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A mixed methods exploration of physiotherapist's approaches to analgesic use among patients with hip osteoarthritis

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Abstract

Objective To explore how physiotherapists currently address analgesic use among patients with hip osteoarthritis, and their beliefs about the acceptability of prescribing for these patients.

Methods A cross-sectional questionnaire was mailed to 3126 UK-based physiotherapists. Approaches to analgesic use among patients with hip osteoarthritis were explored using a case vignette. Semi-structured telephone interviews were undertaken with 21 questionnaire responders and analysed thematically.

Setting UK.

Participants Physiotherapists who had treated a patient with hip osteoarthritis in the previous 6 months.

Results Questionnaire response: 53% ($n = 1646$). One thousand one hundred forty eight physiotherapists reported treating a patient with hip osteoarthritis in the last 6 months (applicable responses), of whom nine (1%) were non-medical prescribers. Nearly all physiotherapists (98%) reported that they would address analgesic use for the patient with hip osteoarthritis, most commonly by signposting them to their GP (83%). Fifty six percent would discuss optimal use of current medication, and 33%, would discuss use of over-the-counter medications. Interviews revealed that variations in physiotherapists' approaches to analgesic use were influenced by personal confidence, patient safety concerns, and their perceived professional remit. Whilst many recognised the benefits of analgesia prescribing for both patients and GP workload, additional responsibility for patient safety was a perceived barrier.

Conclusions How physiotherapists currently address analgesic use with patients with hip osteoarthritis is variable. Although the potential benefits of independent prescribing were recognised, not all physiotherapist want the additional responsibility. Further guidance supporting optimisation of analgesic use among patients with hip OA may help better align care with best practice guidelines and reduce GP referrals.

Keywords: Physiotherapy; Prescribing; Hip osteoarthritis; Analgesics; Mixed methods

Introduction

Hip osteoarthritis (OA) is a common clinical syndrome of joint pain associated with varying levels of functional limitation, work restriction and reduced quality of life [1–4]. It is a leading cause of global disability that has been rising in prevalence over the last three decades, and is estimated to further increase alongside rising levels of obesity and an ageing population [5].

In the absence of a cure for OA, management targets pain reduction and improving physical function [3,6]. Clinical guidelines recommend the use of core non-pharmacological treatments of education and advice, exercise and weight loss (for those who are overweight or obese),

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and other adjunctive non-pharmacological options including thermotherapy, manipulation/stretching, and Transcutaneous Electrical Nerve Stimulation (TENs) [3]. Pharmacological approaches for OA primarily involve analgesics, with paracetamol currently being recommend as a first-line option [3]. Oral NSAIDS should be considered if first line approaches are insufficient, before opiate-based analgesia [3]. These different pharmacological options have differing effect sizes for pain relief and unique side-effect safety profiles and contraindications [7–11]. Combining both pharmacological and non-pharmacological treatments may offer synergistic benefits for individuals with OA, although currently most OA trial evidence only evaluates single treatments [12], and is predominantly for knee OA [3]. Exploring the effectiveness of combined treatments, and expanding the evidence base in hip OA specifically, are highlighted as priority areas for future research [3,12].

Physiotherapists play an important role in the management of individuals with hip OA [13], with UK physiotherapists commonly providing education, exercise and additional non-pharmacological treatment adjuncts for this patient group [14]. It is also within the scope of UK physiotherapy practice to give medicines advice. The Chartered Society of Physiotherapy (CSP) recommend that physiotherapists with appropriate knowledge and competence may: give patients general advice on the effects of medicines (e.g. general side-effects of NSAIDS); recommend simple analgesia for musculoskeletal pain (e.g. paracetamol); remind patients to take a medicine as directed on the packet/prescription; and recommend that patients discuss and seek a prescription for a named 'Prescription Only Medicine' (POM). However, they should advise patients to seek advice from an independent prescriber or pharmacist before taking, changing or stopping any POM, or if they have any specific medication concerns [15]. Since 2005, UK physiotherapists have been able to upskill to prescribe (initially with medication supplementary provider rights, and since 2012, with independent prescriber rights) [16]. Appropriately trained physiotherapists therefore have the potential to deliver both non-pharmacological and pharmacological (analgesic) treatment for individuals with hip OA, which may optimise treatment outcomes, streamline care pathways for individuals, and in addition, reduce care burden for General Practitioners (GPs) [17,18]. This is particularly important currently, given the critical need to expand the primary care skill-mix and workforce capacity [19]. It is currently unknown how physiotherapists address analgesic use with individuals with hip OA, or what their attitudes and beliefs are about independently prescribing analgesia for this patient group. These evidence gaps need to be addressed to understand how new models of care may be provided and the support required for physiotherapists to deliver them. Therefore, the aim of this study was to explore how UK physiotherapists currently address analgesic use among patients with hip OA, and to explore their beliefs about the acceptability of prescribing for these individuals.

