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How do UK physiotherapists address weight loss among individuals with hip osteoarthritis? A mixed-methods study

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Abstract

Background: Weight loss is recommended as a core treatment for individuals with hip osteoarthritis who are overweight or obese. Physiotherapists play an important role in managing patients with hip osteoarthritis, but little is known about how they address weight. We aimed to explore how UK-based physiotherapists currently address weight loss among individuals with hip OA.

Methods: Mixed methods. A cross-sectional questionnaire was mailed to 3126 UK-based musculoskeletal physiotherapists. Self-reported approaches to addressing weight loss among individuals with hip osteoarthritis were explored using a case vignette and associated clinical management questions. Semi-structured telephone interviews (n=21) were completed with a purposeful sample of physiotherapists who returned the questionnaire and provided consent for further contact. Interview data were analysed thematically.

Results: Questionnaire response: 53% (n=1646); 1148 responders eligible for analyses (based on having treated an individual with hip OA in the last 6 months). 85% of physiotherapists reported that they would address the vignette patient's weight, usually via advice (70%). Interviews identified that advice often focused on the importance of weight loss, with some physiotherapists offering basic advice on how to achieve weight loss. Multiple factors influenced their approach, including confidence, perceived remit, and patient receptiveness.

Conclusions: UK physiotherapists commonly address weight loss among patients with hip osteoarthritis, by offering advice relating to the importance of weight loss. However, provision of more specific guidance on how to achieve weight loss is variable. With additional training, physiotherapists could play an important role in supporting weight loss among patients with hip OA, thus potentially optimising treatment outcomes.

Key words: Hip, osteoarthritis, weight, physiotherapy, mixed methods

Introduction

Osteoarthritis (OA) is a clinical syndrome of joint pain accompanied by muscle weakness, functional limitation, work restriction and reduced quality of life (Furner et al 2011, Neogi 2013, NICE 2014, Wilkie et al 2014). Hip pain attributable to OA is both common and disabling in older adults (Cross et al 2014, NICE 2014) with the hip joint being the second most common lower limb OA site, affecting approximately

11% of the adult population (Pereira et al 2011). Hip and knee OA are ranked as the 11th highest global contributor to years lived with disability and, with the projected increases in the ageing population, the societal and public health burden of hip OA is likely to rise (Cross et al 2014, Hunter et al 2014).

Approximately 70% of people with OA are overweight or obese (Healey et al 2018), which compounds disability (Reeuwijk et al 2010), increases pain (Riddle and Stratford 2013), and is a prognostic factor for disease progression (Bastick et al 2015) and total joint replacement surgery (Leyland et al 2016). Having OA and being overweight is also associated with having multiple comorbid long-term conditions, including type II diabetes mellitus and cardiovascular disease (Fransen et al 2014, Guh et al 2009, Mitchell et al 2014), and increased risk of all-cause mortality (Aune et al 2016, Nuesch et al 2011). The mechanisms by which being overweight or obese contribute to OA are complex and multifactorial (Bliddal et al 2014, Vincent et al 2012), including increased joint compression forces, which can lead to gait abnormalities and aberrant biomechanics. Adipose tissue may also contribute to pro-inflammatory cytokines, which can influence the OA process, pain and function (Bliddal et al 2014, Miller et al 2008, Vincent et al 2012).

Weight loss is recommended in clinical guidelines as a core treatment for people with OA who are overweight or obese (NICE 2014), with randomised controlled trial and observational study findings demonstrating a dose-response relationship between the amount of weight loss and level of functional improvement (Atukorala 2016, Messier 2013). Despite this evidence, in the UK and elsewhere, the majority of

overweight or obese people do not receive weight loss support and advice (Brand et al 2014, Healey et al 2018, Jackson et al 2013).

Physiotherapists have an important role in the management of people with hip OA. They are well placed to support condition self-management since they already provide education and exercise (Holden et al 2018a). However, little is known about how physiotherapists address weight within the consultation and whether weight loss support is currently being delivered in ways to optimise clinical outcomes. Therefore, the aim of this study was to explore how UK physiotherapists currently address weight among patients with hip OA, and to explore their beliefs and experiences of supporting people with hip OA who are overweight or obese to lose weight.

