A taboo topic? How General Practitioners talk about overweight and obesity in New Zealand

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ABSTRACT

INTRODUCTION: Obesity is overtaking tobacco smoking in New Zealand as the leading potentially modifiable risk to health. International obesity guidelines recommend that health professionals opportunistically encourage weight management with their patients. However, research shows consistently low rates of weight management discussion, suggesting that health professionals may not be realising their full potential to address obesity.

AIM: To identify communication strategies used by General Practitioners (GPs) to open the topic of weight and weight management in routine consultations.

METHODS: A secondary analysis was conducted of 36 video-recorded consultations in general practices, selected for relevance from a database of 205 consultations. Content and interactional analysis was conducted in the context of the entire consultation.

RESULTS: The topic of weight was initiated more often by GPs than patients and was raised mostly once or twice in a consultation and occasionally as many as six times. GPs employed opportunistic strategies twice as often as they used structured strategies.

DISCUSSION: This study of naturally occurring consultations confirmed GPs do engage in opportunistic discussions about weight. However, such discussions are challenging and interactionally delicate. Highlighting the clinical relevance of weight appears to be effective. The high frequency of patient contact with GPs provides opportunity to reach and work with people at risk of chronic conditions associated with excess weight. Further research is required to identify suitable training and brief intervention tools for use in routine consultations that may be beneficial for both GPs and patients.

KEYWORDS: General Practitioner; health research; obesity; weight management

Introduction

The rise of preventable non-communicable diseases and the underlying drivers of these diseases, such as obesity, are of great concern globally. Obesity is overtaking tobacco smoking in New Zealand as the leading potentially modifiable risk to health and increasingly is the focus of health-care interactions with patients. The obesity rate for adults in New Zealand is third highest among Organisation for Economic Co-operation and Development (OECD) countries, behind the United States and Mexico. Just under 67% of the New Zealand adult population is classified as overweight or obese with a body mass index (BMI: kg/m²) ≥25; of those people, just under 32% are classified as obese (BMI ≥30).
Obesity is most prevalent among Pacific adults (69%) and the indigenous Māori adults (50%).

The benefits of weight loss are well established, with a 5–10% reduction in weight associated with improvement in health and quality of life, and a 3% reduction being positive for health improvement where it is maintained. International guidelines recommend that health professionals opportunistically encourage weight management with their patients. New Zealand clinical guidelines for weight management identify community and primary health-care professionals as the usual first point of contact for patients, who are therefore well placed to identify and support overweight adults.

Weight loss advice from primary care health professionals is related to positive behaviour change and people appear open to such advice. There is also strong evidence that specific communication behaviours between doctor and patient are linked to improved patient health, satisfaction, adherence to treatment and recall where lifestyle behaviours are discussed. However, doctors report a range of barriers to implementing communication strategies in relation to weight management and the treatment of obesity, including lack of resources, concerns about effectiveness of interventions and not wishing to offend patients.

The role of primary care in obesity prevention is increasingly recognised worldwide. Over 90% of all health consultations occur in primary care. In New Zealand, adult patients average four to five visits per year to their general practice, with approximately 12.2 million general practitioner (GP) visits and 2.5 million nurse visits. This high frequency of contact provides important opportunities to reach and work with people at risk of chronic or life-threatening conditions relating to excess weight. General practice interventions not only have value in their own right, but can complement the efforts of public health and the education sector.

Health professionals may not be realising their full potential to address obesity, as consistently low rates of weight management advice are reported. For example, in one study, less than half of overweight or obese respondents with arthritis reported ever receiving health professional advice that losing weight might help their symptoms, yet respondents who did report receiving advice were significantly more likely to report trying to lose weight. Most obesity and weight management research has focused on clinicians’ or patients’ perceptions of communication, using methods such as questionnaires, focus groups and interviews, producing findings that are consistent with analyses of recorded lifestyle interactions. Both approaches provide evidence that doctors and nurses do not always take up opportunities to discuss weight and other lifestyle issues with patients. A Dutch study found that patients instigated half of the discussions concerning weight, and a Scottish study found that while GPs initiated weight discussion more often than patients, their attempts were often blocked by patients.