Methods

A mixed methods study involving a self-completion postal survey and semi-structured telephone interviews was undertaken with UK-based chartered physiotherapists between January and September 2014. The qualitative methods were centred in an interpretive paradigm, with a focus on understanding the individual's particular perceptions and subjective experiences [20]. Ethical approval to complete the study was granted by Keele University. Data were gathered sequentially: 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 but discussed together, to facilitate a comprehensive exploration of the findings [21].

The survey

A cross-sectional questionnaire (described in detail elsewhere [14]), was mailed to a sample of 3126 UK-based physiotherapists with a musculoskeletal interest, identified from three sources: a) a simple random sample of members of the Acupuncture Association of Chartered Physiotherapists (AACP) (which has approximately 6500 members) ($n = 2485$); b) all members of the McKenzie Institute of Mechanical Diagnosis and Therapy Practitioners (MIMDTP) ($n = 263$); and c) all musculoskeletal physiotherapists working in NHS sites based within the Central England (North spoke) and North West Primary Care Research Networks (PCRN) ($n = 378$). To optimise response, a reminder postcard and reminder questionnaire were sent to all non-responders at two and four weeks, respectively.

Survey instrument

A filter question at the beginning of the questionnaire screened for eligible physiotherapists, i.e. those who reported treating at least one patient with hip OA in the past six months. Their self-reported approach to analgesic use was explored using a case vignette representing a patient with hip OA, and associated clinical management questions. The survey also captured demographic and practice data [14].

Survey data analysis

Data analyses were carried out using Stata version 14.1 (Stata Corporation, TX, USA). Descriptive statistics were used to summarise physiotherapists' characteristics and their clinical management responses. Missing data were excluded from analyses.

The interview study

Physiotherapists who returned the questionnaire and provided consent for further contact were invited to participate in a semi-structured telephone interview. Based on the sur-

Table 1
Physical therapists' characteristics.

	Total ($n = 1148$)	Interview participants ($n = 21$)
Men	258 (23)	9 (43)
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		
None	97 (9)	0 (0)
Less than 50%	189 (17)	1 (5)
50% or more	496 (45)	11 (52)
All	332 (30)	9 (43)
Frequency treating patients >45 years old with hip OA		
Infrequently (at most one in last 6 months)	100 (9)	0 (0)
Somewhat frequently (two to five in last 6 months)	523 (46)	8 (38)
Frequently (at least one per month)	335 (29)	8 (38)
Very frequently (at least one per week)	183 (16)	5 (24)
Postgraduate training		
Hip OA	462 (41)	11 (52)
Exercise therapy	777 (69)	16 (76)
Prescribing		
Currently practice as a prescriber	9 (1)	1 (5)
Interested in becoming a prescriber	505 (48)	10 (50)

Numbers represent frequencies and percentages, unless stated otherwise.

vey responses, purposeful sampling [22] was undertaken to include both male and females, with differing levels of clinical experience, working in different settings, and with differing self-reported approaches to analgesic use for the vignette patient. To reach data saturation, the authors aimed to conduct between 20 and 30 interviews in total. Each interview lasted for up to one hour and were completed by two experienced qualitative researchers (MAH, JW), with a clinical background in physiotherapy.

The interview guide

Participants were probed in more depth about their approach to analgesic use in patients with hip OA, and about the potential role of independent prescribing for this patient group. Data collection and analyses occurred concurrently, allowing the interview guide to be modified with ongoing analysis, and to facilitate a thorough exploration of emerging themes. Interviews were audio taped, transcribed verbatim and anonymised. Data collection ceased when no new themes were emerging, i.e. thematic saturation was achieved [23].