Methods

We completed a mixed methods study comprising of a cross-sectional postal survey and semi-structured telephone interviews with UK-based chartered physiotherapists. The qualitative element of the study was centred in an interpretive paradigm, focusing on understanding participants' individual perceptions and subjective experiences (Blaikie and Priest 2017). In view of the concern to capture the subjective essence of the individual's own perspective, the study methodology was phenomenological in its orientation (Finlay, 2011). Data were gathered sequentially

between January and September 2014: surveys were completed initially, and preliminary quantitative data analyses then informed the focus of the interviews. For clarity, the survey and interview methods and results are described separately.

The survey

A cross-sectional questionnaire (described in detail elsewhere (Holden et al 2018a)), was mailed to 3126 UK-based physiotherapists with a musculoskeletal interest. Simple random sampling of all UK physiotherapists would have been the method of choice to generate a sample for the survey (Bishop et al 2016). However, at the time of mailing, no comprehensive nationwide sampling frame was available. Therefore, a convenience sampling frame that allowed access a broad range of physiotherapists was used. Three groups of chartered physiotherapists with expertise in musculoskeletal pain conditions were sampled in the UK, including a simple random sample of members of the Acupuncture Association of Chartered Physiotherapists (AACP) (which has approximately 6500 members) (n=2485), all members of the McKenzie Institute Mechanical Diagnosis and Therapy Practitioners (MIMDTP) (n=263), and all musculoskeletal physiotherapists working in NHS sites based within the Central England (North spoke) and North West Primary Care Research Networks (PCRN) (n=378). A reminder postcard and reminder questionnaire were sent to all non-responders at two and four weeks, respectively, in order to optimise response.

Questionnaire

A filter question at the beginning of the questionnaire screened for physiotherapists who reported treating at least one patient with hip OA in the past six months. These physiotherapists were invited to complete the remainder of the questionnaire. Self-reported approaches to weight and weight loss were explored using a case vignette representing a patient with hip OA who was overweight (see Figure 1), and associated clinical management questions. The survey also captured demographic and practice data (see Holden et al 2018a for a copy of the questionnaire).

Survey data analysis

Data analyses were performed using Stata version 14.1 (Stata Corporation, TX, USA). Descriptive statistics were used to summarise physiotherapists' characteristics and their self-reported approaches to weight and weight loss. Items with missing data were excluded from analyses.

Qualitative interviews

Physiotherapists who returned the questionnaire and provided consent for further contact formed the sampling frame for the interview study. Based on the survey responses, a purposeful sample (Coyne 1997) of male and female physiotherapists, working in different settings, and with differing self-reported approaches to weight for the vignette patient, were invited to take part in semi-structured telephone interviews.

Interviews lasted for up to one hour and were completed by two experienced female qualitative researchers (MAH, JW), with a clinical background in physiotherapy. Sampling ceased when no new themes were emerging during analyses, i.e. when inductive thematic saturation was achieved (Saunders et al 2018). Based on previous experience (Holden et al 2015, Waterfield et al 2015), it was anticipated that between 20 and 30 interviews would need to be completed to achieve saturation.

The interview topic guide

Participants were asked about their attitudes, beliefs and clinical experiences with regard to managing weight loss in overweight and obese patients with hip OA. Open-ended questions also provided physiotherapists with the opportunity to raise other related issues that they felt were important. MAH, JW, LC and CDM developed the initial interview guide, informed by the background literature and reflective of the survey questions, to enable an in-depth understanding of the prior survey findings (see Figure 2). The interview guide was pilot tested in the first interview; no changes were required therefore these data were included in the analyses. Data collection and analyses were completed concurrently. This allowed the interview guide to be modified with ongoing analysis, and facilitated a thorough exploration of emerging ideas. Interviews were audiotaped, transcribed verbatim and anonymized.

Interview data analysis

Data were analysed inductively. One researcher (JW) read and re-read all interview transcripts. Using principles of constant comparison (Charmaz 2006), data representing the same concept were grouped into themes and sub-themes, which were then grouped into categories. Data were constantly reappraised and revised and links between themes and categories were explored (Charmaz 2006). Emerging ideas for themes and categories were continually discussed and checked for credibility with two additional study team members (MAH, LC).

Ethical Approval

Ethical approval to complete the study was granted by Keele University.

Results

Survey findings

Response

The overall survey response was 53% (n=1646). Of those, 1148 (70%) reported having treated a patient with hip OA in the last 6 months and were included in the analyses. Missing data levels throughout the questionnaire were low, typically being

3% or less for any one question. The majority of survey respondents were female (77%) and had at least 15 years of clinical experience (62%). 46% reported that they treated patients with hip OA at least 'somewhat frequently' (2–5 times in the past 6 months). In total, 39% of physiotherapists worked exclusively in the NHS, 35% worked exclusively in non-NHS settings, and 26% worked in combined NHS and non-NHS settings (26%) (Table 1).