One reason for low rates of discussion may be that lifestyle topics are often socially and interpersonally sensitive. Such discussions create a socio-medical dilemma in consultations similar to other topics that inherently include an element of moral judgment. This can result in avoidance and observable expressions of discomfort, as well as interactional delicacy in how such topics are raised and discussed. A systematic review concluded that intensive communication interventions can be effective, but a need remains for evidence-based tools that can be readily integrated into routine general practice.

WHAT GAP THIS FILLS

What is already known: Obesity is a significant public health challenge in New Zealand. International research has determined the potential role of general practice in delivering weight management strategies.

What this study adds: No New Zealand studies have examined actual general practice consultations to identify strategies employed to raise the issue of overweight and obesity in routine general practice consultations. This study highlights the ‘interactional delicacy’ of weight management discussion in general practice and signals the need for resources to support culturally competent, clinically relevant, opportunistic weight discussion.
This paper reports on findings from the “Talk About Overweight & Obesity (TAbOO)” study,\textsuperscript{44} which examined authentic video-recorded consultations to investigate how New Zealand GPs currently talk about obesity, where in the consultations these discussions took place, and whether we could identify strategies that may be effective in opening discussion of weight or weight management.

**Methods**

The Applied Research on Communication in Health (ARCH) Corpus\textsuperscript{45} is a digitized collection of health interaction videos and related data: transcripts, content summary logs, field notes, participant demographic data and associated clinical records. All recordings were made on a single camera in the usual consulting rooms with no researcher present.

The ARCH Corpus was searched for general practice interactions involving discussion about weight management. We examined 205 videos of naturally occurring health interactions recorded for three studies conducted between 2003 and 2012.\textsuperscript{46-49} These studies all involved routine primary care consultations, mostly with GPs but sometimes with primary care nurses. One study was about initial management of type 2 diabetes from diagnosis for 6 months (referred to as ‘DS’ in this paper),\textsuperscript{48,49} one (the Interaction Study (‘iS’))\textsuperscript{46} focused on clinical decision-making in primary health-care interactions, and the Tracking Study (‘TS’)\textsuperscript{47} tracked patients through multiple health interactions for a single condition.

Participants in all three studies were informed that they were being recorded for the general purpose of studying health communication. Prior to archiving, each recording was viewed, the content summarised by a research nurse in a detailed written log, and the interactions transcribed in detail by research assistants.

A manual process of reviewing all consultation logs and scanning transcripts was used to locate instances of talk relating to overweight, obesity and weight, raised by either GP or patient. The sample of 205 interactions examined comprised 183 routine GP consultations and 22 initial GP consultations from the previous diabetes study, including four extended consultations involving a nurse and GP for patients with high health needs to improve chronic care management (CarePlus). We excluded consultations containing talk that did not explicitly relate to excess weight (eg regarding efforts to gain weight for underweight patients). This resulted in a final sample of 36 GP consultations to be analysed for this study, nearly half coming from the diabetes study. The consultations were 5–35 min long, with four longer CarePlus diabetes consultations (40–74 min), although only the portion where the GP was present (usually ~20 min) was selected for analysis.

The selected recordings were analysed using content and interactional analysis methods\textsuperscript{50} in the context of the entire consultation to identify the communication strategies employed. We identified where in the consultation these discussions took place and analysed the extent to which the openers used appeared to be successful.

We show examples in this article using a simplified version of the transcription conventions used in conversation analysis.\textsuperscript{50} There is no standard punctuation used. The symbols [ ] represent overlapping talk, double parentheses (()) contain a description by the transcriber (not words spoken by participant), and single parentheses () indicate an uncertain transcription. The symbol + indicates a pause of up to one second in the conversation.

Ethical approval for this study was obtained from the Lower South regional ethics committee (ref: LRS/08/09/041) and Otago University Ethics Committee (ref: 13/056). The previous projects were approved by the Wellington Ethics Committee (Ref: 03/09/090), the Central Region Ethics Committee (Ref: CEN/05/12/096) and the Lower South regional Ethics Committee (Ref: LRS/08/09/041).