Interview data analysis

Data were analysed inductively. Utilising the constant comparative method [24], one researcher (MAH) reviewed all interview transcripts. Data representing the same concept were grouped into themes, which were then clustered into categories that shared meanings. Categories were constantly reappraised and revised and links between categories were explored [24]. In order to confirm emerging themes and categories, ideas were discussed and checked for credibility with two additional study team members (JW, LC) on an ongoing basis, and JW independently coded three interview transcripts over the analysis period. Within the manuscript, categories are shown in bold, themes are italicised, and in Table 2, verbatim anonymised quotations are used to exemplify each theme.

Results

Survey findings

Response

The questionnaire response was 53% ($n = 1646$), including 1148 eligible physiotherapists (who had treated a patient with hip OA in the last six months) whose results were analysed. Missing data levels throughout the questionnaire were low, typically being 3% or less for any one question. The majority of physiotherapists were female (77%), highly experienced (median clinical experience: 18 years, interquartile range 11, 28), and worked in the UK National Health Service (NHS) either exclusively (39%) or in combination with other non-NHS settings (26%). Only nine physiotherapists currently practised as a non-medical prescriber (1%), with 45% expressing an interest in becoming an independent prescriber (Table 1).

Approach to analgesic use

Nearly all physiotherapists (98%) reported that they would address analgesic use for the vignette patient with hip OA, most commonly by advising the patient to discuss this with their GP (83%) or a pharmacist (48%). In total, 56% would

Table 2
Characteristics of physiotherapists participating in the interview study.

ID number	Sampling group	Gender	Year qualified	Work setting	Already prescriber/interested in prescribing	Address analgesic use
107	AACP	F	1989	NHS and non-NHS	n/n	Y:1,2,3
249	AACP	F	2001	NHS and non-NHS	n/n	Y: 1, 2
517	AACP	F	1997	NHS	n/y	Y: 1,2,3
535	AACP	F	Missing	NHS	n/n	Y: 1,2
636	AACP	F	2003	NHS	n/n	Y:1,3
1247	AACP	M	1990	NHS and non-NHS	n/n	Y:1,2,4
1561	AACP	F	2006	NHs and non-NHS	n/n	Y: 1
3044	MIMDTP	F	1991	NHS	n/y	Y:1,3,4
3083	MIMDTP	M	2004	NHS	n/y	Y: 1, 3
3088	MIMDTP	F	1984	Non-NHS	n/n	Y:1,3,4
3101	MIMDTP	M	1999	NHS	n/y	Y:1,2,3
3106	MIMDTP	M	1989	Non-NHS	y/NA	Y: 1,2,3,4,5
3185	MIMDTP	M	1981	NHS and non NHS	n/n	N
3220	MIMDTP	M	1989	NHS	n/n	Y:1,2
3244	MIMDTP	F	2005	NHS	n/y	Y:1,2
4004	PCRN	F	2007	NHS and non-NHS	n/y	Y:1,2,3,4
4031	PCRN	M	2007	NHS and non NHS	n/y	Y:1,2
4037	PCRN	F	Missing	NHS and non-NHS	n/y	Y:3
4155	PCRN	M	2002	NHS and non-NHS	n/y	Y:1,4
4313	PCRN	F	1980	NHS	n/y	Y:3,4
4334	PCRN	M	2002	NHS and non-NHS	n/n	Y:1

Would you address analgesic use y/n and IF YES: how would you address analgesic use: advise to discuss with GP = 1; advise to discuss with pharmacist = 2; discuss optimal usage of current medication = 3; discuss use of other over the counter medications = 4; prescribe additional medication = 5. AACP: Acupuncture Association of Chartered Physiotherapists MIMDTP: McKenzie Institute of Mechanical Diagnosis and Therapy Practitioners PCRN: Central England (North spoke) and North West Primary Care Research Networks.

