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Barriers to the management of obesity in children

A cross sectional survey of GPs

Background
General practitioners have been identified as having a key role in promoting healthy weight. In 2006, the South East Alliance of General Practice – Brisbane (Ltd) was approached by the Mater Children's Hospital to participate in the KOALA (Kinder Overweight Activity Lifestyle Actions) at Mater Healthy Lifestyle study. Between June 2007 and January 2008, only 14 eligible children were identified and referred to the KOALA study by participating GPs – a much lower referral rate than the study required. The aim of this study was to investigate barriers among GPs to the assessment of overweight and obesity in children aged 6–10 years.

Methods
A survey was administered to 49 GPs. The main outcome measures were: perceptions about child overweight and obesity as a medical problem, the GP's role in management, and the use of body mass index for age percentile charts to identify overweight and obesity.

Results
Of the 33 (67%) respondents, 93% agreed child overweight and obesity was a medical problem, that GPs had a role in management, and that the KOALA study had made them more aware of identifying overweight children. Only 57% however, reported changing their practice.

Discussion
Although most GPs agreed they had a role in management and felt confident to assess overweight and obesity in children, only a minority were putting this into practice, suggesting there are other barriers. Practice systems that facilitate implementation of National Health and Medical Research Council guidelines may need to be put in place.

General practitioners have been identified as having a key role in promoting healthy weight.[1] The family general practice is a potential setting for weight management in children and adolescents, as it provides both the opportunity and the potential for ongoing contact.[2] Both routine assessment of children's relative weight on a body mass index (BMI) for age percentile chart and early intervention in childhood overweight have been recommended.[2]

In 2006, the South East Alliance of General Practice (SEA-GP) – Brisbane (Ltd) was approached by the Mater Children's Hospital to participate in a child obesity prevention and intervention study entitled the KOALA (Kinder Overweight Activity Lifestyle Actions) at Mater Healthy Lifestyle study. The SEA-GP employed two GPs to liaise with general practices within the division. The liaison GPs provided information on the KOALA study and recruited and trained interested GPs to refer any overweight children aged 6–10 years to the study. The KOALA study protocol for assessment and referral was based on National Health and Medical Research Council (NHMRC) guidelines.[3]

Participating GPs were asked to measure height and weight, and were shown how to calculate BMI using medical software. They were also shown how to assess the extent of overweight or obesity using BMI for age percentile charts, which were provided to them. The GPs were encouraged to recommend referral to the KOALA study to parents of children with BMI for age greater than the 85th percentile.

Between June and September 2007, 86 of the 99 general practices within SEA-GP were contacted by the liaison GPs. Forty-nine out of the approximately 350 GPs working at these practices were recruited to the KOALA study. Successfully scheduling a visit with a GP was the most effective method for GP recruitment, however this was time consuming. Similar difficulties engaging GPs were observed in the LEAP study, which reported a 5–7% GP participation rate.[4]

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Between June 2007 and January 2008, only 14 eligible children were identified and referred by participating GPs to the KOALA study, a referral rate much lower than the study required. The purpose of this observational study was to investigate possible barriers to the assessment and referral of overweight and obese children aged 6–10 years by GPs.

Methods

The study sample was 49 GPs working in general practices within the geographic area covered by SEA-GP. These GPs were recruited by the liaison GPs between June and September 2007 to refer overweight and obese children to the KOALA study. The recruited GPs were self selected after agreeing (following faxed requests, telephone calls and practice visits) to receive information about the study and to be recruited to refer to it.

A self administered questionnaire with 22 questions requiring a 'yes' or 'no' response was developed in June 2008. The questions addressed factors previously identified from discussions with individual GPs and from the literature as potential barriers or facilitators for referrals to the KOALA study.[4,5] These factors were:

- recognition of overweight children as overweight (by diagnostic criteria)
- routine measurement of height and weight
- routine use of height and weight data to identify at risk children
- knowledge of NHMRC guidelines, including use of BMI for age percentile charts
- perceptions of child obesity as a medical problem
- confidence in dealing with the complex and difficult problem of obesity, and
- confidence in broaching the issue of child overweight/obesity with parents.

A number of GPs had reported that parents were upset when their child's overweight was discussed, a concern supported by other research.[6]

'Yes' and 'no' response categories were chosen to make the survey quick and easy for GPs to complete, in order to assist response rates. The questionnaire included one open question that allowed for any additional comments.

The survey was undertaken between July and August 2008. The surveys were faxed because this method of communication had previously been identified by the division as easy and convenient for GPs and might improve response rates. The survey was faxed again to those GPs who did not respond within 3 weeks; those GPs who did not respond to the second fax were then telephoned by the GP liaison officers.

