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Research

Childhood obesity: how do Australian general practitioners feel about managing this growing health problem?

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General practitioners (GPs) are ideally placed to identify and treat childhood obesity, but its prevalence continues to rise and evidence for effective GP interventions is lacking. Further analysis of the barriers to effective identification and management of childhood obesity is warranted. This survey aimed to explore how Queensland GPs feel about managing the growing problem of childhood obesity. A cross-sectional survey was sent to a random sample of 573 Queensland GPs about perceptions of diagnosis and management of childhood obesity. A total of 30% of GPs responded (n = 170). The main perceived obstacles to identification of childhood obesity were uncertainty about definition criteria and how to calculate body mass index, and lack of access to body mass index percentile charts. The main perceived obstacles in managing childhood obesity were lack of financial incentive, time constraints, lack of health system support and parental resistance. Only 22% of respondents indicated awareness of the National Health and Medical Research Council guidelines for management of obese children and 92% had never used any formal clinical guidelines in assessment or management of childhood obesity. Addressing these barriers to identification of childhood obesity by GPs may facilitate more effective management. Strategies include greater emphasis on this issue in general practice training, financial incentives for diagnosis and management, incorporating clinical management guidelines into medical software, and increasing allied and community health support

Additional keywords: child, perception.

Background

The prevalence of Australian children who are overweight or obese is estimated at 23% for 5–12-year-olds and 29% of 12–18-year-olds (Australian Bureau of Statistics 2009). This reflects a growing problem throughout the world, with a threefold increase in obese Australian children since 1985 (World Health Organization 2003; Batch and Baur 2005). There are many important short- and longer-term consequences of childhood obesity, including type II diabetes, hypertension, hyperlipidaemia, musculoskeletal injuries, some types of cancer, impaired psychosocial functioning and mental illness (Batch and Baur 2005; O'Brien *et al*. 2005). Untreated childhood obesity often becomes a lifelong problem, with evidence that obese children >9 years-of-age have an 80% chance of going on to be obese adults (Guo and Chumlea 1999).

The 2003 National Health and Medical Research Council (NHMRC) guidelines for the management of overweight children and adolescents emphasise the importance of appropriate and structured clinical practice in this area (NHMRC 2003), centred around the use of the body mass index (BMI) for age graphs produced by the Centers for Disease Control and Prevention (CDC) (Centers for Disease Control and Prevention 2000). The NHMRC guidelines also support a strong role for general practitioners (GPs) in the management of childhood obesity, but it seems that this is not being followed in practice. In a small self-reporting study of 34 Melbourne GPs, 44% regularly measured weight, 38% measured height, and only one measured BMI. None of the GPs used the recommended CDC charts for BMI for age (Gerner *et al*. 2006), highlighting the point that BMI not only needs to be calculated, but also interpreted in the context of the child's age and gender. The Kinder Overweight Activity Lifestyle Actions project started in 2006 in Brisbane, Australia, was designed to investigate methods of childhood obesity prevention and intervention, and involved identification and recruitment of eligible children by GPs in that region (Kinder Overweight Activity Lifestyle Actions 2007; http://koala.imb.uq.edu.au). However, the project has stalled due to a very low level of recruitment of children by GPs. The major reason for this was thought to be lack of identification of overweight children, as a result of failure to routinely assess this with validated diagnostic tools (Dettori *et al*. 2009).

There has been much research to date into different interventions for childhood obesity, yielding mixed results. The recent Australian Live, Eat and Play (LEAP) and LEAP 2 study (McCallum *et al*. 2007; Wake *et al*. 2008), a two-part randomised controlled trial published after our study was conducted comparing the efficacy of four targeted GP consultations on nutrition, physical activity and sedentary behaviour with usual care, showed no differential reduction in BMI. It did, however, show significantly greater improvements in parent reported child health related quality of life in the intervention group, without any evidence of harm. These results would appear discouraging initially, and reflect the findings of other studies conducted (Patrick *et al*. 2006; Gillis *et al*. 2007; Hughes *et al*. 2008). However, this has been tempered by a recent Cochrane systematic review of 64 randomised

controlled trials (including LEAP 1) on interventions for treating childhood obesity up to May 2008, concluding that family-based lifestyle interventions with behavioural programs focused on changing thinking patterns regarding physical activity and eating behaviour result in statistically and clinically meaningful improvements in childhood and adolescent obesity (Oude Luttikhuis *et al*. 2009).

This allows a greater degree of optimism in the approach to childhood obesity, and confers a higher level of confidence that, providing children who are obese are identified, there are potentially effective treatment strategies available. Clearly, GPs are a natural and integral part of this process. The question remains, however, as to why the first step in this process – the identification of those children – is not being carried out effectively by GPs, and how this could be rectified.

