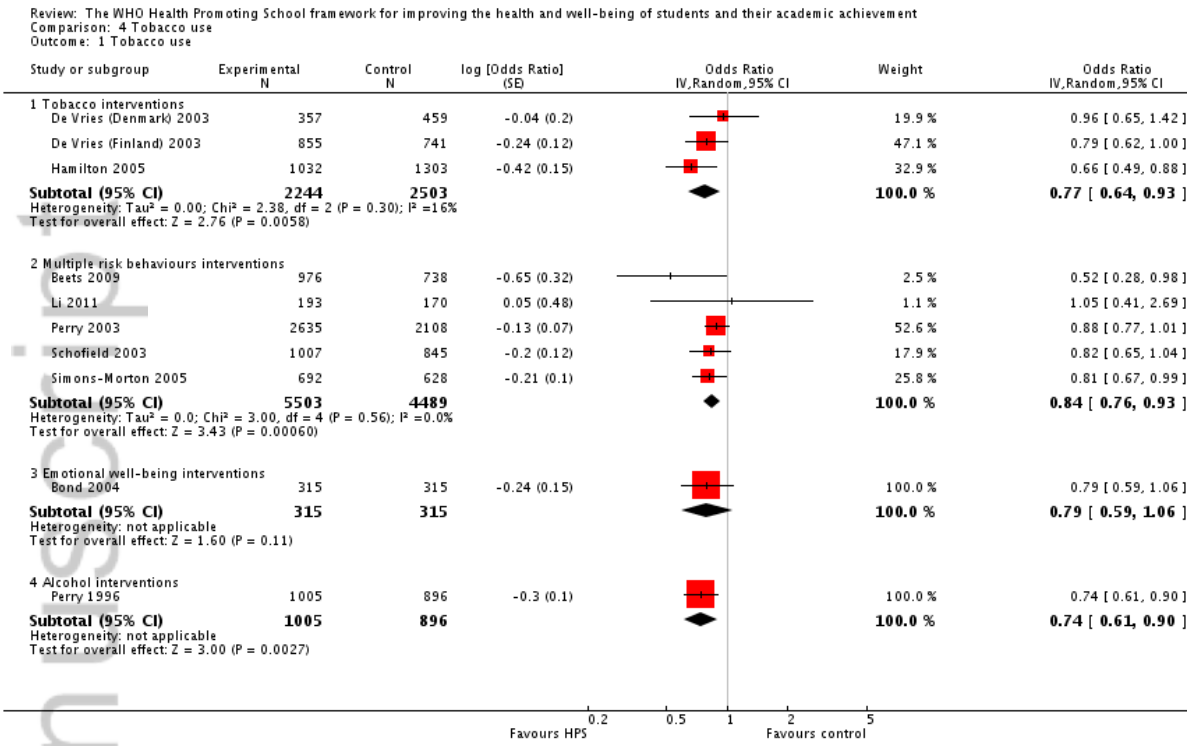


Figure 2 The effectiveness of reducing tobacco use for different interventions



References

1 Waters E, de Silva-Sanigorski A, Burford BJ, Brown T, Campbell KJ, Gao Y, Armstrong R, Prosser L, Summerbell CD. Interventions for preventing obesity in children. Cochrane Database of Systematic Reviews 2011, Issue 12. Art. No.: CD001871. DOI: 10.1002/14651858.CD001871.pub3.

2 Stead LF, Lancaster T. Combined pharmacotherapy and behavioural interventions for smoking cessation. Cochrane Database of Systematic Reviews 2012, Issue 10. Art. No.: CD008286. DOI: 10.1002/14651858.CD008286.pub2.

3 Review:Long-term effects of bullying. Dieter Wolke, Suzet Tanya Lereya Arch Dis Child archdischild-2014-306667 Published Online First: 10 February 2015 doi:10.1136/archdischild-2014-306667

4 Australian Health Promoting Schools Association http://ww.ahpsa.org.au

[5] The Australian Council for Health, Physical Activity and Recreation http://www.achper.org.au

[6] Ministry of Health http://www.health.govt.nz/our-work/life-stages/child-health/health-promoting-schools

[7] Healthy Together Victoria http://www.healthytogether.vic.gov.au