**Results**

Demographic data collected at the time of recording for the 36 videos analysed included age, gender and ethnicity of the patient, as shown in Table 1.
**Topic frequency**

The topic of overweight, obesity or weight was raised mostly once or twice in a consultation, and sometimes up to six times. Table 2 shows how many times the topic was raised per consultation and if it occurred in the diabetes study. Table 3 shows who raised the topic in each initiation.

**Structured or opportunistic**

Flocke et al.\(^5\) distinguished 'structured' from 'opportunistic' strategies in raising lifestyle topics in primary care interactions. Structured strategies are where health professionals use a written form or checklist, mental checklist or routine pattern of questioning, or when the topic is introduced as one that was planned, indicating previous knowledge. Opportunistic strategies are where the topic is raised in relation to an acute symptom, chronic problem, or something noted in the medical record. We extended this definition to include cases where the topic was raised in response to weighing the patient, or in relation to earlier initiation by the patient or the health professional’s observation of the patient.

Our analysis found that of 54 initiations by GPs, 17 were structured and 37 were opportunistic. The high number of opportunistic initiations may be due to the large number of diabetes consultations in the dataset, and the likelihood that weight will be raised in relation to this chronic condition in an opportunistic way. However, there may be overlap in this classification, because where there is a chronic condition such as diabetes, GPs are also likely to have a routine pattern of questioning.

‘Effective’ ways of raising the topic

Our initial analysis identified phrases that were particularly successful in opening up the topic of weight or weight management, with the aim of incorporating these in a brief intervention training for GPs to support them in improving their practice. Examples of these are shown in Table 4.

**Clinical relevance**

The most notable way of achieving a constructive dialogue was to relate the topic of weight to the patient’s presenting clinical problem. This clearly marks the topic as clinically relevant. There were three main ways GPs were observed doing this. The first was to introduce the topic as a natural

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**Table 1. Age, gender, ethnicity of patients in analysed video recordings**

<table>
<thead>
<tr>
<th>Gender</th>
<th>n</th>
<th>Ethnicity</th>
<th>n</th>
<th>Age (years)</th>
<th>n</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>20</td>
<td>NZ European</td>
<td>21</td>
<td>20–29</td>
<td>1</td>
</tr>
<tr>
<td>Female</td>
<td>16</td>
<td>Other European</td>
<td>3</td>
<td>30–39</td>
<td>3</td>
</tr>
<tr>
<td>Total</td>
<td>36</td>
<td>Maori</td>
<td>6</td>
<td>40–49</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Pacific Island</td>
<td>4</td>
<td>50–59</td>
<td>11</td>
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<td></td>
<td></td>
<td>Asian</td>
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<td>60–69</td>
<td>9</td>
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<td>Total</td>
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<td>70–79</td>
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</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>80–89</td>
<td>1</td>
</tr>
</tbody>
</table>

**Table 2. Number of initiations relating to overweight, obesity or weight during consultations**

<table>
<thead>
<tr>
<th>No. of initiations per consultation (n)</th>
<th>No. of consultations (n)</th>
<th>Total no. of initiations (n)</th>
<th>Study (n)</th>
<th>Diabetes</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>15</td>
<td>15</td>
<td>4</td>
<td>11</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>11</td>
<td>22</td>
<td>6</td>
<td>5</td>
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</tr>
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<td>3</td>
<td>5</td>
<td>15</td>
<td>5</td>
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<td>10</td>
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</tr>
<tr>
<td>6</td>
<td>3</td>
<td>18</td>
<td>3</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>36</td>
<td>80</td>
<td>19</td>
<td>17</td>
<td></td>
</tr>
</tbody>
</table>

**Table 3. Who initiated the topic of overweight, obesity or weight in the health consultation?**

<table>
<thead>
<tr>
<th>Study (n)</th>
<th>GP</th>
<th>PT</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st initiation</td>
<td>20</td>
<td>16</td>
<td>36</td>
</tr>
<tr>
<td>2nd initiation</td>
<td>17</td>
<td>4</td>
<td>21</td>
</tr>
<tr>
<td>3rd initiation</td>
<td>7</td>
<td>3</td>
<td>10</td>
</tr>
<tr>
<td>4th initiation</td>
<td>3</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>5th initiation</td>
<td>4</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>6th initiation</td>
<td>3</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>Total initiations</td>
<td>54</td>
<td>26</td>
<td>80</td>
</tr>
</tbody>
</table>