Reported approach to weight management

In total, 85% of physiotherapists reported that they would assess the vignette patient's weight, predominantly by direct observation (47%), but also by asking the patient (44%). Fewer physiotherapists reported that they would obtain an objective measure of weight: 23.6% would calculate body mass index, 4% would weigh the patient, and 2% would measure the patient's waist and/or hip circumference. Overall, the majority (90%) of physiotherapists reported that they would address weight with the vignette patient, most commonly by providing advice about weight loss (70%), but also by onward referral to another professional, including to a weight loss programme (28%), dietician (21%), or general practitioner (8%). Only 10 physiotherapists (1%) reported that they would actively deliver a weight loss programme with the patient (see Figure One).

Interview findings

Seventy-three physiotherapists were invited to be interviewed and 21 agreed to take part. The purposeful sampling strategy achieved variation in the characteristics of physiotherapists interviewed, including their reported approach to weight loss for the vignette patient (see Table One and Table Two).

Interviews revealed three broad analytical categories: 'broaching weight within the consultation' (Table Three), 'addressing weight loss' (Table Four), and 'factors influencing approach to weight and loss' (Table Five). These are described in detail below, with themes in each category being bold-italicized. Verbatim anonymized quotations are used to exemplify themes within each category.

Broaching weight within the consultation

The issue of weight and weight loss was, overall, recognized as a sensitive topic to raise with patients with hip OA. ***How the subject of weight was broached*** within the consultation varied between physiotherapists. Some addressed it routinely as part of their assessment with every patient with a musculoskeletal condition. This made it easier to bring up, as overweight or obese patients were not being "singled out" (#3185). Others did it through a "third party", for example highlighting information about weight included in information leaflets, or within group education.

"I always ask, whatever they come to me about in particular, limb problems or lower back problems, you know, 'how tall are you and how much do you weigh'.....If you ask it routinely then you're not being, you know, you're not particularly singling them out." #3185

"I normally, you know, open those [Arthritis Research UK and NICE leaflets about osteoarthritis] up in front of the patient and say this this is what we've just talked about. And so, you know, I would normally say now one of the things it mentions on that is, you know, losing weight." #3220

"In the classes we do talks, and one of them is about diet and osteoarthritis, and we do talk about it in the classes." #3244

Some physiotherapists only broached weight and weight loss if patients themselves raised it as an issue. For example: *"I try and allow their own honesty, so I try not to bring it up in direct conversation but if they are, what I would class as bordering on obese, they will often bring it up themselves and this is where I normally say about fitness rather than overweight." #1247*

The **manner of approach** to weight was also variable, ranging from physiotherapists being blunt and direct about the fact that patients are overweight or obese, to being sensitive and diplomatic. *"I mean sometimes, fairly blunt and say you know, you do appear overweight and they normally, there's not a problem with that, because most people know." #3101*

"I try and be diplomatic about weight loss because obviously it is a subject that people are quite sensitive about, but I try to get the point over as kind of, kindly as I can." #3088

Some physiotherapists tried to get important messages about weight loss over in a light-hearted manner:

"I try and make it light-hearted but serious with the patient, so I might say it's not particularly a problem for somebody like yourself, but say, you know, if you can keep an eye on your weight, that would be useful. So yes, I do appreciate it's a sensitive area." #3220

Addressing weight loss

Mirroring the survey findings, physiotherapists commonly described providing **advice on the importance of weight loss** for patients with hip OA. Advice often focused on the importance of weight loss for hip OA in terms of biomechanical factors and reduced joint loading (and consequently reducing symptoms), but also for its wider health benefits, including for general health and other co-morbidities (for example heart disease and diabetes).

"Body weight will be increasing that strain on the joint, so I try and bring it round that way and say, it's obviously something I can advise, the less weight going through the joint you may well have less symptoms." #4037

“If they’re obviously overweight I think I would bring that in as a whole fitness, weight reduction but really very much holistically it’s good for your health, it’s good for your heart, risk of diabetes all that side of things. And I perhaps wouldn’t be linking quite so strongly as the link on the hip joints.” #107

In terms of providing support about how to lose weight, physiotherapists often described how they would **refer the patient on** to a range of different health care professionals, commonly to the general practitioner (for either direct weight loss advice or access to other weight loss services e.g. slimming clubs, exercise on prescription or dieticians), but also to practice nurses, health trainers, and dieticians. For example:

“You can refer back to the GP in our area, to be referred on to a dietician, but that takes a long amount of time.” #535

“We’ve got health trainers that work out of the physio department here, so if they were keen on losing weight, I would normally, as my first port of call, refer them on to the health trainer.” #3220

"We do have quite close links with our dieticians, and we can refer them to the dietician if we need to, if the patient is willing to engage and be referred on to them."