One reason some GPs had given for not participating in the KOALA study was their perception that they did not see many children 6–10 years of age. To investigate this, practice staff from a convenience sample of six general practices with KOALA GPs agreed to keep a written tally of the number of children aged 4–10 years seen at the practice over 1 or 2 weeks. With the exception of one general practice, these practices employed between three and eight full time equivalent (FTE) GPs.

Human ethics approval was obtained through the KOALA study. The KOALA study has ethics approval from the Mater Ethics Committee and the University of Queensland Ethics Committee.

Results

Sixty-seven percent of GPs (33/49) returned a completed survey. The results of the survey are described in *Table 1*.

Recognition of overweight children as overweight (by diagnostic criteria)

Ninety-four percent believed involvement in the KOALA study was relevant to their practice, while 93% reported being more aware of identifying overweight children.

Routine measurement of height and weight

Seventy-nine percent reported routinely measuring children's height and weight. One GP, however, commented that only children less than 5 years of age were routinely measured for height and weight.

Knowledge of NHMRC guidelines and use of BMI charts

Fifty-seven percent of GPs were aware that BMI percentile charts were included in Queensland Health baby books, while 42% said they had been aware of NHMRC guidelines before participation in the KOALA training. Eighty-eight percent reported being more confident since their KOALA training about the definition of overweight and obesity in children. The same number agreed that the BMI charts were useful.

Routine use of height and weight data to identify at risk children

Only 57% reported that they had changed their practice as a result of education and their increased awareness of NHMRC guidelines, while 60% reported asking children to return for review and tracking of BMI. Still, only 52% were calculating and plotting BMI using the appropriate charts.

Perceptions of child obesity as a medical problem

A key finding was that 93% of GPs agreed child overweight and obesity was a medical problem and that they had a role in management.

Confidence in dealing with the complex/difficult issue of obesity

Eighty-two percent reported discussing the KOALA Child Obesity Program with patients, and 52% reported referring a child to the program.

Confidence in broaching the issue of child obesity with parents

Seventy-three percent of participating GPs thought parents were interested in discussing their child's overweight, however 61% reported they found it difficult to broach the subject. A possible negative response from parents would stop 39% of the GPs discussing a child's overweight and obesity with parents.

Parental resistance to discussing their child's weight or identifying it as a medical problem

Only 30% of GPs however, thought that parents saw child obesity as a medical problem. All GPs who reported referring children to the KOALA Child Obesity Program also reported some referrals being declined. Only half of the children asked to return for review and tracking of BMI by their GP did so.

Children aged 5–10 years not seen by GPs

All six general practices that were asked to tally the number of children seen provided data. The median number of children seen per week was 28 (range 3–48). One practice reported that of the 27 children aged 4–10 years seen in 1 week, 44% were aged 6–10 years. This equated to GPs seeing 5–10 children in this age range per week.

Discussion

Although the vast majority of GPs reported being more aware of identifying overweight children, it has been shown that GPs fail to identify overweight or obese children on visual inspection only.[7] Only a minority of GPs reported both measuring height and weight and using BMI for age percentiles as diagnostic criteria, which may

Table 1. Survey of perceptions and behaviours in relation to the management of child obesity among GPs recruited to the KOALA study (n=33)

Question	% responding 'yes'
1. Do you think childhood overweight and obesity is a medical problem?	93
2. Do you think GPs have a role in childhood overweight and obesity management?	93
3. Do you think parents view childhood overweight and obesity as a medical problem?	30
4. Did you know about the NHMRC guidelines on childhood overweight and obesity before KOALA?	42
5. Did you know BMI charts are now in Queensland baby books?	57
6. Do you believe the KOALA program is relevant to your practice?	94
7. Has your practice changed since education and awareness of KOALA/NHMRC guidelines?	57
8. Are you more aware of identifying overweight children?	93
9. Are you routinely measuring children's height and weight?	79
10. Do you calculate and plot BMI?	52
11. Are BMI charts useful?	88
12. Would having BMI percentile charts in medical software improve identification of overweight children?	94
13. Have you referred any children to KOALA?	52
14. Did you discuss KOALA with any patients?	82
15. Did any patients decline to be referred?	57
16. Did you ask any children to return for review and tracking of BMI as per NHMRC guidelines?	60
17. If yes, did they return? (n=20)	30
18. Do you find it difficult broaching the subject of overweight with parents?	61
19. Does a possible negative response from parents stop you from discussing childhood overweight and obesity?	39
20. Are parents generally interested if you discuss their child's overweight/obesity with them?	73
21. Would childhood overweight and obesity attracting a care plan item number and eligibility for EPC item numbers improve management?	50
22. Are you now more confident with the definition of childhood overweight and obesity?	88

have contributed to a failure to recognise overweight or obesity. Other recent research carried out by the NSW Centre for Overweight and Obesity has suggested that for every 200 GP visits in children aged 2–17 years, around 60 of the children will be overweight, while only one of those children will be managed by their GP for their weight problem.[5]

