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Executive Summary

The Childhood Obesity Research Group at Flinders University is part of the Department of Nutrition and Dietetics within the School of Medicine. The Group has been involved in clinical trials into the prevention and treatment of overweight and obesity in Australian children for the past 10 years. The Group is led by Research Fellow Dr Anthea Magarey who oversees undergraduate and post-graduate research as well as NHMRC-funded trials.

In recognition of the recent increase in national and global rates of overweight and obesity in childhood (1, 2), the Group chooses to focus its work in the area of **childhood** overweight and obesity research. The Group considers prevention and early intervention of overweight as a primary research priority and also stresses the importance of strategies that promote parental/family involvement (3-5). Therefore, this submission focusses on the need for support for work in this area. We particularly stress the need for the establishment of ongoing monitoring of child weight and lifestyle behaviours in partnership with the establishment of an evidence-based intervention to act as a referral pathway for children once identified as being overweight or obese. We particularly highlight the need for the support of the translation of research into practice.

Recommendations:

1. The establishment of an ongoing monitoring and surveillance system of children's weight status and their dietary and activity behaviours. This should commence from birth.
2. The development of healthy eating guidelines for children aged less than 5 years of age.
3. The dissemination of effective treatment options from research to practice.
4. The recognition of overweight as a chronic health condition (requiring properly designed and funded interventions).
5. The development of awareness campaigns for parents regarding the identification of childhood overweight and obesity
6. The development of a national referral and management system, perhaps linking GPs with Children's Centres to facilitate the identification and treatment of child weight issues.
7. The recognition of the need for environments, societies and policies that support parents and healthy lifestyle choices

Background

The work of the Childhood Obesity Research Group

The Childhood Obesity Research Group at Flinders University has considerable expertise in the area of childhood obesity research. We have successfully managed an NHMRC-funded (for three years from 2004) multi-site RCT investigating the effectiveness of the addition of a parenting skills training program to a family-focussed healthy lifestyle intervention for the management of overweight in 5-9 year old children (The Parenting, Eating and Activity for Child Health (PEACH) Study, ID: 275527). The key finding from this research was that relative weight loss of 8-12% (both BMI and waist circumference z-scores) was observed at the end of the six-month intervention and that, with no further contact (other than measurement), this was loss was maintained for a further 18 months. We have secured funding to support continued follow-up of this sample til five years post-baseline.

We are currently implementing the Adelaide site of the Nourish Study (another NHMRC funded multi-site RCT (ID: 426704)), an obesity prevention project supporting the development of healthy infant feeding practices to 840 first time mothers.

Our team leader, Dr Anthea Magarey consults to Eat Well Be Active, a state funded community demonstration project which aims to contribute to the healthy weight of young people and their families in two South Australian communities through the provision of locally relevant and sustainable interventions. She also currently supervises six post-graduate higher research degree students.

The group has many publications in peer-reviewed journals and presents regularly at conferences.

Opportunities for progress

The Group is encouraged by the current government's decision to declare Obesity a National Health Priority. This aligns well with the NHMRC's current major focus on obesity. We hope this will result in greater funding towards the prevention and management of this chronic health condition. Many opportunities exist to improve current strategies in this area, or to trail new initiatives. The current Enhanced Primary Care (EPC) Medicare items and new initiatives such as the new 4 year old health checks are specific examples. Currently, the EPC allows up to five visits to allied health professionals per year, only if overweight/obesity is present with a co-morbidity. For the case of children, this is quite rare and thus limits the opportunities for accessing professional care. It is likely that the 4 year old checks will identify many children who are overweight so services and programs suitable for referral need to be established.

Currently, the most common form of management of overweight and obesity is via individual counseling sessions. For the case of children, this often involves the child. Evidence shows that group programs that target only parents and

promote a family-focussed approach to child weight management produce superior results – both in the short and long term (6, 7). This approach is also more cost-effective. A small amount of work in the area has been identified and concluded that i) group interventions are more cost-effective than a mixture of group and individualised treatment (up to 12 months post baseline) (8), and ii) based on simulation-modelling techniques, family-based targeted programs for obese children are cost-effective and cost-saving, representing an overall cost saving of $4.1 million and a reduction in 2 700 disability adjusted life years (9).