Objective

This study aims to describe perceived barriers and challenges to effective management of childhood obesity in the general practice setting in Australia. In identifying these barriers, we aim to illuminate potential ways to improve GP confidence and competence in playing a central role in tackling this difficult issue.

Methods

Study design and setting

A two-page survey with a cover letter was faxed in May 2006 to 600 GPs in Queensland randomly selected from a nationwide database of medical practitioners, supplied by the Australasian Medical Publishing Co. to the primary researcher under a confidentiality agreement. Reminder faxes were sent 4 weeks after the original survey was sent. The contact details of the researcher were provided to recipients to allow questions about the survey to be addressed. Ethics approval for the study was granted by the Griffith University Human Research Ethics Committee. Of the 600 surveys sent, 573 were faxed successfully, with 27 wrong numbers.

Variables and instruments

The survey design was developed after discussion with other GPs and based loosely upon similar tools used in other studies (Campbell *et al*. 2000; Lau 2006). Topics to be included were assessed in the context of previous literature in this area, as well as personal clinical experience. The survey was not formally validated, although feedback from other general practice academics was used to modify the design.

The survey comprised three main parts with a total of 26 questions or statements. The first section requested the GP's practice location and level of experience. It also contained a response item to the frequency of opportunistic discussions about childhood obesity, ranging from 'always' through to 'never', and level of comfort in initiating discussions about childhood obesity, from 'very uncomfortable' through to 'very comfortable'.

The second section consisted of responses to statements on a five-point Likert scale ranging from 'strongly agree' to 'strongly disagree'. Following the convention described by Buffart *et al*. (2009), the responses were dichotomised to identify the effect of the value of interest (e.g. having a fear of offending vs not having a fear of offending), with those agreeing or strongly agreeing with the proposal included in the positive category and all other responses included in the alternate position (i.e. the two 'agree options' we combined to form one category and the 'neutral' and two 'disagree options combined to form the other category). Statements were categorised thematically into some broad domains: inhibitions to addressing issue; confidence, knowledge and skills; time factors; incentives; support from health system; and commitment of parents. There was also an open response section for any other factors.

The third section contained questions on practical barriers to effectively managing obesity, including a free text section for providers of any guidelines followed in management. The last question requested preferences for accessing educational resources to assist in treating obesity.

Analysis

Responses were entered into an Excel spreadsheet and all analyses were conducted using the SPSS program. Frequencies of responses were calculated. Each variable was categorised as described earlier and 'Do you opportunistically discuss the issue of excess weight in a routine consultation with a child?' was designated the major outcome variable of interest. Bivariate analyses were then performed correlating each variable with the major outcome of interest. Those variables significant at this bivariate level were block entered into a binary logistic regression, with manual removal of non-significant, lowest Wald contributing variables after excluding their role as a confounder. Years of practice were analysed using descriptive analyses and presented in Table 1 summarising the sample characteristics. Location and years of practice were examined as variables in the model building process, but were found not to be associated with the outcome of interest and hence were not included in the final model.

Results

A total of 170 of a possible 573 responses were received, giving a response rate of 30%. Of these, 58 (34%) were practising in a rural/remote area. The sample was evenly distributed by years spent in clinical general practice.

Only 32% of GPs mostly or always take the opportunity to discuss excess weight in a routine consultation, although 60% feel comfortable or very comfortable initiating discussions on obesity (Table 1). Although a majority of GPs feel certain of the definition criteria for obesity (Table 2), only 52% then reported having access to BMI for age charts, and only 10% reported always using the charts.

Time is seen as a limitation; although 61% of GPs feel able to take the time to bring up the issue of weight, 80% stated that they don't have enough time to counsel children and their families on this issue (Table 2). Only 27% of respondents feel that they lack counselling skills in this area, and 57% feel that counselling for obesity can be professionally rewarding, but most feel there is inadequate support from the health system (91%) and community (76%) in facilitating this.

A total of 40% of GPs feel unsure about aims of treatment once the problem is identified, and 24% feel confident that parents will be keen and committed to change once implemented. Although only a minority of respondents (36%) reported fear of offence as a disincentive to bringing up excess weight, an even smaller proportion of respondents (24%) were confident that parents are usually keen and committed to any changes advised (Table 2). Furthermore, many GPs commented that overweight parents were often disinclined to take the problem seriously, seeing it as either inevitable for the child or not seeing that there was a problem at all –'Parents think it's puppy fat', 'some parents seem to encourage their child to remain obese', 'adult obesity [is] such a problem, [they] see children in their image'.

A total of 76% of GPs are not aware of NHMRC guidelines (Table 3), and 39% feel that there is a lack of well-defined evidence and protocols to follow once the problem has been identified (Table 2). Those who were using protocols were accessing resources, such as medical journals, RACGP and RACP guidelines, internet, individual textbooks and medical software programs. The preferred method of further educational resources to assist GPs in diagnosing and managing childhood obesity for the largest number of respondents was written information, followed by workshops or lectures, then via the internet.