While the vast majority of GPs perceived that they routinely measured height and weight, this may not reflect actual clinical practice. The LEAP study estimated that due to practical staffing issues, only 50% of all children attending participating practices were measured for height and weight during the visit. There is considerable evidence suggesting that for practices to provide structured clinical care, they need to have systems in place and to involve other staff such as practice nurses and administrative staff.[8] This is consistent with one GP's comment that, 'Time and thinking of the issue are biggest barriers for me'.

All GPs had been provided with BMI for age percentile charts through the KOALA study, and the vast majority had sufficient knowledge of BMI charts to report them to be useful. Only half of the GPs however, reported both calculating and plotting BMI on these charts. This suggests that the barrier is not a lack of knowledge, but GPs not changing their practice to apply this knowledge.

Low uptake of the NHMRC guidelines by general practice has been reported by other recent studies.[6,7] Nevertheless, the proportion of GPs who reported calculating and plotting BMI was higher than previously reported.[7] This could reflect the targeted support provided to these GPs by the KOALA liaison GPs.

The finding that the vast majority of GPs viewed child overweight and obesity as a medical problem, and saw that they have a role in management, is consistent with the findings of another study.[5] A few GPs identified a need to target older children, with one GP commenting that 'teenagers may be a more forthcoming group'.

While the survey did not specifically look at confidence in dealing with the problem of child obesity, previous participation in the KOALA study appeared to make these GPs more confident with the definition of overweight and obesity. Their participation in the KOALA study provided them with a new referral/management option for children with this complex problem. The vast majority of GPs were sufficiently confident to discuss the KOALA child obesity program with their patients.

While the prevailing view of these GPs was that broaching the subject of overweight or obesity with parents was difficult, there was also agreement that parents were generally interested once the subject was raised. The majority of GPs agreed that parents did not view their child being overweight as a medical problem. This is consistent with a recent survey which reported that parents rarely raise concerns about their child's weight with their GP. One GP commented that, 'Parents chose to deny there is a real issue with childhood obesity – [they think] kids will grow out of it'. Another GP commented that childhood overweight is a 'Social as well as medical problem. I think parents are not aware of what is an overweight child. I have parents come in with children of normal weight concerned that they are skinny as overweight is the new normal'. This view was supported by the low number of at risk children who returned for tracking of growth as requested by the GP (as recommended by NHMRC guidelines[3]).

The average number of children aged 4–9 years seen per week in these general practices was fairly consistent with the LEAP study,[4] which suggests the perception that the low number of referrals to the KOALA Program was due to GPs not seeing children in this age range may not be correct.

Limitations of this study

This study relied on self report and included no objective measures of GP knowledge or clinical practice. The survey also did not directly look at whether practices had systems in place to involve other staff such as practice nurses and administrative staff in more structured management. One GP comment highlighted this issue with respect to identifying children for referral to the KOALA child obesity study. 'There are so many enhanced primary care programs with different referral criteria and eligibility and special referral forms that it all gets very complex and confusing and very time consuming to simply make required referrals'.

The GPs surveyed were a self selected sample based on previous voluntary participation in the KOALA study. These GPs are likely to have a greater interest in management of childhood overweight and obesity than GPs in general. If these results were extrapolated to the general GP population, the use of NHMRC guidelines to identify at risk children is likely to be lower.

Implications for general practice

- In this study, the following issues did not appear to be major barriers to GPs' management of child overweight and obesity:
  - not perceiving child obesity as a problem
  - lack of knowledge about diagnosis and management options
  - lack of confidence in broaching the issue, and
  - perceptions of parental resistance.
- The results suggest that a more important barrier was GPs not changing clinical practice to routinely assess risk of overweight and obesity using diagnostic criteria.
- Although this study did not look at a lack of practice systems as a potential barrier, other research suggests this is a barrier to changing clinical practice.[9] This could be investigated further using continuous quality improvement methodology. For example, while most practice software programs will calculate BMI, none contain BMI for age percentile charts for children. General practitioners may not plot BMI if a chart is not easily accessible during consultation. The vast majority of GPs reported that BMI charts in medical software would improve identification of overweight children. Development of IT software to facilitate GP screening of children's BMI, along with education in intervention and referral pathways, have been recommended.[1]

Resource

Further information about the KOALA at Mater Child Obesity Program can be accessed at http://koala.imb.uq.edu.au.

Conflict of interest: none declared.

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