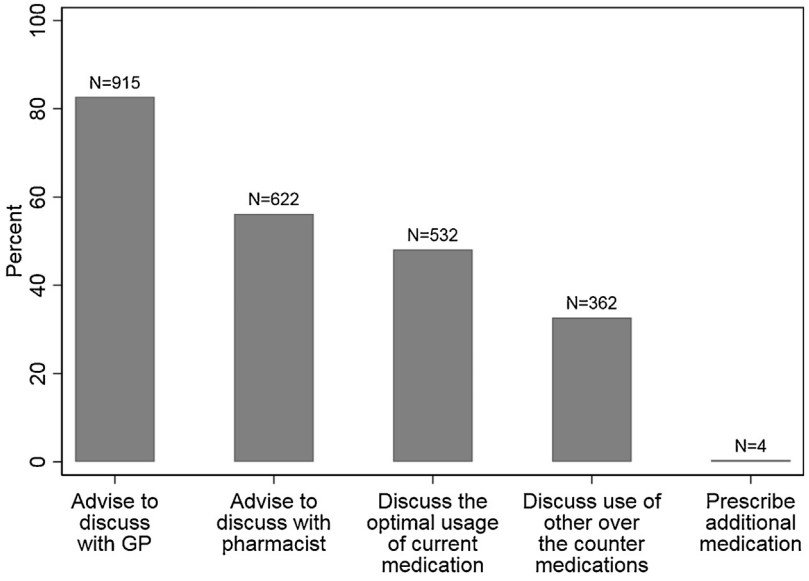

Fig. 1. Approach to analgesic use for the vignette patient with hip OA. N represents the number of physiotherapists who reported this clinical behaviour.

discuss optimal use of the patient's current analgesic medication and 33% would discuss use of over the counter medications (Fig. 1).

Interview findings

Response

Seventy-three physiotherapists were invited in three separate batches to participate in an interview and 21 agreed to take part. Sampling stopped when saturation within data analysis had been achieved. The purposeful sampling strategy achieved variation in physiotherapist interview participants (see Tables 1 and 2).

Addressing analgesic use for patients with OA

Within the interviews, physiotherapists commonly reported that they would address analgesic use with patients

Table 3
Specific approach to analgesic use.

Category	Theme	Verbatim example
Approach to analgesic use	Multi-modal approach	"Well, I'd always discuss pain medication with them, if they're taking anything, and I come across an awful lot of people that don't want to take painkillers, don't like to take any painkillers. And if they have really strong opinions on that then fine, but if they're really ill and struggling with their pain then I may suggest they visit the GP just to discuss a bit more about painkillers. We'd discuss positioning techniques, sleeping positions, that sort of thing, to help relieve pain, hot and cold, all stuff they can do at home. Maybe manual therapy, depending on the presentation." #4004
	General advice about analgesia	"Well, I'm not really meant to say too much about medication, so I might say that, you know, it's been found that ibuprofen might be useful or paracetamol, but I would recommend that somebody, you know, have they tried those types of medications, and then I would say, 'Oh, you know, you would need to just clarify that with the pharmacist or the GP." #535
	Optimising current analgesia	"We know what the advised dose has been by the GP, so we can you know, discuss with them, the maximum dose that the GP suggested they take and whether you know, discuss with them about how their pain levels vary during the course of the day and how effective the medication is being." #3044
	Advise on over the counter medication	"If they had their prescription and, you know, they weren't taking up to eight a day of paracetamol, for example, I'd feel confident enough to, to suggest that, and maybe that they could take some anti-inflammatories in addition to that as well." #636 "If they're not taking anything, I would, ask them well why, and might say well, why don't you try a simple over the counter medication and obviously just explore whether there's any reason, any previous history reason why they shouldn't take it." #3185 "I would never tell them to go and buy some ibuprofen and try that for two weeks because I feel it's beyond my scope of practice. Sometimes, if they say, 'Well, I've taken – the doctor has prescribed me ibuprofen for something else, you know, before', then I'll say, 'Well, you'll probably be, you know, okay to take it, but I would probably still check with the pharmacist.' #249
	Signpost to GP or pharmacist	"I give some rough ideas of what should help their pain, but not being an expert on what medications mix with what and all that sort of thing, I'd rather them check out with the pharmacist before they buy anything." #4004 "I look at what they've been prescribed and how they're taking that, if I feel that they're not coping with whatever they've been prescribed I would normally ask them to talk to their GP about seeing if there was an alternative." #106
	Request specific prescription medication from prescriber	". . .there was definitely, you know, a pain issue, and they [the patient] weren't sleeping properly and it never went to 0 [pain scale], so I spoke to the GP and said, "Could you prescribe some amitriptyline for them?" #3185
	Supplementary prescriber (×1)	"With a PSD support for a patient and agreed with, the GP, then we can draw up a series of drugs and doses of which I can prescribe for that patient, and prescribe and, their agreement with their, signed off with their pharmacy that I send my prescription to them for, for the patient's drugs. You know, and, and that be dispensed to the patient". #3106 "It's just longer through the NHS because I have to write, send it to the GP, it has to land on the GP's desk, then the patient has gotta make an appointment to see that GP, then the prescription comes from the GP, and then they go and fulfil that prescription, and then make an appointment to come back and see me. Whereas with the ones who've got PSD, I write prescription here, fax it to the pharmacy, and they, well, they've got two options, so they can either go and pick it up from the pharmacy or actually, the pharmacy will deliver it, the prescription to their house. We can do that in 24 hours, we can turn that around. #3106"

