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Research

Physiotherapists may improve management of knee osteoarthritis through greater psychosocial focus, being proactive with advice, and offering longer-term reviews: a qualitative study

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KEY WORDS

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ABSTRACT

Questions: What are the experiences of physiotherapists delivering care for people with knee osteoarthritis? How do these experiences align with the national Clinical Care Standard? **Design**: A qualitative study using individual interviews. **Participants**: Twenty-two Australian physiotherapists (mean age 34 years, 50% female) with experience in providing care for people with knee osteoarthritis. **Methods**: Physiotherapists participated in semi-structured individual telephone interviews. Questions were informed by seven quality statements from the national Knee Osteoarthritis Clinical Care Standard. Thematic analysis was undertaken, with themes/subthemes inductively derived. Interview data were also deductively analysed according to the Clinical Care Standard. **Results**: Five themes emerged. First, physiotherapists focused on biomedical assessment with little psychosocial consideration. They managed 'mechanical' aspects of knee osteoarthritis, aiming to restore functional ability. Second, physiotherapists' perceived their role as primarily providing goal-orientated personalised exercise via short-term episodic care. Knee surgery was considered a last option, but physiotherapists 'prepped' patients who decided on surgery. Third, clinical challenges included patient comorbidity, unsatisfactory patient adherence and a patient's desire for a 'quick fix'. The other two themes were: physiotherapists described a mismatch between what they know and what they do regarding imaging, weight management and manual therapy; and physiotherapists viewed weight loss, medication and surgical advice as outside of their professional role. **Conclusion**: Physiotherapists' reported experiences of delivering care for people with knee osteoarthritis were mostly consistent with the quality care standard. Care may be improved by increasing the focus on psychosocial aspects of care, offering longer-term reviews, and being more proactive with advice and/or referral regarding weight loss, pain medications and knee surgery. By describing the potential benefits and harms of common osteoarthritis medications and surgical interventions, physiotherapists will ensure that their patients are fully informed about all their treatment options. **[Teo PL, Bennell KL, Lawford BJ, Egerton T, Dziedzic KS, Hinman RS (2020) Physiotherapists may improve management of knee osteoarthritis through greater psychosocial focus, being proactive with advice, and offering longer-term reviews: a qualitative study. *Journal of Physiotherapy* 66:256–265]**

Introduction

Knee osteoarthritis (OA) is a major cause of joint pain and disability worldwide.[1] It is a major contributor to the OA burden and a common reason for knee replacement surgery.[2] Given that OA has no cure, and self-management with exercise and physical activity is a core recommended management strategy,[1,3,4] physiotherapists are important providers of care. As with all healthcare professionals, physiotherapists are responsible for ensuring that the OA care they provide is safe and aligns with best practice.[5]

To support delivery of high-quality evidence-based care to people with knee OA, and to minimise unhelpful variation, the Australian Commission on Safety and Quality in Heath Care developed an OA of the Knee Clinical Care Standard.[6] A Clinical Care Standard is a set of nationally agreed quality statements that describe key aspects of care that patients should be offered by health professionals and health services for a particular condition, according to current best evidence. The Clinical Care Standard for knee OA defines seven domains of care that people with knee OA should expect to receive, regardless of where they are treated in Australia. Under the expected quality care standard, a comprehensive assessment should include subjective and physical examination, along with an evaluation of psychosocial factors that may impact quality of life and participation in usual activities. Knee OA diagnosis should usually be based on clinical assessment alone, with imaging indicated only if an alternative

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diagnosis is suspected. Patients should be informed about OA and possible treatments, and provided with a personalised self-management plan. Patients who are overweight or obese should be supported to lose weight and encouraged to set weight and exercise goals. Patients with knee OA should be offered medication advice to help manage their symptoms and regular clinical reviews at agreed intervals. For patients with worsening knee OA symptoms, severe functional impairments and not responding to conservative management, they should be referred for specialist assessment and provided with appropriate information to inform their decision. If surgery is indicated and chosen, patients should be offered timely joint-preserving or replacement surgery. Finally, arthroscopic surgery should only be offered if patients have true mechanical knee locking.[6]

A recent systematic review investigating treatments provided by international physiotherapists for a range of musculoskeletal conditions found that only 65% provided evidence-based treatments to people with knee OA.[7] However, none of the studies in the review appraising care delivery for knee OA were conducted in Australia. A survey conducted in both Australia and New Zealand investigating the use of exercise adherence strategies amongst physiotherapists revealed that a third did not always prescribe exercises for people with knee OA.[8] It is believed that no qualitative studies have been conducted to explore Australian physiotherapists' experiences with delivering care to people with knee OA. Such information is important for identifying and understanding gaps in clinical practice and may help inform strategies to support practice improvement.

Therefore, the research questions for this qualitative study were:

1. What are the experiences of physiotherapists delivering care for people with knee osteoarthritis?
2. How do these experiences align with the national Clinical Care Standard?

Method

Design

A qualitative approach was employed, drawing from a constructivist paradigm. According to this paradigm, understanding and knowledge are built through active experience and interpretation, rather than objective measures.[9] The Consolidated Criteria for Reporting Qualitative Research checklist was used to ensure explicit and comprehensive reporting of this study.[10]

Participants

Physiotherapists with experience providing care for people with knee OA were recruited from around Australia via Facebook advertisements. Purposive sampling was used to select from within the volunteers to achieve a sample spanning geographical locations, work situations, ages and genders.[11] Participants were required to be currently registered to practise in Australia and to have managed five or more people with knee OA via individual consultations over the prior 6 months. The final sample size was determined by the principle of data saturation.[11]

Interviews

Semi-structured interviews were based on the OA of the Knee Clinical Care Standard (Table 1).[6] To minimise response bias, physiotherapists were not informed that a purpose of the study was to explore how their experiences delivering care aligned with the Care Standard. Instead, we conveyed our intention to explore their experiences in assessing, diagnosing and providing treatment options and follow-up appointments to patients with knee OA, along with the barriers they typically encountered in providing the care they

Table 1
Semi-structured interview guide.