Recommendations

1. **The establishment of an ongoing monitoring and surveillance system of children's weight status and their dietary and activity behaviours. This should commence from birth.**

General practitioners and other primary health care professionals are often considered to be well positioned to monitor child growth and development and identify cases of overweight suitable for referral to such a program as PEACH (10). However, reports from the US and Australia show that GPs often do not weigh children and instead rely on clinical impression to assess weight status (11, 12). Without accurate measurement of child anthropometrics, the identification, early intervention and treatment of childhood overweight is unlikely. This highlights the importance of accurate weighing, measuring and, as recommended by the NHMRC 2003 Clinical Practice Guidelines for the Management of Overweight and Obesity in Children and Adolescents, calculation and plotting of the child's BMI for monitoring purposes (13).

2. **The development of healthy eating guidelines for children aged less than 5 years of age.**

Food preferences established prior to school age have a long lasting effect on food habits that track into adulthood (14, 15). Therefore the establishment of healthy eating guidelines from birth are essential. The current national nutrition guideline (The Australian Guide to Healthy Eating) makes recommendations from 4 years of age only, dangerously neglecting the crucial under 5's age group.

Our group has the expertise to provide such recommendations. We are currently involved in the revision of the 1994 Core Food Groups and the delivery of an NHMRC-funded research project (ID: 426704) supporting the development of healthy infant feeding practices to first time mothers in Adelaide and Brisbane.

3. **The dissemination of effective treatment options from research to practice.**

There is a need to provide treatment services to address childhood overweight, however the research into effective management options is diminishing as the emphasis on primary prevention increases. Despite this, the evidence for prevention is even less robust that that for treatment (16), the outcomes of which will not be experienced for at least another generation.

The current funding and research activity focussing on the prevention of childhood overweight could potentially result in neglect of furthered understanding of effective treatment of the condition. Choosing between prevention and treatment is a potentially unproductive way to dichotomise the issue of childhood overweight, particularly as at least 20% of children are currently overweight, with this rate increasing annually and the condition and its attendant co-morbidities persisting into adulthood in at least 40% of children (17).

The results of our recent PEACH trial demonstrate that a parent-led, family focussed approach to child weight management can produce effective long term results (18), counteracting the argument for minimal funding to this area due to lack of evidence of effectiveness.

A balance needs to be struck between the effective prevention and treatment of this persistent and increasingly omnipresent condition. Previous successes experienced by other public health issues (such as smoking) stress the importance of a balance of strategies offering treatment, prevention and support (19). The management of established childhood overweight must be considered as treatment of a childhood condition and also secondary prevention of adult overweight. In this way management offers intervention along all points of the prevention - treatment continuum (20).

4. The recognition of overweight as a chronic health condition (requiring properly designed and funded interventions).

There is a need to recognise that childhood overweight is a chronic condition resulting from rapid societal and environmental change. Effective management requires action at both the population/public health level and early intervention/secondary prevention level (21).

Results from our research show that the reductions in children's BMI and WC z-scores achieved during the PEACH intervention period were maintained for the following six months without any further program contact (18). This potentially reflects the initiation and maintenance of beneficial lifestyle changes which was the principle aim of the study. However, the rate of decrease in BMI z-score diminished over the second "non-contact" six month period. This pattern was also reported by a recent intervention conducted in Finland (22). In addition, the mean BMI z-score indicated that the samples remained overweight.

These patterns highlight the need for continued monitoring or low level support to maintain initial successful behaviour change in order to sustain a continued reduction in the degree of overweight over time. The delivery of a four month post-weight loss treatment maintenance strategy to a group of 150 7-12 year olds in the US has recently been demonstrated to significantly improve child weight control when compared to a no contact control group (23). ***This requires the application of a long-term chronic disease management approach to the management of childhood overweight, as is delivered in the adult weight loss field (23, 24)***.