with hip OA, as a ***multi-modal approach*** to pain relief that also included education and other non-pharmacological options (including exercise, acupuncture, TENS, short wave diathermy, and manual therapy). However, the specific approach to analgesic advice varied. Some physiotherapists would provide ***general advice about analgesics***, for example, the types of analgesics that may benefit them and the general side effects of such medications. Others would provide more specific advice on how to ***optimise current analgesia***, including aspects such as frequency, dose, duration and pattern of administration, and whether other analgesics were being taken concurrently. Some physiotherapists also provided advice on ***over-the-counter medications***, for example paracetamol and ibuprofen, whereas others would not. Physiotherapists often described ***signposting patients to the GP or pharmacist*** for a range of reasons relating to analgesic use, including for general advice, first-line analgesia prescription, or further review if simple analgesia appeared ineffective. Some physiotherapists also requested GP's to ***consider a specific 'Prescription Only Medicine***', if they believed it would

Table 4
Factors influencing analgesic behaviour.

Category	Theme	Verbatim example
	Confidence, knowledge, skills	"I'm not very good with medication as such, I leave that to the GP, I'm definitely not a physiotherapist who wants to use steroids, injections or wants to prescribe either, so I try to stick with what I'm good at, acupuncture, it has no side effects." #1561
		Yeah, I'm reasonably comfortable. Yeah, I feel fairly confident. I sort of haven't done any prescribing courses, but I'm not sure that would change my management that much on the musculoskeletal side of things. Yeah, I'm reasonably confident regarding medication, side-effects, dosages etc." #4155
	Concern over patient safety	"I am a little bit cautious about saying they should definitely be taking a particular medication, for fear, say, that sometimes they've been told they shouldn't be taking that medication for another health condition which perhaps I've not fully acknowledged." #3220
		"I think because of other comorbidities and maybe perhaps other underlying health problems that I'm not aware of. I wouldn't want them taking too many anti-inflammatories if they've had a history of ulcers that I wasn't aware of and that type of thing." #636
		"I'm quite conscious of the fact that I'm not a prescriber, so I think you have to work within quite careful guidelines and you don't encourage over-medicating of anything." #517
	Potential legal ramifications	"I think there's, there's always a slight, medico legal side there, isn't there, that concern from a physiotherapist, once we start telling people about medication. It's like the scenario when you say to somebody well, take a bit of ibuprofen and then they say well, well the doctor told me I shouldn't even take ibuprofen because I've got asthma. So you're al, you're always a little bit wary of giving advice about direct medication." #3220
	The role of a physiotherapist	"Well, I'm not really meant to say too much about medication." #535
		"I just feel that I don't want to overstep my role, I would rather defer it either back to the GP or the pharmacist or even the pain clinic." #517
		"I tend to do it more on my own professional development. It's not my sort of scope of practice really, hence I don't give the advice 'cos I don't have the knowledge. You know, I would refer on to the general practitioner. I don't know whether we have any protocols as such, I'm gonna be honest." #4037
	OA guidelines	"We're not pharmaceutically trained. We can't give specific advice regarding analgesia, but we just know, obviously, from NICE guidelines, that that is a part, and an element of managing their osteoarthritis." #3244
	Patient attitudes towards analgesics	"Some patients are reluctant to take any medication and some patients are reluctant to take the maximum dose, so it all depends on how effective their pain management is for the dosage they're taking as to what I suggest they do." #3044

be of benefit for the patient with hip OA. One interviewee was a supplementary prescriber (#3106) who was able to prescribe an agreed series of analgesics at different doses. He viewed the main benefits of this expertise to be more timely provision of prescriptions, and greater patient convenience (Table 3).