#3244

Some referred on to third sector organizations or slimming groups, depending on local service configuration.

"What I tend to do is either get them to go along to the practice nurse or mention about Slimming World or Weight Watchers [slimming clubs operating in the UK], and try and perhaps find out where the local ones are to the practice and give them advice in that area." #3088

Some physiotherapists did provide patients with **dietary advice** for weight loss, although the level of this varied from provision of written information or leaflets only to provision of basic verbal advice (for example about portion sizes).

"If people say to me, 'Are there specific foods and things that will help?' I don't feel that I have that, that kind of depth of knowledge in that area, so I would direct them to the kind of little booklet by Arthritis Research Campaign or something." #249

"We're not saying that we are a dietician and we can give them specific dietary information, but it, kind of, gives it the basics, in terms of what, what they need to know from us." #3244

Conversely, some physiotherapists would not provide any dietary advice at all:

"I certainly don't give, I'll be honest, any guide to the diet or anything like that, because that's not an area I have the information in." #4037

Some physiotherapists also provided advice on **weight loss through increasing exercise and physical activity**.

"Well yes, if you're carrying less weight, it may improve your symptoms', and give them advice on what exercise would be appropriate for them to assist in their weight loss." #249

Also, mirroring the survey findings, none of the physiotherapists interviewed said that they deliver active and ongoing weight loss programmes for patients with hip OA.

Factors influencing approach to weight and weight loss

A number of different factors appeared to influence how physiotherapists approached weight and weight loss among patients with hip OA, including their **perceived remit**. As exemplified in the quotations below, some physiotherapists felt it was part of their role to address weight, but some did not, believing it was beyond their scope of practice.

"As a physio, they, they recognize that it's, that's what they expect to hear from us. Erm, so I don't think anyone's too shocked." #3185

“I feel it’s [the physiotherapists role] to give general advice about the benefits of a balanced diet and the health benefits of that. I don’t feel I should be giving patients, you know, calorie-controlled diets or any specific recipes or eating plans or anything like that.” #517

“It’s not something that I make the real focus of my treatment because I think my role is to assess whether they need manual therapy, what exercises are appropriate, give them advice on gait and things. So, I don’t see it as my priority.” #249

Other factors included levels of **confidence, knowledge and skills** in the subject of weight loss, overall level of **interest in the area**, and the perceived **receptiveness of patients**. If patients were felt to be unreceptive some physiotherapists did not broach the topic further because they did not want to negatively influence rapport.

“I think that if something’s your area of expertise, you feel confident to give advice and all the information behind the – or the research behind the information that you’re giving. Weight loss, I’d give a kind of woolly outline of information, but that’s because I’m not an expert in it. I wouldn’t say I’m very good at it. ” #535

“I’m fairly confident but again I’m aware I’m not a nutritionist and I’m not a dietician and so I feel within what’s expected of me as a physio. I would say I feel confident enough.” #517

"I don't want to be wasting my time talking about food and things. I think it's for somebody who's got an interest." #248

"I think there are a lot of patients out there that will actually say they need help with it, but there are a lot of others that, maybe, won't necessarily say they need help, but know they need help. So when you start asking about it, then they are quite forthcoming about it. And then you get, obviously get the other side of patients, that, obviously, if you start talking about it, they really don't want to engage in it, and are quite offended when you do start talking to them about it." #3244

Time or capacity also influenced the approach to weight loss. Whilst some physiotherapists cited lack of time and/or capacity as a reason for not addressing weight in great depth, one physical therapist (#636) felt she had relatively more time to be able to address weight in comparison to other health professionals. She believed it integrated well with other advice on exercise and OA that she was provided to patients as part of their care.

"I haven't got the capacity because there's this big emotional association with overeating and food and what brings it on and the, and the wider family and body image and it's a very difficult subject." #3106

"At the moment, we're lucky enough to still have an hour for most first assessments and half an hour for follow-ups, which is certainly a lot more than GPs do, and also

we can integrate it quite nicely with the exercise and link it to their condition as well, with the osteoarthritis.” #636

Discussion

This study explored how UK physiotherapists address weight and weight loss among patients with hip OA. As weight loss is a core treatment for people with OA who are overweight and obese (NICE 2014), and physiotherapists play an integral part in the management of this patient group, this is an important topic area to investigate. It can identify areas for improvement in clinical practice and future research, thus potentially optimising outcomes for patients. The mixed-methods approach adopted has provided information on broad patterns of clinical behaviour, as well as depth of understanding about what these behaviours are, and why they exist (Creswell 2003).