Topic	Question
Introduction	1) Can you tell me about your experiences treating patients with knee osteoarthritis? What are the main things that spring to mind? • *What prompts people with knee osteoarthritis to seek care from you?*
Comprehensive assessment	2) Could you talk through the assessment processes you typically go through with a patient who has knee osteoarthritis, when you first see them? • *What sort of questions do you normally ask in the assessment?* • *What sort of physical assessment do you normally do?* • *What do you think are the most important elements of your assessment of a patient with knee osteoarthritis?*
Diagnosis	3) How do you normally diagnose knee osteoarthritis? • *Are there any specific tests you use?* • *When/why would you refer a patient for imaging to assist in diagnosis?*
Education and self-management	4) Can you tell me about any information and advice you would typically give to a patient with knee osteoarthritis? • *What plan/strategies do you advise the patient regarding self-management?* • *How do you identify the best self-management plan for your patient?* • *How do you like to explain a diagnosis of osteoarthritis to the patient?*
Weight loss and exercise	5) Can you tell me about your approach to exercise management for your patients with knee osteoarthritis? • *How do you decide on which exercise program to advise for your patient?* • *How do you help them/support them to adhere to their exercise program?* 6) Can you tell me about your approach to weight loss management for your patients with knee osteoarthritis? • *Which patients do you talk about weight loss management with?* • *How do you support those who are overweight to lose weight?*
Medications	7) Can you tell me about your approach to medicines/drugs for your patients with knee osteoarthritis? Can you tell me more about that?
Patient review	8) Can you tell me about your approach to reviews for a patient with knee osteoarthritis? • *How do you decide when to schedule appointments?* • *How do you decide when to stop seeing the patient?* 9) Which healthcare providers do you typically refer your patients to, if necessary? Can you tell me more about that?
Surgery	10) Can you tell me about any surgical information/advice you typically give to a patient with knee osteoarthritis? • *Which patients do you talk about surgical treatments with?*
Concluding remarks	11) In general, what aspects of care do you like about managing people with knee osteoarthritis? 12) In general, what are the main challenges do you encounter when managing patients with knee osteoarthritis? 13) Are there any other aspects about providing physiotherapy care to people with knee osteoarthritis that you would like to discuss?

thought was best. Physiotherapists were reimbursed for their time with a $50 gift card.

Individual interviews were conducted via telephone by one investigator (PLT), a female physiotherapist and graduate research student trained in qualitative methodologies, who was otherwise unknown to each participant. Telephone interviews were chosen to facilitate participation of physiotherapists from all over Australia and to promote physiotherapists' perception of anonymity.[12] Interviews were audio recorded and transcribed verbatim by PLT or an external provider. Pseudonyms were assigned to participants for confidentiality.

Data analysis

An inductive thematic approach was used to explore the experience of physiotherapists delivering care to people with knee OA.[13] PLT and another post-doctoral researcher (BJL) with expertise in qualitative methodologies (who is not a physiotherapist) individually read each transcript. They re-read and inductively coded each transcript to identify topics and initial patterns of emerging ideas. They then compared codes and grouped similar topics/ideas into categories. Thematic categories were organised into broader themes and subthemes. The interview data were also deductively analysed according to each of the seven domains of care of the national Clinical Care Standard for knee OA. These were further reviewed by the broader research team (RSH, KLB and TE). To ensure data credibility and confirmability, the senior researcher (RSH) read all transcripts prior to discussion. Analysis was performed using standard word processing software.[14]

Results

Table 2 describes the 22 physiotherapists who were interviewed. Half were female (50%) and the mean age was 34 years (SD 8, range 24 to 54). The physiotherapists worked primarily in private practice (n = 17, 77%), with most from major cities (n = 13, 59%), and some from inner regional (n = 5, 23%), outer regional (n = 3, 14%) or remote (n = 1, 5%) areas. No new themes arose in the final two interviews.

Thematic analysis

Five themes emerged from the inductive analysis; they are outlined in Table 3 and described below.

Theme 1: Biomedical management with an aim to improve function

When assessing a person with knee OA, physiotherapists spoke about the need to identify signs and symptoms of OA and understand the nature of the person's knee pain. For many people, a diagnosis of OA had already been made by a doctor prior to referral. If a diagnosis was required, physiotherapists tended to focus on subjective reports of previous knee injuries, stiffness and pain, alongside consideration of the person's age. Physiotherapists emphasised the need to exclude serious pathology (including red flags) by using imaging and liked to have imaging to 'confirm' their diagnosis of OA. Physiotherapists conducted a comprehensive physical knee examination but infrequently assessed social supports and the psychological impacts of OA.

Physiotherapists tended to offer education that focused on self-management strategies for modifying load and thus addressing the

Table 2
Characteristics of the physiotherapists (n = 22).