However, there is scarce evidence to guide how best to provide on-going support. A recent review of interventions to reduce obesity and chronic disease risk in children identified a lack of long term follow up and called for implementation of this to determine sustainability of program impacts and maintenance of weight management (21). In order to address this gap we currently have a submission with the NHMRC (ID: 535043, "Staying successful:

effectiveness of a maintenance intervention for long term weight management in 8-12 year olds") for project funding to implement a trial with families following participation in the PEACH weight management program. This grant application addresses the two main issues of:

- Long-term funding for the monitoring of outcomes
- Research into the effectiveness of a chronic disease self-management model for the treatment of childhood overweight and obesity

Following from this, funding is required to ensure that broad outcomes are evaluated over an adequate time frame (ie. to at least five years post baseline) in order to determine long-term effectiveness. Such time frames are often beyond the scope of most funding periods which are typically three years in duration.

5. The development of awareness campaigns for parents regarding the identification of childhood overweight and obesity

Numerous studies in Australia, the US and UK have shown that less than 25% of parents of overweight 4-10 year old children correctly identify their child as being overweight (25-28). Of these, only 35-40% report concern regarding their child's weight, which increases only once the child's weight is at an obese level (25, 27). These findings raise the issue of lack of parental awareness regarding their own child's overweight. This combined with the absence of a monitoring system, impedes the early identification and effective treatment of childhood overweight and also hampers subject recruitment into research studies. Public awareness campaigns and professional development to assist with effective identification and management of this public health issue are required.

6. The development of a national referral and management system, perhaps linking GPs with Children's Centres to facilitate the identification and treatment of child weight issues.

Continuing from previous points, monitoring and identification initiatives should only be commenced following the establishment of a referral pathway for treatment. The existing health care system that encourages multi-disciplinary management of chronic conditions needs to be strengthened. This could occur through the streamlining of referral pathways to government funded programs and the recognition of the management of childhood overweight as a condition eligible for such a program.

Such a model could include the incorporation of evidence-based treatment practices into a national child weight management strategy. The 4 year old health checks could identify children at risk of or currently overweight whose parents could then be offered involvement in treatment programs delivered in Children's Centres – an ideal setting for the delivery of health and education services in a "one-stop shop" for families. Ideally this should be supported by an effective reimbursement system such as the EPC model in recognition of the benefit of addressing the issue and as an incentive to seek treatment (29).

7. The recognition of the need for environments, societies and policies support of parents and healthy lifestyle choices

It is essential that the environments in which their children spend their time are supportive of healthy lifestyle initiatives that may be occurring in the home. A supportive environment for healthful behaviours is a requisite component of individual action (30).

The increasing recognition of and need for environmental change to support healthy lifestyle choices is something that needs to be driven and supported by governments. There is an opportunity to create a *social policy* approach to healthy lifestyles rather than the current *health policy* approach (31). There is a need for research into how best to promote healthy lifestyle through the development of such social policies and a recognition for involvement of all sectors beyond just health.

Given that the "obesity epidemic" has occurred as a result of change at an environmental level and is now considered a public health issue, policy needs to be created to initiate societal change (32). Similar public health issues, such as tobacco control, drink driving and car seat belts have required such an approach and were initially dismissed as being unrealistic (33). It is likely that calls for similar action regarding obesity prevention/management will also receive such a response, however hindsight can impart some valuable lessons.

The successes of tobacco control lie in the development of a comprehensive approach that includes interventions and environments supportive of cessation and/or unsupportive of initiation, rather than relying solely on individual-level strategies such as education or counselling (19). The 2000 Surgeon General's Report entitled "Reducing Tobacco Use" identified five key elements for tobacco control: i) clinical intervention and management ii) educational strategies iii) regulatory efforts iv) economic approaches v) the combination of all these into comprehensive programs with synergistic effects (34). Mercer et al note that the greatest gains in tobacco control were experienced through combining the elements into a "comprehensive, multi-message, multi-channel approach, built on the foundation of policy-based interventions" (19). There is an urgent need for such co-ordinated and multi-level action to be conducted in the area of policy research regarding obesity control and there are valuable lessons to be learnt from prior public health campaigns.

Conclusion

Australia led the world in developing a strategic plan for the prevention of overweight and obesity with the publication of Acting on Australia's Weight in 1997 (35), however many of those recommendations are yet to be realised. Recommendations from national forums and professional organisations have been produced for governments of all jurisdictions in Australia, but coherent national action to address this issue of our population's increasing degree of overweight is yet to occur. It is our hope that the current federal government's response to obesity will ensure the development and support of a co-ordinated and comprehensive approach to the obesity epidemic, especially concerning children and their parents and families.

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