There was no difference in the frequency of opportunistic discussion of obesity in either years since graduation or rurality of practice. Despite the range of potential challenges described in Tables 3 and 4 that face GPs in their efforts to opportunistically initiate discussion about childhood obesity, there were only three factors with strong statistically significant associations with this outcome of interest. Fear of offending the parents (OR 0.417, 95% CI 0.188–0.924), uncertainty about clear guidelines for making the diagnosis (OR 0.168, 95% CI 0.037–0.766) and limited time during usual consultations (OR 0.407, 95% CI 0.187–0.883) were all strongly and statistically significantly associated with reduced frequency of the GP raising the issue (Table 4).

Discussion

The results of this survey highlight several paradoxes in the management of childhood obesity by GPs. Most striking was that despite the perception of sufficient time to opportunistically raise the issue of excess weight in a routine consult, and comfort in doing so, the majority rarely or never raise the issue. A potential barrier indicated by this survey is a frequent perception of lack of parental commitment to changes suggested in managing obesity. Also, most GPs believe there is inadequate

time and financial incentive to counsel children and their parents effectively once the issue is raised, even though most also feel that such counselling would be professionally rewarding.

Furthermore, there appears to be considerable ambivalence amongst GPs about how they regard their own skill levels in managing childhood obesity, and some scepticism about the perceived likelihood of success of their management. Despite this, most then reported not using aids to management, such as BMI charts or clinical guidelines.

The final identified barrier to willingness of GPs to tackle childhood obesity is perceived lack of support from the wider health system. Most perceived a lack of referral options in the community for managing obesity, and inadequate resources in the health system. This prevalent view of suboptimal backup from the wider community and government health system, even if GPs do make the effort to try and tackle childhood obesity, is significant and provides one avenue for potential improvement in management options for this difficult issue.

Limitations of the study included a low response rate of 30%; this rate, however, was higher than that for the most recent BEACH survey (23%; Britt *et al*. 2009), reflecting an inherent challenge in survey based research. This low response rate may have limited the ability to make strong associations between stated attitudes and actual practice, and may not be reflective of the attitudes of the wider general practice community, as GPs with an interest in childhood obesity may have been more likely to complete the survey. Another limitation was lack of objective measures of GP skills in identifying and managing childhood obesity to compare with responses on confidence levels and perceived possession of skills. The demographics of respondents in terms of rurality and clinical experience, however, were fairly similar to those found over the whole GP population of Australia in the BEACH study, strengthening the applicability and validity of results (Britt *et al*. 2009).

These results mirror some of the findings from previous studies. A study by Chamberlin conducted in Kentucky, USA, described common perceptions of health care professionals to the challenges of preventing and managing childhood obesity, such as fear of offending mothers, limitations of protocol-driven counselling and conflict in nutritional advice given by different health care practitioners, family and friends (Chamberlin *et al*. 2002). This has been reflected in a survey of paediatricians published recently, which cited the most commonly perceived barriers to effective management of childhood obesity as lack of parental motivation and overweight parents, lack of child motivation, fast food meals and excessive television viewing in families, and inadequate family exercise (Spivack *et al*. 2010). A recent systematic review of attitudes and practices of primary care physicians in the area of childhood obesity found that in the 11 included studies, there was a consistently high level of recognition of the problem, but a prevalent belief of low self-efficacy amongst physicians, with widespread negative perceptions of obesity management. It identified a central role for GPs in management within the context of an allied health team, and advocates for

inclusion of obesity management in postgraduate education programs for GPs, as well as remuneration for ongoing monitoring and recording of BMI (van Gerwen *et al*. 2009).

Another recent systematic review has looked at management barriers for health care providers and parents, promising interventions to date, and potential policy implications of these interventions. The authors identified numerous barriers to management on several levels (organisational, attitudinal, knowledge skills and training), but encouragingly 11 of the 45 analysed interventions were assessed to have significant potential for effectiveness in overcoming these barriers. These included better training for child care centre staff in nutrition and collaboration with parents, skills acquisition for health care providers in provision of parental guidance and counselling, primary care staff wellness programs to ensure good role modelling, and better primary care database tools for identifying and monitoring at-risk children (Hearn *et al*. 2007). An Australian Government Preventative Health Taskforce paper released in 2009 has also put forward several general recommendations for addressing high rates of obesity, such as tax disincentives for unhealthy foods, further regulation of fast food marketing to children and reshaping urban environments, along with some primary care strategies focused on expanding training, developing evidence-based clinical guidelines and funding for patient education programs (National Preventative Health Taskforce Obesity Working Group 2009).

