



- Title** A Systematic Review of the Routine Monitoring of Growth in Children of Primary School Age to Identify Growth-Related Conditions
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Aim

To clarify the role of growth monitoring including obesity in school-aged children, and to examine issues that might impact on the effectiveness and cost effectiveness of such programs.

Conclusions and results

The review included 31 studies, none of which were controlled trials of the impact of growth monitoring or studies on diagnostic accuracy of different methods for growth monitoring. Analysis of the studies that presented a 'diagnostic yield' of growth monitoring suggested that one-off screening might identify between 1:545 and 1:1793 new cases of potentially treatable conditions. Obesity studies focused on body mass index (BMI) vs measures of body fat. Several issues relating to human resources of growth monitoring were identified, but data on attitudes to growth monitoring were sparse.

Cost-effectiveness modeling indicated that growth monitoring is cost effective according to accepted willingness to pay thresholds in the UK of GBP 20 000 to 30 000 per QALY. The mean cost per additional QALY was estimated at GBP 9500. The obesity model suggested primary prevention may be cost effective, but the results are uncertain.

Based on current evidence, monitoring for growth disorders including obesity does not meet all of the National Screening Committee (NSC) criteria. Although growth-related disorders are important, and effective treatments exist for some of them, certain criteria regarding the monitoring program have not been met.

Recommendations

There is potential utility and cost effectiveness for growth monitoring in terms of increased detection of stature-related disorders. However, high-quality evidence is lacking on the potential impact of a monitoring program.

Data are lacking on monitoring for obesity. The cost-effectiveness model incorporated much uncertainty. Relative benefits and harms of monitoring have not been determined, and the effectiveness of current treatments is doubtful.

Gaps and uncertainties in the evidence base mean that growth and obesity monitoring do not currently meet all NSC criteria.

Methods

Data sources: Searches of electronic databases up to July 2005, hand searching of journals, scanning reference lists, and consultation with experts.

Study selection: Two reviewers independently screened titles/abstracts for relevance. Potentially relevant studies were assessed for inclusion by one reviewer and checked by a second. Published and unpublished studies in any language were eligible.

Inclusion criteria: Separate inclusion criteria were derived for each objective.

Data extraction and quality assessment: Standardized forms were used. A second reviewer checked data extraction.

Data synthesis: Data were analyzed separately for each phase of the review. Cost-effectiveness models were generated. Growth monitoring was evaluated against NSC criteria.

Further research/reviews required

High-quality evidence is needed on the impact of growth monitoring programs, eg, acceptability and potential harms. Data are needed on the potential impact of monitoring for obesity. Long-term studies of the predictors of obesity-related comorbidities in adulthood are warranted to clarify the role of screenable parameters, eg, BMI, in determining those children most at risk.