Pseudonym	Gender	Age (y)	Highest educational qualification	Nature of practice	State	Geographical location[a]	Years in practice	Clinical hours/week	Patients with knee OA seen per month	OA group program provided at practice
Steve	Male	29	Masters (coursework)	Private practice	Vic	Major city	6 to 10	31 to 40	≤ 5	None
Ben	Male	37	Bachelors	Private practice	WA	Inner regional	16 to 20	31 to 40	6 to 10	None
Janet	Female	33	Bachelors	Private practice	NSW	Inner regional	6 to 10	11 to 20	≤ 5	None
Andy	Male	32	Masters (coursework)	Tertiary hospital	Vic	Major city	6 to 10	31 to 40	≥ 10	None
Ryan	Male	30	Masters (coursework)	Private practice	Vic	Major city	< 5	40+	≤ 5	None
Joseph	Male	37	Masters (coursework)	Pertiary hospital	Qld	Major city	11 to 15	31 to 40	≥ 10	GLA:D
Beatrice	Female	27	Postgraduate certificate/ diploma	Private practice	WA	Major city	< 5	40+	≥ 10	None
Jeremy	Male	31	Masters (coursework)	Non-tertiary hospital	Vic	Major city	6 to 10	21 to 30	≤ 5	None
George	Male	28	Bachelors	Private practice	Vic	Major city	< 5	40+	6 to 10	None
Rachel	Female	47	Masters (coursework)	Private practice	Vic	Major city	25+	31 to 40	≥ 10	None
Jean	Female	27	Bachelors	Private practice	NSW	Inner regional	< 5	40+	6 to 10	None
Sharon	Female	36	Post graduate certificate/ diploma	Private practice	Vic	Major city	11 to 15	31 to 40	≤ 5	Conditioning
Janice	Female	29	Masters (coursework)	Private practice	NT	Outer regional	6 to 10	31 to 40	≤ 5	None
Alice	Female	54	Bachelors	Private practice	Vic	Inner regional	25+	21 to 30	6 to 10	GLA:D
Eric	Male	25	Masters (coursework)	Private practice	NT	Remote	< 5	40+	≤ 5	None
Sandra	Female	30	Bachelors	Private practice	NSW	Outer regional	6 to 10	11 to 20	6 to 10	OACCP
Sandy	Female	24	Bachelors	Private practice	WA	Inner regional	< 5	31 to 40	≤ 5	None
Gerri	Female	49	Post graduate certificate/ diploma	Private practice	SA	Outer regional	25+	21 to 30	6 to 10	None
Michael	Male	31	Masters (coursework)	Private practice	NSW	Major city	6 to 10	40+	≤ 5	None
Nathan	Male	40	Masters (research)	Tertiary hospital	Qld	Major city	16 to 20	40+	≥ 10	None
Mary	Female	43	Masters (coursework)	Private practice	ACT	Major city	21 to 25	0 to 10	≤ 5	None
Nicholas	Male	29	Masters (coursework)	Tertiary hospital	NSW	Major city	6 to 10	31 to 40	≥ 10	None

ACT = Australian Capital Territory, GLA:D = Good Life with Osteoarthritis: Denmark, NSW = New South Wales, NT = Northern Territory, OA = Osteoarthritis, OACCP = Osteoarthritis Chronic Care Program, Qld = Queensland, SA = South Australia, Vic = Victoria, WA = Western Australia.

[a] Classification based on residential postcode, in accordance with Australian Standard Geographical Classification.

Table 3
Themes, subthemes and quotes from the physiotherapist interviews.

Theme 1: Biomedical management with an aim to improve function	
Biomedical approach to assessment	Beatrice: 'Being more thorough with checking your red flags and looking at what's happening above and below the joint. Looking at the knee itself, ruling out any actual pathologies like ligament injuries or maybe it might be gout instead of OA, and you have to just take a good picture get the aggravating and easing factors and go from there.' Mary: 'I want to know where the pain is, whether it's confined to the knee or whether they're having problems in other areas… look at their range of motion, have a feel around the knee. Sometimes they've got stiff patella or stiff tibiofemoral joints. Sometimes their muscles around that area are tight or tender.' Eric: 'I generally just take a history of the person, their age, onset of symptoms, where their pain is in their knee, how long they've had pain in their knee, and to rule out other things that might be going on in the knee.'
Biomechanical approach to pain management	Jean: 'I guess load management is the big thing in that regard – what they're doing at home, and activities of daily living. If it's a housewife that likes to clean the house every day, giving instruction in regards to that: you shouldn't be doing any deep squatting, no kneeling. Trying to avoid anything that's going to load bear on the knee…' Mary: 'I tend to want people to understand about pacing, so pacing being fairly consistent from day to day how much activity you do so you don't have one day where you garden for five hours and then the next day where you sit on the couch for five hours – trying to think about breaking activity down over the course of a week so that it's fairly steady, and doing a little bit of activity and then changing activity, preferably not just resting.' Janice: 'If they have a reduction in knee flexion, I've found that there's some mobilisation techniques that you might use just to sort of increase flexion or extension movements there. Even if it's just to sort of get an immediate short-term pain benefit I think sometimes patella mobilisations or quads, soft tissue massage.'
'Wear and tear' language	Janet: 'Osteoarthritis being a wear and tear problem with the joint and that a lot of the pain comes from the inflammation that goes along with that.' Steve: 'This is partly due to the wear and tear, so it's aging like your hair, like your nails; your joints do age.' Sandy: 'When I start to explain OA, is about "Over time, basically the joints start to wear down, usually from loading." It can be other factors but most of the time is from loading.'
Goal-orientated	Janice: 'Of course function, so what they can do, what they can't do and I guess what they'd like to be able to do. Because I guess that then gives you and them something to work for with regards to goal setting.' Mary: 'I usually dig around quite a bit to make sure I get a good picture of their normal activity levels and how that has changed from prior. And then I guess I want to know whether their goals are to get back to those or whether they have something else.' Gerry: 'Just about trying to work with what their needs are and what their goals are.'
Goal is to improve function	Janice: 'Functionality if they can sit to stand, if they can squat, if they walk up and down stairs, what their range of motion is like. I guess – yeah you want to try to as much as possible to tailor it to increasing their function, basically.' Nicholas: 'How far can they walk because that's the main limitation that most people with medium to high-grade knee osteoarthritis seem to have. So, if we can get a good measure of that then we can monitor that, reassess that, and reassess their improvements over time.' Ryan: 'Most important assessment in my opinion would be functional outcomes. So, depending on what they can do, because most of the time the OA knee patients, they come in, they come with a lot of pain, and you can't fix all of them, but then the most important thing is you want them to be able to achieve their own goal of being able to walk a little bit better, go out shopping.'
Theme 2: Personalised programs with exercise at the heart of physiotherapists' care	
Tailored exercise	Alice: 'Ask them what they are interested in – there is no point in telling someone to go to a pool and walk if they hate the water, hate bike riding, then they are not going to do it – find out what they are interested in, what worked for them in the past… Do they like group exercises or not? Are you better off if we create a program for you to do it at home?' Jean: 'So to start with, the non-weight bearing, so the exercise in the hydrotherapy pool, also – either lying or sitting VMO work – some active range of movement can be quite nice – as well if they've got some hamstring or calf tightness. When their symptoms start to decrease, progress to weight bearing whether it be terminal knee extension against the wall, pressing back with a ball, terminal knee extension with a resistance band – then into functional movements because that's what they're going to have to return to.' Steve: 'If weight-loss is a contributing factor then you're talking about referral to a dietician – plus talk to them about non-weight-bearing cardio exercises… I like cycling if the joint is happy for that bending and extension if that's not irritable. I'd probably start with cycling because it's less weight-bearing and then work on slowly progressing that.'
Episodic approach to care	Ryan: 'I'd typically get them in say twice a week for the first one or two weeks, depending on how bad they are, then I'd probably spread them out to once a week, or even like once a fortnight, if they are progressing well. When they've reached their goal, say pain free, get back to sports, or get back to whatever it is they used to be doing, then it's time to discharge.' George: 'If they need a bit of reassuring – I might see them a bit sooner. The ones that are more self-sufficient and able to manage things by themselves, I might review weekly or fortnightly or every couple of weeks. Once they've got a good programme going, maybe monthly. There's some that have no interest in doing any exercise classes but they're happy to manage things by themselves at home. They might be the one I see at first maybe every two weeks and then monthly after that. And then once they are happy with their symptoms and how things are progressing, I won't continue seeing them on a regular basis and I might just touch base via phone call.' Jean: 'Ok, day one. If I've given them something and I'm not sure whether they're going to cope with it or what the effect may be, I might see them again in seven days' time. And then if they're going well, I might give them another one or two things, and they'll go away and work on that for another three weeks or so. I usually review on a two to three weekly basis, and then if I'm happy that they're managing their programme, I might stem it out to a month review – when they've gotten back to their baseline, I'd be discharging.'