Factors influencing analgesic behaviour

Physiotherapists' reported approaches to analgesia appeared to be influenced by a number of different factors, which commonly included their perceived ***confidence, knowledge, and skills*** around analgesia use for hip OA. ***Concern over patient safety*** was also important. Potential side effects from analgesia (for example, if a patient had not fully disclosed a co-morbidity), potential drug interactions from poly-pharmacy (and lack of knowledge about these interactions), but also ***potential legal ramifications*** if the patient experienced harm, made some physiotherapists reluctant to go beyond giving general analgesic advice.

Some respondents felt it was beyond ***the role of a physiotherapist*** to address analgesic use. Their perceived role was often driven by their own experience, rather than local or national policy, although a few physiotherapists specifically mentioned that their behaviour was guided by clinical ***OA guidelines*** (specifically the NICE OA guidelines [3]). ***Patient attitudes towards analgesics***, commonly a perceived reluctance to take medication, also influenced the extent that some physiotherapists would address analgesia (Table 4).

Physiotherapists as independent prescribers: benefits and barriers

The two most common benefits of independent prescribing recognised by physiotherapists were ***patient convenience***, reducing the need for multiple appointments with different health care providers, and reduced ***burden for General Practitioners*** arising from less signposting for analgesic prescription or reviews. However, physiotherapists also identified multiple barriers to their becoming independent prescribers, which mainly centred around the ***additional responsibility*** of maintaining patient safety, and ***potential legal consequences*** in case of harm. ***Lack of extra pay*** despite this extra responsibility, the ***burden of extensive training*** required to become an independent prescriber, ***no need to change*** (due to a belief that the current model of care is working well) and ***lack of employee support*** were also cited

Table 5
Benefits of, and barriers to independent prescribing for patients with hip OA.

Benefits of independent prescribing	Patient convenience	"I think it is something that's necessary. I do sometimes feel at that point when we're saying to go back to their pharmacist. . .. I think because we work in a community hospital, for them to go to the pharmacist or to go to their GP you're aware it's another trip out for them rather than it being a one-stop clinic that they're attending." #517
	Reduced GP burden	"I do think it would be useful, mostly in terms of making it efficient for the patient to get something dealt with there and then and not having to wait to see the GP, but then also reducing the load on the GP's." #3044
Barriers to independent prescribing	Additional responsibility	"I definitely think that there are at times when it would be useful, but obviously with that comes a lot of responsibility and whether I would want to take that on rather than just refer them back to their GP I don't know, I'm in two minds about that really. I mean I certainly think it would be very useful and it would be a real time saver for the patients to having to, and for the GP but, whether I'd like to take that on completely I don't know. Obviously it would require training and I'm not adverse to that at all, I think it's just that responsibility of being sure that whatever you've said, whatever you've prescribed is safe for them as an individual." #106
	Potential legal consequences	"I think physios should stick to what the name is within, which is physical therapy. We are not medical therapists. I know our remit covers physical and mental, emotional psychosocial factors. But, in terms of medicine management and, you know, there's, there's a whole list of BNF risk factors and contraindications for one medication linked with another, and, I wasn't trained in that, and I'm not paid enough to get sued, should anything go wrong". #4334
	Lack of extra pay	"I don't think we get paid enough to make those decisions. For me prescribing right does carry a lot of accountability and responsibility and I'm not entirely sure you know, it depends on what level you're doing that at doesn't it, but at my level I'm not sure that's something I'd want to take on board." #106
	Burden of extensive training	"I'm aware to become an independent prescriber is actually quite a lot work; it's not, not, you know, not just a, sort of a, couple of hours on a course; there's a lot of work to go into that, so I'm thinking is it worth investing the amount of time, how much then, having gone through that independent prescribing course, how much more is that going to improve my practice, the amount of hours I've invested to become that independent prescriber." #3220
	No need to change	"I feel reasonably comfortable that we can manage them as they're described by directing them to the pharmacist or the GP. I don't feel that it's particularly hampering my treatment of those patients. I think that system works reasonably well at the minute." #3220
	Lack of employee support	"I know I wouldn't get the support from work for their funding from it, because I don't have enough use of it at, within my caseload. So I think it comes down to that, if I'm gonna be honest. Personally yes, I would do it, but it's funding and using it within my, you know, treatment management, really." #4037

