

Resistance or appropriation?: Uptake of exercise after a nurse-led intervention to promote self-management for osteoarthritis

Health

0(0) 1–23

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DOI: 10.1177/1363459320925879

journals.sagepub.com/home/hea**Andrew Morden** 

University of Leicester, UK

**Bie Nio Ong, Clare Jinks,
Emma Healey, Andrew Finney and
Krycia S Dziedzic**

Keele University, UK

Abstract

The philosophical underpinning of trials of complex interventions is critiqued for not taking into account causal mechanisms that influence potential outcomes. In this article, we draw from in-depth interviews (with practice nurses and patients) and observations of practice meetings and consultations to investigate the outcomes of a complex intervention to promote self-management (in particular exercise) for osteoarthritis in primary care settings. We argue that nurses interpreted the intervention as underpinned by the need to educate rather than work with patients, and, drawing from Habermasian theory, we argue that expert medicalised knowledge (system) clashed with lay 'lifeworld' prerogatives in an uneven communicative arena (the consultation). In turn, the advice and instructions given to patients were not always commensurate with their 'lifeworld'. Consequently, patients struggled to embed exercise routines into their daily lives for reasons of unsuitable locality, sense-making that 'home' was an inappropriate

Corresponding author:

Andrew Morden, University of Leicester, University Road, Leicester LE1 7RH, UK.

Email: awm21@leicester.ac.uk

place to exercise and using embodied knowledge to test the efficacy of exercise on pain. We conclude by arguing that using Habermasian theory helped to understand reasons why the trial failed to increase exercise levels. Our findings suggest that communication styles influence the outcomes of self-management interventions, reinforce the utility of theoretically informed qualitative research embedded within trials to improve conduct and outcomes and indicate incorporating perspectives from human geography can enhance Habermas-informed research and theorising.

Keywords

Chronic illness and disability, patient–physician relationship, primary care, illness behaviour

Providing self-management support as a way of meeting the challenge of the predicted rise in long-term conditions (LTCs) has been a UK policy agenda for over a decade (Ong et al., 2014b) and continues to underpin National Health Service (NHS) supported patient-led care for those with LTCs (NHS England, 2014). Osteoarthritis (OA) is one such LTC which is reported to lead to discomfort and disruption to individuals as well as costing state and society in terms of lost productivity and healthcare costs (Arthritis Care, 2012; Dziedzic et al., 2018). Supported self-management is recommended as a way of ameliorating these problems and helping patients live with OA (National Institute for Health and Clinical Excellence (NICE) 2014). In response, a trial intervention featuring primarily nurse-led supported self-management in general practice settings was devised and implemented (Dziedzic et al., 2018), which we detail further below.

The efficacy of primary care self-management interventions has been questioned due to clinical trials demonstrating little to no effect (Sun and Guyatt, 2013). A long-standing hierarchy of evidence positions trial findings as the ‘gold standard’ (Barton, 2000) and, in part, underpins this debate. The philosophical standpoint of trial methodology emphasises identifying linear causality within a closed system between intervention and outcome (Marchal et al., 2013). It is recognised that embedding self-management support in everyday practice is not straightforward because it requires change at different levels and places additional pressures on practitioners and patients. For professionals, it can conflict with external drivers, the existing organisation of care and individual ways of working (Kennedy et al., 2013; Ong et al., 2014a). Practitioners often experience difficulties reconciling their professional identities and relinquishing responsibilities for patients (Blakeman et al., 2006; McDonald et al., 2008). Accordingly, practitioners may worry about disrupting professional patient-relationships by altering the ceremonial order of clinical interactions (Blakeman et al., 2010). For patients, managing chronic illness involves managing disruptions to social relationships as well as the demands of medical regimens (May et al., 2014). Thus, a number of factors

(or mechanisms) can influence the delivery of supported self-management in routine practice.

Embedded qualitative studies offer the opportunity to explore the processes and mechanisms which can explain trial intervention outcomes and efficacy (Blackwood et al., 2010; Marchal et al., 2013; Ong et al., 2014a). In this article, we report on a nested qualitative study embedded within a trial to implement the National Institute of Health and Care Excellence (NICE) OA guidelines in general practice. We detail factors that influenced the outcome of the trial and use Habermasian theory to explain the findings. We now turn to discussing our use of Habermasian thought which we later draw on to situate the findings.

Habermas, consultations and health

Jurgen Habermas' work has been widely used to explore the dynamic of consultations and how people engage with medical advice. Scambler (2002) has usefully highlighted the potential for using Habermasian theory to critically explicate tensions and negotiations between broader societal systems, structures, power relations and individual integrity of action, particularly within consultations and beyond. Our iterative analytical approach (see the 'Methods' section for more detail) featured consideration of our findings and comparison with existing literature and theories. It became apparent that Habermasian thought offered a powerful explanatory nexus to account for the different domains of knowledge, interaction and experience evident within a complex multi-source dataset, which in turn influenced the outcome of the trial. First, it facilitates understanding of interactions and of issues of compliance within consultations. Second, it allows incorporation of phenomenological and interactionist elements of patient experience and knowledge. Finally, it affords to situate how different logics and agendas are negotiated by actors with different social positions (and, therefore, power) within consultations and beyond (i.e. in life away from the consultation). We now turn to summarising previous work in this tradition.