The survey highlighted that, in line with clinical guidelines (NICE 2014), the majority of physiotherapists (over 85%) reported that they assess and address weight loss among patients with hip OA. Interestingly, weight was infrequently assessed objectively. As weight can be systematically underestimated (Stommel and Shoenborn 2009), this may lead to missed diagnoses and treatment of patients with hip OA who are overweight or obese, a pattern also seen in general practice more widely (Ossolinski et al 2015). Weight was most commonly addressed by the

provision of advice; however some physiotherapists also referred on to other services or health care professionals, including slimming clubs (28%), dieticians (21%) and general practitioners (8%). Frequency of referral on to general practitioners for weight loss support may have been under-reported by physiotherapists within the survey, as this was not included as a closed response option within the questionnaire (see Holden et al 2018a for a copy of the questionnaire). This under-reporting is supported by the interview findings.

Interviews revealed that, on the whole, weight was perceived as a sensitive subject to address among patients with hip OA. How it was broached was variable, with physiotherapists either being blunt and direct, sensitive and diplomatic, or light-hearted. Some only raised the subject if patients themselves brought it up, which may lead to missed opportunities for weight loss support. Patients can fear negative judgements about being overweight during consultations (Malterud and Ulriksen 2011, Morden et al 2014), and feel blamed for their weight (Setchell et al 2014). Greater weight loss may be achieved when patients do not perceive judgement about their weight (Gudzune et al 2014). How to broach and approach weight loss is therefore important, and as physiotherapists may have had little previous formal education about weight management approaches (Snodgrass et al 2014), they may benefit from further training in this area, to ensure a consistent and optimal approach.

Interviews shed light on the fact that advice about weight loss commonly focused on the importance of weight loss, including its potential for symptom reduction, achieved

via altering biomechanics and reducing hip joint loading. This message is likely to be acceptable to patients, as previous qualitative research has revealed a lay perception that losing weight can benefit knee pain and reduce 'pressure' on joints (Hurley et al 2010, Morden et al 2014). Some physiotherapists also provided dietary advice on how to lose weight, ranging from provision of a leaflet to basic verbal advice. Others provided advice on the role of exercise and physical activity for weight loss. Whether this advice alone is enough to elicit behaviour change is questionable, given the known complexity of losing weight loss and then maintaining it (Morden et al 2014).

Mirroring the survey findings, within the interviews physiotherapists also reported referring patients on for additional weight loss support, including to general practitioners (for either direct weight loss advice or access to other weight loss services), practice nurses, dieticians, or slimming clubs. Although there is evidence that slimming clubs can help people to lose weight (Jebb et al 2011, Jolly et al 2011), other health care practitioners can lack confidence in addressing weight loss (Ware et al 2012), and when patients are diagnosed as being overweight or obese, weight management practices are highly variable (Henderson 2015, Ossolinski et al 2015). Referral on to other professionals who are not trained in supporting weight loss may therefore not be a clinically or cost-effective approach. As physiotherapists are already involved in managing patients with hip OA, one approach could be to train them to deliver a more active weight loss program, including both dietary aspects and behaviour change support. This may be more effective than provision of advice

alone, although this would need to be tested in a future large, high-quality randomized controlled trial.

A range of different factors influenced the approach that individual physiotherapists took to weight and weight loss among patients with hip OA. These included their confidence, knowledge and skills, available time, interest in the area, and apparent patient perceptiveness. These are similar factors to those identified when exploring extending the role of physiotherapists into other areas, including medical prescribing (Holden et al 2018b) and acupuncture for pregnancy-related low back pain (Waterfield et al 2015). Whilst some physiotherapists felt it was part of their role to deliver weight loss support, others did not, which could be a barrier to them providing anything more than basic advice on the importance of weight loss for OA. Health promotion (which includes weight management) is generally considered to be within the scope of physiotherapy practice (Allison et al 2018). Explicit guidance from professional bodies about the extent to which physiotherapists can become involved in delivering active weight loss programmes may reduce this potential barrier.