barriers by some physiotherapists. Physiotherapists appeared to be making active choices about whether to become an independent prescriber or not, by weighing up the benefits against the perceived barriers (Table 5).

Discussion

To our knowledge this is the first study to explore how physiotherapists currently address analgesic use among patients with hip OA, and the acceptability of prescribing for these individuals. This is important, as it enhances the evidence base around combined treatments [3,12], specifically among individuals with hip OA [3], and in identifying practice-guideline gaps, informs how to support physiotherapists to deliver high quality non-pharmacological and pharmacological care for patients with hip OA. This could optimise outcomes for patients, streamline patient pathways, and of particular importance currently, could increase the primary care skill-mix and workforce capacity [19] which represents a key priority area in UK health policy.

Within the survey, nearly all physiotherapists reported that they would address analgesic use for the vignette patient with hip OA, most commonly by advising the patient to discuss this with their GP. Only 56% reported that they would discuss optimal use of current medication, and 33% would recommend use of over-the-counter medications, respectively, despite paracetamol being recommended as the first line analgesic option within current NICE OA guidance [3]. Referral on for advice about analgesics that is deemed within the scope of non-prescribing physiotherapy practice is inconvenient for patients, un-necessarily increases GP burden, and if the patient does not follow this advice, may reduce the potential effectiveness of physiotherapy treatment. Interviews revealed that how physiotherapists addressed analgesic use was influenced by numerous factors, including concern

over patient safety and an overall apparent uncertainty about the scope of practice for non-prescribing physiotherapists. Recent controversy regarding the safety of paracetamol (with questions raised about its degree of toxicity, particularly at the upper end of standard analgesic doses) [25], may further increase reluctance among physiotherapists to offer advice on over-the-counter analgesia. Promoting the current Chartered Society of Physiotherapy guidance on physiotherapy practice and medicines [15], and offering further training in line with current NICE OA guidance [3] may help address the identified barriers and bridge the gap between current clinical practice and guideline recommendations, thus reducing onward GP referrals.

Nearly half (45%) of physiotherapists reported that they were interested in becoming an independent prescriber, highlighting the potential for willingness of physiotherapists to play a broader role in the management of patients with hip OA. However, the interviews revealed that although potential benefits of independent prescribing were recognised, these were weighed against potential barriers, which commonly focused on extra responsibility regarding patient safety. To date, it currently remains unknown whether physiotherapist-delivered combined non-pharmacological and pharmacological (analgesic) treatment for patients with hip OA is safe, and whether it is more effective than single treatment. Although pharmacist prescribing has demonstrated clinical effectiveness for the management of chronic pain in primary care [26], and reduced prescribing errors compared to traditional practices [26–28], this cannot be generalised to the physiotherapy profession, and the quality of existing research is low [29]. New research specifically testing the effectiveness and safety of physiotherapy prescribing for patients with hip OA, to more directly support current evidence based guidelines, is therefore warranted.

Comparison to other research

Previous studies investigating the extended role of physiotherapists have had limited focus on prescribing, likely due to independent prescribing rights being only recently being legislated for physiotherapists [30–33]. However, perceived barriers to physiotherapists working in other extended roles, including the use of injection therapy and acupuncture for pregnancy-related low back pain, have been identified as concerns over litigation, lack of confidence and fear of adverse reactions [34,35], mirroring the findings of this study. Also supporting our findings, similar barriers (professional factors, training, and system factors (e.g. support to upskill) [29,36]) and perceived benefits (higher quality care, and more choice and convenience for patients [17]) of non-medic independent prescribing have been found among nurses and pharmacists.