Habermas drew on a wide range of disciplinary perspectives, and sociological theories such as Mead's theory about the interactional constitution of mind and self (Mead, 1934), and Parsons' action theory (1970) that focussed on those societal functions that are necessary for stable social life. Habermas' project sought to explicate the 'colonizing' consequences of modern instrumental rationality, economic imperatives and state bureaucracy (or the 'system'). He argued that the 'system' undermines ethics, personal preferences and people's everyday concerns (the 'lifeworld') because of its focus on a goal-oriented form of reasoning. He was concerned with the potential for individuals to retain freedom and integrity of action via the use of 'practical' reason (which is grounded in life world values, ethics and locally situated relationships) to counteract the system's goal-oriented instrumental reason. In particular, Habermas (1984) focussed on the potential of 'communicative action', or the ability for agents to communicate and negotiate to

reach understanding and agreement free of ‘distorted’ coercive communication shaped by ‘system’ goal-oriented reasoning.

Habermasian theory has been used to analyse how, in some instances, health care (biomedical technical expertise constituting a ‘system’) can ‘colonize’ people’s values, modes of existence, sovereignty and preferences for action (or ‘lifeworld’; Edwards, 2012). This arises when healthcare professionals (HCPs) and patients fail to engage in open communication and HCPs implicitly or explicitly deploy instrumental goal-oriented communication which seeks to *direct* patients to a particular outcome (Barry et al., 2001; Edwards, 2012; Greenhalgh et al., 2006; Mishler, 1984; Scambler, 2002).

Barry and colleagues highlighted four ways in which communication was enacted in doctor–patient consultations; ‘strictly medicine’, in which both patient and doctor used medicalised language; ‘lifeworld ignored’, where doctors avoided or disengaged discussion of patients concerns; ‘lifeworld blocked’, where doctors channelled efforts into framing consultations in biomedical terms and ‘mutual lifeworld’, or a when both parties situated the discussion within the patient’s agenda (Barry et al., 2001). Similarly, Greenhalgh et al. (2006) noted that consultations mediated by an interpreter were conducted with an implicit or explicit solution-focussed approach promoting a medical agenda. They too have argued that open communication would lead to better outcomes (Greenhalgh et al., 2006).

Outside of the consultation room, ‘resistance’ to the voice of biomedicine and its intrusion into the lifeworld occurs when patients draw on experiential lay knowledge which challenges or diverges from medical thinking (Edwards, 2012; Jackson and Scambler, 2007; Williams and Popay, 2001) Germond and Cochrane (2010) contend the lifeworld (or ‘healthworld’ in their reformulation) is embodied, experiential and socially situated, extending Habermas’ focus on cognitions and meanings which underpin the individual and collective values and preferences which constitute the ‘lifeworld’. Finally, Bissell et al. (2018) consider the democratising potential of Habermas’ theory of communicative action based on open dialogue and weighing up the validity of arguments to support egalitarian decision-making.

Methods

The Managing OsteoArthritis In ConsultationS Study

As indicated in the ‘Introduction’ section, self-management support is a core recommendation for treatment of OA in (NICE, 2008) guidelines (subsequently updated 2014). OA (the most common type of arthritis) is a leading cause of disability worldwide and affects approximately 8 million people in the United Kingdom (Arthritis Care, 2012). The Managing OsteoArthritis In ConsultationS (MOSAICS) trial was devised in the wake of research which indicated that people with OA were not self-managing their condition in accordance with clinical recommendations (Jinks et al., 2007), clinicians may not be advising patients on

self-management in accordance with guidelines (Jinks et al., 2007; Porcheret et al., 2007) and patients desire more information and self-management support from practitioners (Mann and Gooberman-Hill, 2011). Full details of the trial intervention can be obtained from the study protocol (Dziedzic et al., 2014), but for context, we provide a brief overview below.

The trial intervention aimed to enhance the supported self-management provided to patients and promote the uptake of the core treatments recommended in the NICE (2008) OA guidance. The intervention consisted of a semi-structured general practitioner (GP) consultation, use of an OA Guidebook and referral to a nurse-led OA clinic once the GP had diagnosed OA. The intervention centred heavily on practice nurses because of their potentially key role in offering supported self-management for OA (Dziedzic et al., 2014).