(Continued on next page)

Table 3 *(Continued)*

Preparation for knee surgery	Janice: 'They have a general practitioner or an orthopaedic specialist already who has booked them in for surgery or has decided that that's the path ahead. I'd still encourage them always to exercise even if obviously, they're going to have surgery, they're going to be pretty painful. They can try to get a little bit of weight loss before surgery knowing that they will benefit more and get more out of.' Mary: 'If I'm seeing someone who is already booked in for surgery, then I'll talk through the expectations of that surgery and the postop period. If someone's not booked in, I usually don't even raise the topic.' Jeremy: 'When clients come in with knee OA, often they're on the waiting list already for having a knee replacement. Not many of them would understand what the actual surgery is. We have pamphlets that actually explain what a knee replacement surgery is, and I'll go through that with them and expected timeframes for recovery.'
Theme 3: Clinical challenges	
Comorbidities	Ryan: 'A lot of the time they have a lot of comorbidities, like I've got one who came in with fibromyalgia, knee OA, RA, and plus complex regional pain syndrome. These will all factor into pain. And yeah, it makes it a lot, lot harder to manage.' Gerri: 'Probably the two main challenges would be co-existing comorbidities, so often they (are) overweight, or they also have cardiovascular disease. They may also have high cholesterol, high blood pressure.' Sharon: 'I'd imagine if I had obese people who weren't able to lose the weight that would be challenging. And I've had a few where it's just so advanced that they just can't do anything and especially like the very elderly where they just can't have surgery and they also have like so many comorbidities in regards to pain. That's challenging.'
Patient motivation and adherence	Nicholas: 'The main challenge we find is the actual compliance – the patients doing their exercises – How do we get this going on a long-term basis? How can we maintain? Yes, they've come and seen us in the last three months and improved a lot, but we can't keep seeing them for the next five, six, 10 years.' Gerri: 'Well, one challenge here, where I live, is that it's very cold, and nobody likes to go outside for a walk. If they have had a fall, they can be very nervous about exercising alone, even to go for a walk, so there's that fear of falling. Fear of falling, the cold weather, they would be the key challenges.' Alice: 'I try and get them to have a routine, to visualise what time and day they will exercise, days they will do it, and what room they will do it in, so that they get a pattern. What type of equipment they will use, help them work that out so that they have got a definite plan rather than send them home and they are left with their own devices, so they are less likely to do it.'
Patient expectations	Ben: 'Some people will just want a quick fix and if your message to them is that they have to manage their life, that they may have to lose weight, that they may have to exercise – people don't really take to that. They want the surgery; they want the pill. They want someone else to fix them.' Beatrice: 'They still just want the passive quick-fix treatment. They want me to chuck a machine on them. They want me to rub their leg and tell them everything's okay. And they don't want to own their condition.' Andy: 'That they have a preconceived expectation that surgery is the only option. They're not willing to change their opinion on the treatment that they need.'
Theme 4: Knowing versus doing	
Imaging	Nathan: 'We never use imaging as a prime focus; we just look at the other scenarios such as range of motion limitations, effusion, swelling in their knees, their background, whether they have had a traumatic background or whether it's a gradual onset. Then if I have the capacity and the time and the ability to do it, then I'll normally order an x-ray just to double-confirm just to see if the imaging kind of guides what came out from the subjective assessment.' Sandy: 'I do find that even if I said what I think is going on in the knees are OA and explain it, a lot of the clients still go off to the doctor to get an imaging… I usually end up getting that sort of imaging once I have made the diagnosis as a support. [For example] 'joint line space degeneration in the knees' In that regard, the diagnosis that I have given in regard to OA in the knees has been right because they went and got imaging afterwards.' Jean: 'Often it's hard to convince them of the diagnosis without imaging, even though imaging isn't warranted necessarily in this patient group – they want that imaging done to confirm. And they're very hesitant to take your word for it that there's osteoarthritis there. They want that proof, they want to see visually, internally, that yes this is wear.'
Weight loss	Sandra: 'I do explain to them that the extra weight is putting extra force through their knee and so causing extra pain – I also ask them just vaguely – I touch on what they're actually eating throughout the day. And most people say 'oh I have a couple of bikkies at morning tea and then an ice cream for dessert' or something.' I just generally brush on 'Don't try and cut it all out but what if we just cut back to one bikkie instead of two and maybe half that bowl of ice cream, or every second day?' Janet: 'If patients report they are at a healthy weight, we talk about how important it is to maintain that healthy weight and getting diet and exercise to the right levels to do that… for patients whose BMI would be in the overweight range, we would help with their weight management at a physiotherapy level. We work out what activity they can do that doesn't increase their pain and symptoms, the duration and the intensity at which they can do that. We give them education about basically calories in versus calories out approach to weight loss…' Ryan: 'I will mention to them, it was each kilogram you lost and your weight will reduce 10%… usually they're quite sedentary, so start with some basic exercises like walking, or even a bit of cardio-type exercise or simple exercise at home, and give a little bit of advice in terms of diet – like drink plenty of water and a balance of green vegetables and meat…'
Manual therapy	Michael: 'There's not a lot of evidence long-term for manual therapy but I think it provides a small window that clients then feel a bit more at ease to move and more willing to exercise.' Mary: 'I do occasionally use manual therapy even though I know that's not evidenced based. But for the right client sometimes a bit of mobilising, patellofemoral or tibiofemoral joint or some soft tissue work – often the lateral distal quads are quite tight and uncomfortable and a bit of work around there can take some pressure off the knee. I'm very aware that that's not evidenced based, but I find in practice that it does work. I do that occasionally when it seems relevant.' Sharon: 'Many physios would absolutely kill me for this – but I still think that manual therapy with OA in the beginning is under-utilised. I think it's becoming a thing now to just started loading them – they respond so well to lots of good release work around their hip and knee and I just think that that whole element is being just sucked out of a physio; 'They don't need to be touched.' – I kind of disagree with that.'