Comparison to other research

To our knowledge this is the first mixed-methods exploration of the role of physiotherapists in delivering weight loss for the management of OA. A previous qualitative study involving 13 physiotherapists in Australia found that although participants believed they had a role in addressing weight loss in the management of

knee OA, they felt inadequately equipped to integrate weight loss into their management approach (Allison et al 2018). Barriers included lack of knowledge and only surface-level competence. How to communicate with patients with knee OA about weight loss was deemed important (Allison et al 2018). Overall this supports the findings of the qualitative component of this study.

Strengths and limitations

The survey had a large sample size with a similar response rate to previous cross-sectional surveys exploring physiotherapists' practice behaviour (Bishop et al 2016, Holden et al 2008). However, physiotherapists with an interest in weight management may have been more likely to respond to the survey, so some non-response bias may exist. As the survey was administered by the professional networks on our behalf, we do not have any information about non-respondents. Therefore, exploration of possible non-response bias is not feasible. Although at the time of the survey we did not have access to a national sampling frame, in order to increase the generalisability of the survey findings, we attempted to sample a broad range of physiotherapists from across the whole of the UK. However, it is acknowledged these results may not be generalizable to all UK-based physiotherapists.

Within the survey, weight management behaviour was self-reported based on a vignette. This is a commonly used method to measure clinical behaviour relatively

quickly and in large samples (Buchbinder et al 2001, Evans et al 2010, Peabody et al 2000). However, as vignettes are 'artificial', responses may not reflect true behaviour that occurs in real clinical practice (Gliner et al 1999), and physiotherapists may have over-reported practice in line with clinical guidelines, due to social desirability bias.

Within the interview study, 73 physiotherapists were invited to participate and 21 took part. Although interviewees were purposefully sampled to include males and females working in different settings and with a range of different survey responses, those who declined to be interviewed may have had different attitudes, beliefs and experiences. This therefore reduces the transferability of findings. Only one researcher coded and analysed all interview transcripts and as such, interpretation of the data may have been shaped by her own attitudes, beliefs and perspectives.

Although emerging themes were discussed, personal biases could still be present.

Finally, data for this study were collected in 2014. We do not see any reason why the attitudes, beliefs and clinical behaviour of UK physiotherapists with regard to weight and weight loss among patients with hip OA should have altered since this time.

Therefore, we believe that the results still remain current, although without additional data collection, which is not possible, we are unable to verify this.

Conclusion

In line with clinical guidelines, UK based physiotherapists commonly assess and address weight loss among patients with hip OA, by offering advice on its

importance. However, provision of more specific guidance on how to achieve weight loss is variable. Further research is needed to explore whether physiotherapists can be trained to effectively deliver a more robust weight loss programme for patients with hip OA, thus potentially optimizing treatment outcomes.

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Tables and Figures

Table 1: Physiotherapists' Characteristics

	Total (n=1148)	Interview participants (n=21)
Women	890 (77)	12 (57)
Clinical experience, years: Median (IQR)	18 (11, 28)	15 (10, 25)
Work setting		
Exclusively in the NHS	446 (39)	9 (43)
Exclusively in non-NHS settings	405 (35)	2 (10)
Combination	292 (26)	10 (48)
Proportion of current caseload made up of primary care patients		
Less than 50%	286 (25)	1 (5)
More than 50%	828 (72)	20 (95)
Frequency treating patients >45years old with hip OA		
Infrequently (at most 1 in last 6 months)	100 (9)	0 (0)
Somewhat frequently (2-5 in last 6 months)	523 (46)	8 (38)
Frequently (at least 1 per month)	335 (29)	8 (38)
Very frequently (at least 1 per week)	183 (16)	5 (24)

Numbers represent frequencies and percentages, unless stated otherwise.

Numbers and percentages might not add to totals due to missing data.

Table 2: Interview participants' characteristics

ID number	Group	Gender	Year qualified	Work setting	Assessment of vignette patients weight	Address vignette patients weight
107	AACP	F	1989	NHS and non-NHS	N	Y
249	AACP	F	2001	NHS and non-NHS	N	Y
517	AACP	F	1997	NHS	Y	Y
535	AACP	F	missing	NHS	Y	Y
636	AACP	F	2003	NHS	Y	Y
1247	AACP	M	1990	NHS and non-NHS	N	missing
1561	AACP	F	2006	NHS and non-NHS	Y	Y
3044	MIMDTP	F	1991	NHS	Y	Y
3083	MIMDTP	M	2004	NHS	Y	Y
3088	MIMDTP	F	1984	Non-NHS	N	Y
3101	MIMDTP	M	1999	NHS	Y	Y
3106	MIMDTP	M	1989	Non-NHS	Y	Y
3185	MIMDTP	M	1981	NHS and non NHS	Y	Y
3220	MIMDTP	M	1989	NHS	Y	Y
3244	MIMDTP	F	2005	NHS	N	Y
4004	PCRN	F	2007	NHS and non-NHS	Y	Y
4031	PCRN	M	2007	NHS and non NHS	Y	Y
4037	PCRN	F	missing	NHS and non-NHS	Y	Y

