

FOCUS ON RESEARCH

CHANGING LIFESTYLE IN CHILDREN – ALLCHANGE: CAN THIS REDUCE CARDIOVASCULAR RISK?

Researchers

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Aim

Scotland has a high rate of cardiovascular disease (heart attacks, high blood pressure and strokes) and the physical changes in the blood vessels indicating a risk of vascular disease start early in childhood. It is recommended that young children adopt a "healthy lifestyle" to reduce this risk.

ALLCHANGE was designed to study the effect of maximising the lifestyle changes in primary school children in Scotland on cardiovascular risk.

Project Outline/Methodology

A programme over and above the current school health curriculum was developed after review of the literature and guided by interviews with children, their families and school teachers. The programme used a variety of new activities e.g. take home challenges; poster competitions and quizzes; new school activities for healthy eating and promotion of physical exercise and reduced TV viewing.

Comparison was made over one year between two school classes (P6) where the ALLCHANGE programme was used and two who received the standard school health curriculum. Measurements were made of diet and activity and on the function of the blood vessels and changes in the blood biochemistry known to be associated with the risk of adult vascular disease.

Key Results

In this young age group there were, as expected, no significant changes in the markers of long-term vascular risk. However, children with high blood lipid levels, blood pressure and body fat had the "worst" blood measures for vascular damage (the blood chemicals e-selectin and thrombomodulin were raised, indicating a predisposition to damaged blood vessels). The ALLCHANGE programme positively altered the diet of boys (increasing omega3 fatty acids) and girls (starch) and in both in reducing sugary soft drinks consumption. The activity levels for both were improved especially during the winter.

Conclusions

ALLCHANGE established that it is possible to improve on the current school health curriculum, using actions

and activities designed with the children, their families and the school teachers. Risk factors for adult vascular disease were present already in these young children, and although ALLCHANGE did not improve these risk factors, the programme had a significant impact on lifestyle that may in the long term reduce the risk of vascular disease.

What does this study add to the field?

To be successful any school based programme designed to change lifestyle in children requires that the programme be developed with them and their school teachers. The current school health curriculum can be improved by using an ALLCHANGE approach. To change the early markers of vascular dysfunction requires a longer 'programme' of lifestyle alteration.

Implications for Practice or Policy

ALLCHANGE has highlighted practices which if introduced into a school curriculum could make an impact on long-term health of children in Scotland. Complex lifestyle change requires detailed guidance on the process, content and implementation from children, their families and education professionals.

Where to next?

Each of the multidisciplinary themes in the ALLCHANGE programme can direct future research questions:

- *Qualitative Assessment*: Any school based intervention for lifestyle change proposed in Scotland should be measured against the ALLCHANGE programme: does it fit with the beliefs and attitudes of the children, their families and the teachers?
- *Vascular Function*: Would improving lifestyle further in young people alter the relationship of vascular markers with risk of long-term vascular function?
- *Lifestyle (Diet and Exercise)*: Can more significant changes be made or sustained over a longer-period with involvement of an 'out of school' programme and/or family involvement?

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