Table 3 *(Continued)*

Theme 5: It's not my job	
	Sandy: 'I do talk about the importance of weight, how the more you weigh, the more shock, and the more absorption it needs to be doing, but I don't push it too much, because I think that there are other health professionals who have a better way of approaching it compared to me.'
	Beatrice: 'I mean, I'm not a weight loss expert. I'm not a dietician. I'll often say to patients if they've got a high body mass index, weight is very much a contributing factor to their knee… Some simple things they can do is think about diet and exercise and go and have a chat to their general practitioner. If not, we can link them in with a dietician or nutritionist – if they need further help.'
	Janice: 'If their pain is not being managed well then generally I'll refer them back to the doctor to discuss if they need something stronger. We know that stronger opioid medications are probably not going to be of much use to them – but I don't generally give advice on what to take and what not to take. If we discuss it, I generally just advise them to run whatever they're thinking by a general practitioner or a pharmacist.'
	Jeremy: 'If they're struggling to bend the knee or find that everything's too irritable for them to start exercise, I might consider talking to their doctor. But I normally leave that to the doctors, I must say, rather than me giving advice with medicine because I feel that's a bit outside my scope of practice.'
	Nathan: 'We then refer them on to see the surgeons anyway – we leave the surgical advice to them and they've got all the necessary documentation for the patient to take home in terms of information sheets, et cetera… it's all sort of managed through them. But we generally tend to not step on that boundary if we can. We could but we don't.'

'mechanical' aspects of knee OA (eg, pacing and activity modification to minimise knee overloading). Some used manual therapy to 'release tight knee structures'. There was little discussion about psychosocial influences on patients' experiences or how the physiotherapist might address these. Knee OA was perceived as a 'degenerative' process and the phrase 'wear and tear' was often used by physiotherapists to describe OA. Nevertheless, physiotherapists emphasised the importance of evaluating a patient's overall functional ability, with a view to determining functional goals rather than planning treatments that aimed for knee sign and symptom improvement. Although physiotherapists recognised that pain reduction was a desired goal for many patients, management plans incorporating exercise strategies predominantly aimed to restore or improve daily function.

Theme 2: Personalised programs with exercise at the heart of physiotherapists' care

Physiotherapists perceived exercise prescription to be their main role. They highlighted the importance of a tailored exercise program that considered individual physical ability, preferences, personal needs, affordability and/or accessibility to exercise facilities. Physiotherapists tended to provide episodic care, often comprising numerous individual consultations with or without group exercise classes over several months. The frequency and duration of consultations were individualised to a patient's response and preferences. Regular reviews were initially offered for a few weeks and gradually reduced as time progressed. An episode of care typically ceased when the patient had achieved the goals or symptoms had reduced. Some patients were referred for surgical consideration if little improvement had been observed with the treatment plan.

Physiotherapists considered knee surgery as the last option for knee OA and advised patients against surgery for as long as possible. While most physiotherapists felt that surgery was indicated for those with severe pain, restricted function and were refractory to conservative management, some described their role as 'prepping' patients for knee surgery when they were referred for physiotherapy. Surgical advice tended to focus on the preoperative and postoperative rehabilitation process, recovery time and possible surgical outcomes. Some physiotherapists said they avoided offering any surgical advice unless patients specifically asked for it.