4155	PCRN	M	2002	NHS and non-NHS	Y	Y
4313	PCRN	F	1980	NHS	Y	Y
4334	PCRN	M	2002	NHS and non-NHS	Y	Y

AACP: Acupuncture Association of Chartered Physiotherapists; MIMDTP: McKenzie Institute Mechanical Diagnosis and Therapy Practitioners; PCRN: musculoskeletal physical therapists working in NHS sites based within the Central England (North spoke) and North West Primary Care Research Networks.

Assessment of vignette patients weight: Y: Yes; N: No. a = Observation; b = self-report; c = measure waist/hip circumference; d = calculate body mass index.

Address vignette patients weight: Y: Yes; N: No. a = advice about weight loss; b = actively deliver a weight loss programme; c = refer to dietician; d = refer to weight loss programme; e = Refer to other service/ health professional

Figure 1: Vignette representing an overweight patient with hip OA included in the questionnaire

A 63 year-old woman was referred from her GP due to left hip pain which began insidiously 3 years ago and has steadily worsened over time. Her GP told her that she has osteoarthritis. She is anxious about the possibility of having a joint replacement, feels that her pain is going to get worse and believes there is not a lot she can do to prevent this. She has not had any previous treatment for her hip problem and her health is generally good, although she is overweight, and is on daily medication for hypertension. She is a retired receptionist, lives with her husband and babysits her 4 year-old grandson two days per week while her daughter works.

Today she rates the intensity of her hip pain as 6 out of 10. Pain is aggravated by twisting and turning, walking on uneven surfaces and putting on her socks and shoes. She is limited in her ability to perform her daily activities, and can only vacuum for around 10 minutes before she has to stop. She finds some relief from applying heat, and takes over-the-counter Paracetamol when she needs it, which is around twice per week. Her hip feels stiff first thing in the morning, which eases after approximately 20 minutes.

On examination her left leg is slightly externally rotated when standing and whilst walking. There is some wasting of her gluteal and quadriceps muscles, which are both weak. Her range of movement is limited in all directions and internal rotation and flexion are painful at end of range. No other examination findings of the hips, knees or lumbar spine are remarkable.

Figure 2: Initial version of the physiotherapist interview guide

1. Experience of symptoms and current care for older adults with hip pain:

- a. Tell me a little about your experience of hip pain amongst your older adult patients....
Probe for symptoms; effects on daily life, work, sleep, partner/family relationships, physical activities, mood etc.
- b. In your experience, what types of care have older people with hip pain typically received/experienced prior to consulting you?

2. Explanation giving:

- a. What kinds of explanations about the problem do you use with these patients?
Probe – what words do you use to explain the problem?