Clinical and research implications

Although physiotherapists address analgesia needs with patients with hip OA, this is predominantly *via* signposting to the GP. Additional advice could be provided by the majority, for example by discussing optimisation of current analgesic use, and use of over-the-counter medications. Further training on the role of analgesics for hip OA, and highlighting the potential scope of practice for non-prescribing physiotherapists may help bridge the gap between current clinical practice and guideline recommendations and reduce onward GP referral. Despite concerns about additional responsibility, many physiotherapists are interested in becoming independent prescribers, highlighting the enhanced role that physiotherapists could play in delivering combined pharmacological and non-pharmacological treatments for patients with hip OA. This has the potential to optimise outcomes for patients, and increase the primary care skill-mix and workforce capacity so urgently required. A high quality trial testing the effectiveness and safety of physiotherapist delivered combined non-pharmacological and pharmacological treatments for patients with hip OA would determine its true potential, and add to the limited evidence base for non-medic prescribing more generally [18].

Strengths and limitations

The mixed methods approach adopted has allowed a more thorough exploration and deeper understanding than the survey results would have provided alone [21]. The survey had a large sample size with a response rate that was expected within our initial sample size calculation, sufficient to meet the aims of the survey, and in keeping with other similar surveys [37]. However, it is possible that physiotherapists with an interest in prescribing may have self-selected to respond to this survey, so it is likely that some non-response bias may exist within the survey estimates. As the questionnaire was administered by the professional networks on our behalf, the authors do not have any information about non-respondents, so exploration of non-response bias is not possible. At the time of conducting this survey it was not possible to access a national sampling frame, the method of choice to generate a survey sample [37]. In sampling physiotherapists from two UK wide professional networks, and different regions within the NHS, a broad range of physiotherapists were targeted, thus increasing likely generalisability of findings. However, it is acknowledged these results may not be generalisable among physiotherapists who are not members of professional networks, and working in other geographical areas in the UK.

Within the survey, clinical practice was self-reported based on a vignette, a method commonly used to capture information on clinical behaviour relatively quickly and in large samples [38–41]. However, as vignettes invoke an essentially ‘artificial’ situation, responses may not reflect the actual behaviour that would occur in real practice [42].

Within the interview study, 73 physiotherapists were invited to participate and 21 took part. Although interviewees were purposefully selected to include individuals with a range of personal characteristics and survey responses, they may have different attitudes, beliefs and behaviours to those

that declined to be interviewed, thus reducing the transferability of findings. Of particular note, interviewees had at least 7 years of clinical experience, therefore findings may not be transferable to physiotherapists with less clinical experience. Only one researcher coded and analysed all interview transcripts and as such, interpretation of the data may have been shaped by their own attitudes, beliefs and perspectives. Although emerging themes were discussed, and an additional researcher analysed a number of transcripts, which may have mitigated this to some degree, personal biases could still be present.

Finally, this study was completed in 2014. Since then although more physiotherapists have qualified as independent prescribers (n = approx. 500) [43], this still represents a minority of the profession (current CSP membership = 56,000) [43]. Therefore, the authors believe that the results still remain current, although the authors are unable to verify this.

Conclusion

How physiotherapists currently address analgesic use with patients with hip OA is variable, but commonly involves signposting to the GP. Further guidance for physiotherapists to support optimisation of analgesic use among patients with hip OA may help better align care with best practice guidelines and reduce GP referrals. Addressing common barriers to physiotherapists becoming independent prescribers may encourage even more of the profession to upskill in this area. This has the potential to optimise outcomes for patients, and expand the current skill mix and workforce capacity within primary care, which is currently so urgently required.

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Key messages

- This is the first study to explore how physiotherapists currently address analgesic use among patients with hip osteoarthritis, and the acceptability of physiotherapist-led prescribing for these individuals. The mixed methods approach facilitated a more comprehensive understanding than a survey alone.
- Guideline-practice gaps currently exist in how physiotherapists address analgesic use with patients with hip osteoarthritis. Variations in how physiotherapists addressed analgesic use were influenced by personal confidence, patient safety concerns, and their perceived professional remit.
- Although many physiotherapists recognised the benefits of independent prescribing for patients with hip osteoarthritis (for both patients and GP workload), the additional responsibility centring on patient safety was a key barrier.
- Further guidance supporting optimisation of analgesic use among patients with hip osteoarthritis may help to align care with best practice and reduce onward GP referral.

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