Theme 3: Clinical challenges

Comorbidities (eg, overweight and obesity, cardiovascular disease, fibromyalgia, rheumatoid arthritis, complex regional pain syndrome) were described as a barrier to evidence-based management. Physiotherapists felt that patients with comorbidities often experienced more severe pain, hampering their ability to exercise or be physically active. Some physiotherapists found it difficult to manage patients with comorbid obesity, particularly when a patient struggled to lose weight, despite attempts to do so.

A major challenge to achieving evidence-based management reported by most physiotherapists was the patients' unsatisfactory adherence to the exercise programs. Physiotherapists described both intrinsic barriers (eg, self-motivation, fear of falling, fear of pain) and extrinsic barriers (eg, costs, weather). Many reported implementing several strategies to boost adherence, including referring patients to supervised group exercise classes, providing exercise handouts, utilising exercise apps, and assisting patients to set an exercise routine.

Physiotherapists perceived that patient expectations can lead to challenges in delivering care, feeling that some patients with knee OA were not keen to participate in regular exercise or play an active role in managing their condition. Instead, physiotherapists believed that many patients desired a 'quick fix' for their pain, such as medications, 'hands-on' treatments or electrotherapy. Physiotherapists were frustrated by patients who deemed knee surgery to be the only solution.

Theme 4: Knowing versus doing

Whilst physiotherapists were generally aware of the research evidence regarding diagnosis and management of knee OA, they often described a mismatch between what they knew and what they did in practice. Numerous reasons were identified as contributors to these evidence-practice gaps, including meeting the patient's expectations of physiotherapy (eg, imaging for OA diagnosis), lack of confidence/knowledge/skill in implementing evidence into practice (eg, weight management) and personal beliefs/experience at odds with the evidence (eg, that some treatments such as manual therapy are beneficial). Although most physiotherapists were aware that an OA diagnosis could be made clinically without imaging, they relied on imaging as a safety net to confirm a clinical diagnosis. Some perceived imaging as the 'gold standard' for diagnosing OA.

Physiotherapists were aware that being overweight or obese was a risk factor for knee OA, and they generally believed that excess body weight had harmful biomechanical effects on the joint. Whilst they knew that losing weight was important for patients with knee OA who were overweight or obese, they predominantly provided education about *why* weight loss was important rather than advice about *how* to lose weight. Any advice was limited to brief general advice about healthy eating, energy expenditure and/or keeping active. Physiotherapists felt more comfortable encouraging physical activity for weight loss than recommending dietary strategies, and only a few described setting specific weight loss goals with their patients.

Some physiotherapists acknowledged the lack of evidence to support manual therapy for the management of knee OA. However, they discussed the benefits of 'hands-on' treatments to 'reduce

muscle tightness', 'improve joint flexibility' and provide short-term pain relief. Some used manual therapy as an adjunct to exercise.

Theme 5: It's not my job

Physiotherapists considered some elements of OA care to be outside their scope of practice, particularly weight loss, medication and surgical advice. Although most tended to mention weight loss in management discussions with patients who were overweight or obese, they felt that this aspect of the care was the role of a dietician. They favoured referring patients who needed to lose weight to other healthcare providers.

Similarly, physiotherapists did not see it as their role to provide medication advice, offering advice only when patients asked, and primarily focused on how to manage pain associated with exercising (with analgesics). Some physiotherapists suggested anti-inflammatories, natural supplements and/or intra-articular injections for knee pain, and a few advised against opioids. Most encouraged patients to consult their general practitioner or pharmacist for more information about medications.

Some believed it was not their role to advise the patient about knee surgery, opting not to discuss surgery at all. Surgical advice was deemed to be the responsibility of an orthopaedic surgeon. However, some physiotherapists were comfortable suggesting surgery to patients who responded poorly to conservative management. Physiotherapists typically advised patients against knee arthroscopy if specifically asked about this procedure.

Alignment with Clinical Care Standard

Table 4 derives from the deductive analysis and summarises how the knee OA care delivered by physiotherapists aligned with the Clinical Care Standard and highlights areas of discrepancy.

Discussion

This qualitative study explored physiotherapists' experiences with delivering care for people with knee OA and how they aligned with the national Clinical Care Standard for knee OA.[6] Inconsistent with the Clinical Care Standard, physiotherapists predominantly adopted a biomedical approach to assessment, with little consideration of psychosocial factors. Previous studies exploring physiotherapy management of knee OA have also found poor integration of psychosocial factors into physiotherapy practice.[15,16] This may reflect the nature of entry-to-practice training of physiotherapists, which tends to focus on a biomedical model and emphasises a diagnostic process to guide treatment.[17] Benefits of a biopsychosocial management approach are improved patient satisfaction with care and reduced likelihood of poorer health outcomes due to psychosocial influences.[18,19] Aligning with the Clinical Care Standard, physiotherapists tended to diagnose knee OA clinically but often utilised imaging to 'confirm' an OA diagnosis. Inappropriate use of imaging to diagnose OA is costly to the health system, and the language (eg, degeneration) used in describing imaging findings may reinforce the biomedical nature of OA in a patient's mind,[20] discouraging them from exercising due to fear of symptoms exacerbation.[21]

In agreement with the Clinical Care Standard, physiotherapists generally informed patients about what knee OA is. However, physiotherapists described OA pain as being caused by progressive joint degeneration, which is counter to contemporary beliefs about OA pathogenesis. Osteoarthritis is not a passive degenerative disease of cartilage but a whole-joint disease resulting from an imbalance between breakdown and repair of joint tissues. The chronic pain is also modulated by complex central factors.[22] Research has shown that when patients believe their joint is 'bone on bone' and caused by 'wear and tear', they are more likely to believe that physiotherapy and exercise will increase pain, making them more inclined to seek surgical or alternative treatments.[21] Inconsistent with the Clinical Care Standard, there was a general lack of advice provided around weight loss strategies as well as the benefits and potential harms of medications and surgery for knee OA, primarily because physiotherapists felt that these aspects of care were not part of their professional role.