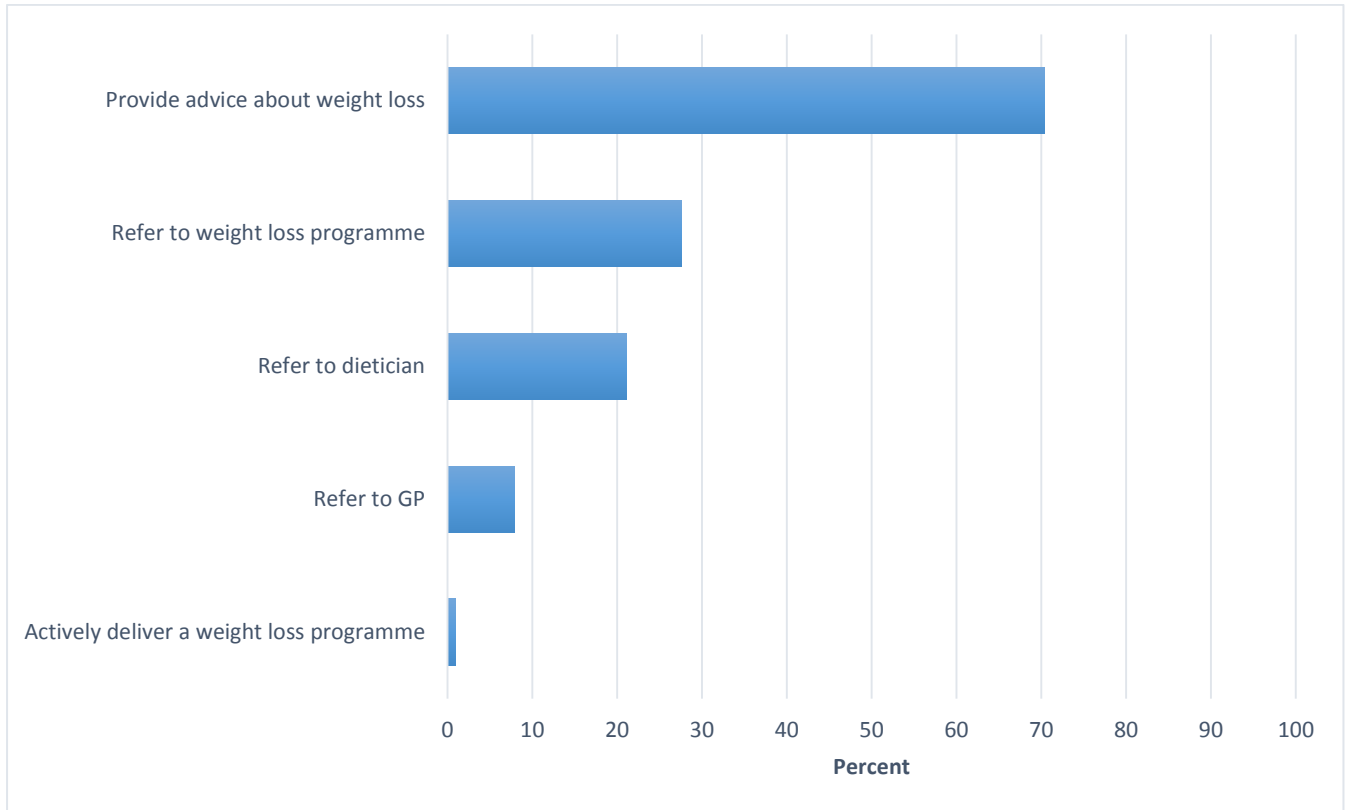
3. Treatment provision:

- a. Do you feel you can offer any help with managing symptoms?
b. What do you feel are patients' expectations about what you have to offer them and how effective treatment will be?
Probe – patient expectations about needing a total joint replacement
- c. Within the survey you said you would/would not address weight loss as part of your treatment?
WOULD: Probe for assessment techniques, how to broach the subject, types of advice given, follow-up, confidence level in weight loss support, who is best placed to deliver weight loss interventions, perceived importance of weight loss, any challenges
WOULD NOT: Can you tell me why not?
- d. Within the survey you said you would/would not address analgesic use as part of your treatment?
WOULD: Probe about how would do this, what kinds of advice they would provide, types of analgesic would discuss (e.g. prescription, over the counter, alternative), confidence level in addressing analgesic use
WOULD NOT: Can you tell me why not?
- e. Within the survey you said you would/ would not use exercise as part of your treatment? Tell me more...
WOULD: Probe about types of exercise would use, dose, advice about long term exercise prescription, adherence strategies, monitoring outcomes, use in different severities of hip problems, role in facilitating patients to increase physical activity in every day life vs providing structured exercise programs
WOULD NOT: Can you tell me why not?
- f. Within the survey you said you would/would not use manual therapy as part of your treatment?
WOULD: Probe – kinds of techniques used, any differences in techniques for different groups of patients (e.g. age, perceived severity), expected outcome of manual therapy
WOULD NOT: Can you tell me why not
- g. How confident are you in dealing with psychosocial issues in these patients (e.g. Anxiety, pain catastrophising, depression, unhelpful beliefs)
Probe - What they do to manage psychosocial issues, e.g. involvement of partners/family, how do they assess them, any particular health care providers they may refer onto?
- h. Is there any particular aspect of managing these patients you find difficult? Say more...
- i. What would be needed to help you better manage older patients with chronic hip pain?

4. Close of interview

- a. Any other final remarks/additional views.

Figure 3: Strategy used to address weight (out of the 1013 physiotherapists who reported that they would address weight)



“Refer to GP” was not included as a closed response option within the questionnaire, but frequently cited by physiotherapists in the “Other (please specify)” response option (see Holden et al 2018a for a copy of the questionnaire).