GP (general practitioner); PT (patient).
Table 4. Examples of how GPs initiate talk about excess weight from the ARCH Corpus

### Questions with explicit mention of weight:
- ‘Have you lost a bit of weight?’ (IS-GP06-03, DS-GP19-02a)
- ‘... have you been able to do anything with your weight at all, has that got any better?’ (TS-GP03-12)
- ‘You look like you might even put a bit of weight on do you think?’ (TS-GP09-20b)
- ‘Have you ever seen the nurses here about + lifestyle advice and weight reduction and exercise and all those?’ (TS-GP03-12)
- ‘Weight wise, where do you think you’re at?’ (TS-GP09-05)

### Questions indirectly referring to overweight:
- ‘In terms of diet now, what do you think your diet’s like?’ (DS-GP01-04)
- ‘You sort of do all the cooking?’ (DS-GP16-01)
- ‘Let’s just go back to how much exercise you’re doing at the moment and what you, what you think of your diet at the moment?’ (DS-GP17-01a)
- ‘Do you want to see a dietitian like a a someone to talk about food?’ (DS-GP24-02a)
- ‘... what about the your sort of like your normal day to day eating, have you had to make any major sort of changes with that?’ (DS-GP26-01)

### Statements with explicit mention of weight:
- ‘It’s been a few years since we checked for glucose f- for diabetes and you know with you being overweight we ought to maybe review that again.’ (TS-GP03-12)
- ‘I mean any um amount of weight loss is good for your health though.’ (TS-GP10-03)
- ‘Two things that will actually turn that clock back ((inhales)) and, and that’s, that’s exercise and also weight loss.’ (DS-GP17-01a)
- ‘(inhales) ‘Now just before you go ((NAME-PT)) I was just going to look at what weight we’d be aiming for for you + yes because at the moment your current weight um + yes you are overweight.’ (DS-GP19-02a)
- ‘You also have to be a realistic in terms of weight loss because if you lose weight quickly you put it on quickly so it’s, it’s about small amounts often you know.’ (DS-NS18–01b_GP23)

### Statements that indirectly refer to overweight:
- ‘It depends on what you eat and if you’re doing enough exercise for what you eat.’ (IS-GP06-04)
- ‘Yeah eat s- eat eat well really you need to eat well you need to eat less fat you need to get all the sugar you can out of your diet and you can probably reduce the quantity of it.’ (DS-GP16-01)
- ‘Yeah so what, what you’re eating is in- um having an effect on your blood sugar.’ (DS-GP19-01a)
- ‘So the exercise is very good also this- you can choose which foods might be better as well.’ (DS-GP24-02a)
- ‘And the other thing which puts it up is the food that you eat.’ (DS-GP27-01a)

### Effect on clinical condition:
- ‘Overall um, I th- you know if you lose weight it will get better.’ (DS-GP18-02a)
- ‘Yes, I think it will improve if you reduce your weight.’ (DS-GP20-01)
- ‘It is likely to improve if you trim your weight down.’ (DS-GP20-01)
- ‘If we can control the, the sugar levels and your weight we, er, could actually control that blood pressure too.’ (DS-GP20-01)
- ‘And that it may be that by changing your diet a little bit and walking a bit more that the sugar will come down to being back to normal again and we may need to do nothing more.’ (DS-GP27-01a)

### Third person references:
- ‘I’ve got a few patients who ((inhales)) (2) after losing s- you know a reasonable amount of weight their bloods have come back totally fine in year in year out.’ (DS-GP03-22)
- ‘Sometimes like you know s- some people for example, um, e- for some reason lose a lot of weight um and they change that balance ((inhales)) then it th- you still sort of say well they’ve been diagnosed with diabetes but it’s, it’s certainly not a problem.’ (DS-GP18-01)
- ‘Now some people if they are very good with their diet and exercise er can + don’t need the tablet.’ (DS-GP24-02a)
- ‘Now s- some people manage to control the diabetes just by doing very good exercise and by eating a very healthy diet.’ (DS-GP24-03)
- ‘But with a large number of people can if they’re if they’re really onto it can keep a good lid on it just with diet alone.’ (DS-GP26-01)