Translating these recommendations into day-to-day clinical practice remains challenging. Focusing on trying to modify identified obstacles, such as time constraints and lack of financial incentive, may help to encourage GPs to take a more proactive approach to identification and management of childhood obesity. Expanding community and public health support in managing obesity is also likely to be of benefit. Addressing parental reluctance to accept a diagnosis of obesity in their child and then to institute change may be more difficult; increasing awareness through public health campaigns could be helpful. Better education of GPs on established guidelines for managing obesity, such as those put out by the NHMRC, preferably in written format or as lectures/workshops, would seem to be indicated, and the conclusions of the recent Cochrane review (Oude Luttikhuis *et al*. 2009) may guide further modification of these guidelines in the future. Incorporation of BMI charts into medical software so that they are immediately accessible and available for monitoring over longer periods of time would seem a valuable step towards better identification of obese children, which has also been suggested by other authors (Dettori *et al*. 2009), and such tools could potentially aid in having productive discussions with parents in an objective and non-accusatory manner. Addressing these identified barriers to primary care identification of childhood obesity may lead to better management of this problem, particularly in light of changing research supporting effectiveness of interventions based around behaviour change. This in turn will hopefully result in greater confidence and effectiveness amongst GPs in dealing with this very significant health problem, but it is likely that this will remain a difficult and complicated task.

Conflicts of interest

None declared.

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Table 1. Frequency and level of comfort with initiating discussions about childhood obesity

	Frequency(n = 170)	(%)
Frequency of opportunistic discussions about childhood obesity		
Never	4	2
Sometimes	112	66
Most of the time	49	29
Always	5	3
Comfortable initiating discussions about childhood obesity		
Very uncomfortable	7	4
Uncomfortable	27	16
Unsure	34	20
Comfortable	90	53
Very comfortable	12	7

Table 2. General practitioners agreement with statements on the management of childhood obesity (n = 170)

BMI, body mass index

Statement	Agree		Neutral/disagree		Missing
	n	%	*n*	%	
I fear offending parents or children by bringing up weight	61	36	108	64	1
I am uncertain of the criteria for overweight/obese children	25	15	143	84	2
There is a lack of well-defined evidence based treatment, or protocol	66	39	102	60	2
I feel I lack counselling skills for childhood obesity	46	27	121	71	3
I don't have enough time to initiate discussion of weight during a consultation for another health problem	65	38	104	61	1
I think there is appropriate financial incentive for me to calculate weight and height, and discuss obesity	40	24	128	75	2
I feel it is professionally rewarding to counsel on childhood obesity	96	57	70	41	4
I feel it can be quick and easy to calculate BMI in a child	113	67	54	32	3
I feel well supported by the health system in managing childhood obesity	15	9	124	91	1
I feel there is a lack of community agencies for me to refer to for support in the management of childhood obesity	129	76	37	22	4
I have the skills required to manage childhood obesity	48	28	122	72	0
I expect to have success in treating childhood obesity once I have identified it	37	22	131	77	2
I feel unsure of the exact aims of my management of an obese child, i.e. weight loss amount, %, maintenance	67	40	100	59	3
I feel that parents are usually keen and committed to the changes that are advised for an obese child's diet and exercise routine.	40	24	127	78	3
I have enough time to counsel children and their families on obesity	34	20	136	80	0

Table 3. Availability, use and awareness of resources for assessment and management of childhood obesity

BMI, body mass index; CDC, Centers for Disease Control and Prevention; NHMRC, National Health and Medical Research Council

Question	Response	Rate of response (%) (n = 173)
Do you have access to the BMI-for-percentile charts (CDC Growth Charts USA 2–20 years)	Yes	52
	No	44
Do you use the BMI-for-percentile charts in assessing weight in patients 2–20 years-of-age	Never or sometimes	69
	Most of the time	19
	Always	10
Are you aware of the NHMRC Clinical Practice Guidelines for the management of overweight and obesity in Children and Adolescents?	Yes	22
	No	76
Have you used any formal clinical guidelines in the assessment or management of childhood obesity?	Yes	8
	No	92

Table 4. Explanatory factors significantly associated with frequency of opportunistic discussions with parents about childhood obesity

	Frequency of opportunistic discussions about childhood obesity		Adjusted odds ratio[A]	95% CI
	Sometimes/never	Mostly/always		
I fear offending				
Do not agree	57	37	–	
Agree	44	10	0.417	0.188–0.924
I am uncertain of obesity criteria				
Do not agree	82	45	–	
Agree	19	2	0.168	0.037–0.766
I don’t have enough time				
Do not agree	56	37	–	
Agree	45	10	0.407	0.187–0.883

[A]Odds ratios obtained from a binary logistic regression model including all three variables.