Aligning with the Clinical Care Standard, physiotherapists primarily supported self-management strategies that addressed the biomechanical aspects of knee OA but provided relatively little advice around psychological approaches to pain management.[23] These biomedical preferences for OA education and self-management were similar to findings from a study of physiotherapy management for knee OA in the United Kingdom.[16] Consistent with the Clinical Care Standard, physiotherapists in the current study tended to advise patients who were overweight or obese about the importance of weight loss for knee OA; however, they were reluctant to advise on concrete strategies for weight loss. These findings agree with other qualitative studies, which showed that physiotherapists lack confidence, knowledge and skills to conduct meaningful weight loss discussions with their patients.[24,25] With additional training, physiotherapists could potentially take a more active role in weight management to better advise and support their patients with knee OA to lose weight as part of a comprehensive management plan.

Physiotherapists focused on providing tailored exercise as core management, which agrees with the Clinical Care Standard. Previous studies have also shown that personalised exercise is the focus of physiotherapists when managing knee OA.[8,15,16,25–28] Physiotherapists felt that patient comorbidity and exercise adherence were the main challenges. Comorbidity is highly prevalent in patients with knee OA and is associated with increased pain, reduced function and greater activity limitations.[29,30] Some physiotherapists used manual therapy as an adjunct to help patients exercise or move better, even though they recognised the uncertainty in clinical practice guideline recommendations regarding its use for knee OA.[4,31] Although it is unclear what proportion of the consultation was devoted to manual techniques, it is important for physiotherapists to consider the 'opportunity cost' of manual therapy and ensure that it is not performed at the expense of exercise, education and self-management.

Physiotherapists tended to provide limited information about medication and preferred to refer patients to other health professionals for medication advice. This is likely because most physiotherapists are not licenced to prescribe medications[32] and have limited training in pharmacology,[33] and thus tended to view medication advice as outside of their scope of practice. Similarly, physiotherapists generally provided patients with limited information about surgical options. If they did discuss surgery, it was often related to their perceived role in providing 'prehabilitation' to patients undergoing knee replacement.[34] As physiotherapists are primary contact practitioners in Australia, it could be argued that physiotherapists should be able to describe the potential benefits and harms of common OA medications and surgical interventions to fully inform patients about their treatment options, so as to align with a philosophy of shared decision-making. Indeed, a core capability framework for clinicians managing people with OA specifies that all health professionals should understand the role of medications and surgical treatments used in managing OA.[35] Finally, aligning with the Clinical Care Standard, physiotherapists offered regular reviews to patients with knee OA; however, the reviews tended to be time limited and often over a short period. Regular reviews over longer-term periods (perhaps including 'booster sessions') may be beneficial to help increase patient adherence to exercise.[36]

A strength of this study is that we interviewed a range of physiotherapists, including males and females of different ages, work settings and geographical location across Australia. Physiotherapists were recruited from Facebook for this study. Thus, our data may be biased towards those who use a Facebook account and/or were more inclined to share their experiences. However, research shows that Facebook was the most popular social platform in Australia in 2019, with almost 83% of Australians accessing it monthly.[37,38] In addition, physiotherapists may have responded to interview questions in a socially desirable manner. Although efforts were made to reduce this effect by reassuring participants at the beginning of the interview that all views were respected, it is possible this study may have

Table 4
Alignment of physiotherapy care with the national Clinical Care Standard for knee osteoarthritis (OA).