### Positive reinforcement:
- ‘Well, you’ve lost that weight which helps a huge amount.’ (IS-GP03-02)
- ‘I mean it’s just a something you need to keep chipping away at.’ (TS-GP10-08)
- ‘For the diet and the weight so ((inhales)) they are all part and parcel and you don’t need to beat yourself up cos you haven’t lost weight yet.’ (DS-GP18-01)
- ‘So you’ve all already made a really good start you’re already doing ((inhales)) lots of things which will help to reduce your weight and reduce your sugar levels.’ (DS-GP19-02a)
- ‘That’s super just keep on keep on on you’re doing everything right you’ll be down another three kilos next time I see you.’ (DS-GP26-01)

### Using scales:
- ‘It’d be nice to get your height and your weight as a baseline.’ (DS-GP20-01)
- ‘Perhaps we should get you on the scales see how your weight’s going how’s that how do you feel that’s been?’ (DS-GP26-01)
progression from discussion of a current medical problem such as cardiovascular health, diabetes or arthritis:

‘Yeah so what you’re eating is having an effect on your blood sugar and also with it running in your family you are more likely to get it with your dad having it but also your weight contributes.’ (DS-GP19-01a. GP)

‘It’s been a few years since we checked for glucose - for diabetes and you know with you being overweight [we ought] to maybe review that again.’ (IS-GP03-12. GP)

In the second example, the GP hedges the introduction of the topic of the patient ‘being overweight’ with the preceding ‘you know’.

A second strategy was to include weighing the patient as a routine part of the physical examination:

‘It’d be nice to get your height and your weight as a baseline.’ (DS-GP20-01. GP)

‘Perhaps we should get you on the scales see how your weight’s going. How do you feel that’s been?’ (DS-GP26-01. GP)

Another tactic was to directly promise a health benefit as a result of weight loss (a kind of bargaining):

‘Overall, um i th- you know if you lose weight it will get better.’ (DS-GP18-02a. GP)

All these approaches demonstrate the GP using explicit strategies to clinically ‘warrant’ raising the potentially sensitive and personal topic of weight and weight management.

‘Delicacy’ of raising the topic

The delicacy of initiating talk about weight is typically illustrated interactionally by the use of linguistic devices such as qualifiers and hedges (e.g. maybe, I think, you know), along with hesitations and ‘dysfluencies’ in the initial raising of the topic by a GP before the word ‘weight’ is uttered, as seen in the previous examples and in this excerpt from another consultation:

‘and insulin resistance has a lot to do with er er your weight.’ (TS-NS13-04b_GP21. GP)

Another way of effectively discussing weight and orienting to the sensitivity of this topic (whether initiating it or not) was to frame it in a non-threatening way using open-ended and indirect language. By avoiding a question or statement that directly and explicitly referred to the patient being overweight, GPs opened up a face-saving ‘escape route’ if the patient proved to be resistant to pursuing the discussion. The following excerpt from a consultation provides an example of an open-ended question that is phrased in a neutral way, avoiding explicit judgements about overweight:

‘GP: Weight wise where do you think you’re at? Patient: Um, I know I’ve lost twenty kgs over (about a) last year.

GP: Yeah yeah looking at you that that looked to be the - the case yeah.
Patient: Yeah ((clears throat)) last week was a disaster but that doesn’t matter. I’ll get back on it now ((inhalss)) ((laughs)) (TS-GP09-05. Patient’

In this example, the GP’s initiation of the topic is effective as the patient then volunteers information about progress as well as being open about their difficulties.

In this next example, the GP gives the patient an excuse for not having exercised recently, which builds in a strategic presupposition that the patient wants to exercise and lose ‘a bit of the weight’:

‘I think with the better weather if you’re able to do a little bit more outdoors things and knock off a bit of the weight.’ (IS-GP05-02. GP)

GPs sometimes used very indirect language, for instance, by linking the lifestyle advice to other people’s experience:

‘Now, s- some people manage to control the diabetes just by doing very good exercise and by eating a very healthy diet.’ (DS-GP24-03. GP)
Positive reinforcement

Other strategies focused on positive reinforcement. GPs praised even small steps in the right direction, often implicitly:

’Have you lost a bit of weight?’ (JS-GP06-03. GP)

They also emphasised the positive benefits of weight loss in general:

’It is likely to improve if you trim your weight down.’ (DS-GP20-01. GP)

And sometimes did both:

’So you’ve already made a really good start. You’re already doing lots of things which will help to reduce your weight and reduce your sugar levels.’ (DS-GP19-02a. GP)

Diet and exercise

While diet and exercise were often raised in consultations, these interactions could be described as a 'comfortable dance' around the topic of weight management:

((GP checks blood pressure))

’Patient: Yeah, cos i’ve kno- i know i’ve (3) i’ve put on the beef again.
GP: ((removes arm cuff from PT)) ’Mhm.’

Patient: So, i have to get onto that as well.
GP: Yeah, so you think about working on that as well.

Patient: Oh well, it- I usually do a bit of swimming but it’s like I say since Christmas.
GP: Yeah, yep.

Patient: Well, it’s been since October really.
GP: Yep, yep, yeah and just in- in-.

Patient: Just change your lifestyle I guess.
GP: Increase increasing the activity levels a bit and decreasing the intake a little bit works better than trying to just do one thing you know. If you can do both and and then you don’t have to make so many radical changes and and it’s works b- better if you get in the the exercise as well.

Patient: Yeah, get I- get in the hang of it now.
GP: Just gotta, yeah.

Patient: It’s discipline.
GP: It, yeah, you’re right it is discipline. (TS-GP09-16. GP)

Discussion

Our analysis of naturally occurring consultations involving weight discussion confirms that GPs do engage in discussions about weight and have a range of strategies to accomplish this, but that such discussions are challenging and interactionally delicate. This affirming that GPs do not wish to risk offending their patient or creating imbalance in their doctor–patient relationship.14,15,37 GPs opportunistically raised the topic of excess weight or weight management in 70% of GP initiations. Opportunistic approaches by doctors have been associated with a higher yield of identifying patients at risk, underscoring the role of doctors in promoting and influencing patient actions.51,52

By analysing the overall context of consultations, we observed strategies employed by GPs to discuss obesity in a way that constructively progressed conversations while avoiding negative reactions from patients. Further analysis confirmed previous conversation analytic research findings that successfully initiating such discussions depended on many contextual factors relating to individual patients and the way interactions unfolded, rather than applying an easily identifiable formula.50

These findings align with a Dutch study showing that GPs initiated the topic more often than patients.35 Rather than blocking, as was seen in the Scottish study,36 patients in our study more often engaged in mutual affirmation, suggesting effectiveness of the GP’s engagement and cultural competence, although this could not be validated in this particular study. Highlighting the clinical relevance of weight discussion appears to be effective and acceptable to patients and
addresses some of the communication barriers reported by doctors.\textsuperscript{14,15}

**Strengths and limitations**

This is the first analysis of video-recordings of actual consultations relating to weight talk in New Zealand general practice consultations. This was a secondary analysis of data collected for other purposes, not a purposive sample collected with the specific objective of examining talk about weight.

**Conclusion**

The high frequency of patient contact with GPs provides substantial opportunity to reach and work with people at risk of chronic or life-threatening conditions associated with excess weight. This interactional analysis has been used to inform the development of a brief opportunistic tool to support GPs to feel more confident and culturally competent in raising the topic of weight in routine consultations. This will be reported separately in a future publication.

**Author contributions**

I. Gray led the formation of this study as the principal investigator and contributed significantly to the manuscript preparation. I. Gray, M. Stubbe, L. Macdonald, R. Tester and A. Dowell contributed to all phases of the study design, analyses and manuscript preparation. M. Stubbe, A. Dowell, L. Macdonald and R. Tester were members of the original project teams that collected and archived the data analysed for this study. M Stubbe led a previous survey of lifestyle talk in 183 routine GP consultations from the ARCH Corpus on which this analysis draws. R Tester undertook the preliminary analysis of weight interaction sequences for this study. J. Hilder contributed significantly to the final analysis and manuscript preparation. A Dowell provided clinical oversight and advice for this study. All authors read and approved the final manuscript.

**References**


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COMPETING INTERESTS None.