Domains of care	Key elements of care	Physiotherapists' experiences with providing care
Comprehensive assessment	Assess history of presenting symptoms and other health conditions	Physiotherapists generally assessed signs and symptoms of OA, nature of knee pain, mechanism of knee injury, mechanical features such as clicking, giving way and/or locking, aggravating and easing factors, 24-hour pain behaviour and comorbidities. They predominantly assessed patients' functional ability to determine their functional goals.
	Conduct a physical examination	Physiotherapists typically conducted observation of the knee, joint palpation, assessment of knee strength, range of motion and muscle length test, and observation of posture and gait. They also performed knee instability tests for ligamentous or meniscal injuries, and assessed other joints such as the spine, hip and/or ankle for any referred pain.
	Evaluate psychosocial factors	There was limited psychosocial assessment of people with knee OA. Physiotherapists infrequently enquired about patients' social support. Some were aware of patients' psychological needs but failed to address them adequately.
Diagnosis	Diagnose knee OA clinically	Physiotherapists diagnosed knee OA based on subjective reports of previous knee injuries, stiffness and pain as well as consideration of the patient's age. However, many physiotherapists relied on imaging to 'confirm' their diagnosis of OA.
	Consider imaging for alternative diagnosis only	Physiotherapists used imaging to rule out serious pathology (including red flags).
Education and self-management	Provide education about knee OA and available treatments	Physiotherapists described OA as a 'degenerative' process and used 'wear and tear' to describe OA. They offered education/self-management strategies to address the 'mechanical' aspects of knee OA.
	Individualised self-management plan based on physical and psychosocial needs	Physiotherapists discussed an individualised self-management plan centred around the patients' knee symptoms and signs, functional ability and goals. Treatment plans focused on exercise and physical activity strategies. There was little consideration of patients' psychosocial needs when devising the self-management plan.
Weight loss and exercise	Support patients who are overweight or obese to lose weight	Physiotherapists typically provided education around *why* weight loss was important (eg, less load on knees leading to reduced pain and improved function) to patients who are overweight or obese but did not often advise them on *how* to lose weight. When they did, they focused predominantly on exercise and physical activity rather than dietary strategies. Whilst some physiotherapists were comfortable discussing the importance of maintaining healthy weight with all patients, a few were reluctant to discuss weight loss unless patients brought it up themselves. They felt that weight loss was a 'sensitive' topic and raising it might risk patient rapport.
	Tailor exercise according to needs and preferences	Most physiotherapists provided a tailored exercise program that considered individual physical ability, preferences, personal needs, affordability and/or accessibility to exercise facilities. Exercise settings included unsupervised home exercise programs, supervised group classes and land-based or water-based programs. Some physiotherapists were more inclined to offer supervised group classes to their patients to improve adherence. Exercises comprised strengthening, stretching, cardiovascular and functional programs and were progressed depending on functional ability and pain levels. Some provided manual therapy (eg, joint mobilisation techniques, soft tissue massage and/or dry needling/acupuncture) as an adjunctive treatment to exercise.
	Establish weight and exercise goals, and refer to other services for assistance as required	Physiotherapists established personalised exercise goals with patients but rarely set specific weight loss goals. They preferred to refer patients who needed to lose weight to other healthcare providers (eg, general practitioner, dietician, nutritionist, bariatric specialists).
Medications to manage symptoms	Offer appropriate medicines to manage symptoms, considering clinical condition and preferences	Physiotherapists provided limited basic advice about using oral analgesics to manage pain associated with exercising. Some suggested anti-inflammatories, natural supplements and/or intra-articular injections for knee pain. Some discouraged opioid use. Whilst some physiotherapists reminded patients to adhere to the medication dosage as prescribed by their doctors, others encouraged patients to take the lowest dose possible. Physiotherapists preferred to encourage patients to consult their general practitioner or pharmacist for medication information as they did not see it as their professional role to provide medication advice.
Patient review	Agree on regular reviews according to the patient's needs	Physiotherapists provided relatively short-term 'episodes' of care to patients, comprised of individual consultations with or without group exercise sessions over a few months. They offered regular reviews initially for a few weeks and reduced the frequency as time progressed. Patients were discharged from care when they achieved their therapy goals, if their OA symptoms reduced or were referred for surgical opinion. Physiotherapists did not schedule reviews over the longer-term to monitor patient symptoms.
	Refer to specialist if knee OA symptoms worsen and severe functional impairment persists despite conservative management	Physiotherapists generally referred patients for surgical consideration if they experienced severe knee pain, restricted function or when little improvement had been observed with therapy.
Surgery	Offer timely joint surgery to patients not responding to conservative management	Physiotherapists considered knee surgery as the last option for knee OA and advised patients against surgery for as long as possible. Knee surgery was indicated for patients who experienced severe knee pain, restricted function and were refractory to conservative management.
	Provide surgical information to inform treatment decision	Physiotherapists generally provided information about preoperative and postoperative rehabilitation processes, recovery time and possible surgical outcomes. They generally did not provide information on benefits/harms of surgery relative to other OA treatment options. Some physiotherapists believed that it was the role of an orthopaedic surgeon to educate the patient about knee surgery. Some believed their role was 'prepping' the patient for surgery.
	Only offer arthroscopy to patients with true mechanical locking	Physiotherapists generally advised patients against knee arthroscopy.

over-represented the quality of care provided. Participating physiotherapists were predominantly working in private practice settings, so findings may not have been as generalisable to those working in hospital settings. Individual physiotherapists may wish to critically reflect on their own clinical practices, relative to the Clinical Care Standard, to consider if findings from this study apply to their own clinical interactions with patients presenting with knee OA.

Future directions

This study highlights several areas where physiotherapists could improve their care for people with knee OA. First, a more holistic approach to assessment appears warranted, incorporating psychosocial evaluation to ensure that psychosocial influences of OA on pain, physical dysfunction and quality of life are considered and comprehensively addressed. Physiotherapists may benefit from additional training in how to incorporate psychosocial and behaviour change elements into practice.[19] Second, physiotherapists should reconsider their use of imaging to confirm an OA diagnosis. Unnecessary imaging exposes patients to radiation, is costly to the health system, and may reinforce negative patient beliefs about OA.[39] Third, given the greater workforce capacity of physiotherapists relative to dieticians, it may be possible to upskill physiotherapists in the future to provide more comprehensive weight management advice,[40] including the skills to support patients embarking on a weight loss plan. Fourth, physiotherapists may need to carefully consider the use of manual therapy for knee OA management, given the conflicting clinical guideline recommendations for its use.[4,31] Finally, physiotherapists could consider regular reviews and monitoring of patients over the longer-term to allow for timely intervention and/or referral if the patients' condition changes. Regular monitoring allows physiotherapists to modify or progress exercise programs over time to provide sufficient physiological stimulus for health benefits and for adding variety to facilitate long-term adherence.

In conclusion, physiotherapists' reported experiences with delivering care for people with knee OA were mostly consistent with the quality care standard. Care may be improved by increasing the focus on psychosocial aspects of care and being more proactive with advice and/or referral regarding weight loss, pain medications and knee surgery. Physiotherapists should: describe the potential benefits and harms of common OA medications and surgical interventions, to ensure patients are fully informed about all their treatment options; and offer longer-term reviews, which may help increase patient adherence to exercise.

What was already known on this topic: Knee osteoarthritis is a major cause of joint pain and disability worldwide. Self-management with exercise and physical activity is a core recommended management strategy. To minimise unhelpful variation in care, the Australian Commission on Safety and Quality in Heath Care developed an Osteoarthritis of the Knee Clinical Care Standard.

What this study adds: Physiotherapists reported care for people with knee osteoarthritis that was mostly consistent with the quality care standard. Care may be improved by increasing the psychosocial focus of care, offering longer-term reviews, and being more proactive with advice and/or referral regarding weight loss, pain medications and knee surgery.

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