Extensive training was delivered to intervention practices as a whole, and the GPs and practice nurses as professional groups to implement the intervention. Nurse training focussed on the anatomy and disease process of OA, the core treatments for OA (information and advice, exercise and weight loss) and discussing the use of pain medications. Behaviour change theories also underpinned the intervention and were reflected within practitioners training, with an emphasis placed on incorporating patients concerns, existing strategies and knowledge into a holistic approach (Main et al., 2010; Rollnick et al., 2005) to encourage and motivate participants to undertake self-management based on their situation and needs, including muscle strengthening exercises or increased levels of aerobic activity. To emphasise the importance of patient experiences and perspectives, training sessions utilising incremental case studies drawing from the findings of preceding qualitative research (Grime et al., 2010; Morden et al., 2011) were incorporated into the training. This was supplemented by the use of the Guidebook that was developed to incorporate lay and medical knowledge, and be used as an aid for practitioners and patients (Grime and Dudley, 2014). This was in line with the WISE (Whole System Informing Self-Management Engagement) approach which underpinned the intervention design (Kennedy et al., 2007). Key to utilising the WISE approach was an emphasis on being flexible in consultations to engage with patient concerns and agendas to appropriately utilise behaviour change methods incorporated in the trial design. While an emphasis on understanding patient's lived experience was incorporated into the intervention and training, Habermasian theory was not drawn from. Integration of theory into the study findings is discussed further in the analysis section. Eight practices in the West Midlands and North West of England were recruited to take part in the study: four control practices and four intervention practices. The trial did not demonstrate any statistically significant changes in physical functioning between the control and intervention arms. However, it did show improvements in patient enablement and uptake in core OA treatments (Dziedzic et al., 2018) and possible reasons will be explored below.

Qualitative study design and methods. The MOSAICS study features a collage of sub-studies using different methodological approaches to evaluate the outcome of the

trial (Dziedzic et al., 2014). Qualitative methodology was utilised in this sub-study. To be able to obtain a variety of perspectives of the same phenomena (Mays and Pope, 2000), two types of data collection strategies were used. First, we used observation methods. Observation as a qualitative research method involves the researcher ‘going into the field’ and describing and analysing what has been seen, what people do and what people say, therefore, illuminating behaviour and interactions in natural settings (Walshe et al., 2011) and aims to identify meaning to people in that setting (Sharkey and Aggergaard Larson, 2005). We used observation methods in two ways. First, by observing nurse-led clinics delivered as part of the intervention. Second, we observed nurses’ discussions of their experiences and impressions of the intervention by attending post study feedback meetings at practices. We also interviewed nurses and patients who participated in the trial. We used in-depth interviews because they can yield rich sources of data on people’s experiences, opinions, aspirations and feelings (May, 2002). They enable the respondent to tell their own stories in their own words and the meaning that people attach to events can be revealed (Bowling, 2001).

Sample selection, recruitment and data collection. Research ethics approval for all sub-studies (including qualitative studies) comprising the trial was obtained from the local research ethics committee (ref:10/H1017/76). Data collection occurred in four stages. First, we approached all of the nurses from the intervention practices ($n=7$) and asked for permission to observe and audio record their clinics. All nurses agreed to be observed, but two declined to have their consultation audio recorded. A suitable date to attend a whole morning or afternoon of clinics was agreed. Written consent to participate was gained from the nurse. Researchers asked patients who attended clinics if they minded having their consultation observed and audio recorded. Written consent was obtained before and after each appointment. A total of 27 patient consultations were observed by AM and BNO. We were not able to match patient interviews with clinics because observed patients declined to be interviewed or could not be contacted.

Second, we used a convenience sample and recruited patients who had consulted at intervention practices. Consulting patients were issued baseline and 3-month ‘consultation questionnaires’ as part of the broader study evaluation. From questionnaires, we identified patients who indicated they had seen the GP and nurse. Potential participants were sent an invitation letter and information sheet offering them the opportunity to take part in the qualitative study. A total of 29 patients volunteered to take part in interviews. All patient interviews were undertaken in participants’ homes by AM. Participants provided informed written consent prior to interviews commencing and they were undertaken between May 2012 and May 2013. Patients were asked about their expectations of attending the nurse consultation(s); how they thought the visits went; what they discussed with the nurse (including exploration of exercise advice) and invited to reflect on what they thought was helpful and what they would have changed (if anything). Patients

were also asked to reflect on their response and subsequent actions in relation to the consultation advice (particularly, in relation to exercise).

Third, all nurses from intervention practices ($n = 7$) were invited to take part in semi-structured interviews once the intervention had been completed. At the time of the interviews there was an increased amount of organisational pressure on primary care services and only four nurses participated because others could not spare the time. The nurse interview schedule featured topics such as: how they found delivering the new consultation; invited to compare the intervention to routine practice; how they thought patients responded to consultations (including to exercise advice); what they thought worked well in consultations; their thoughts on what worked less well or could be improved (if anything). Finally, AM and BNO attended and observed post-intervention feedback meetings ($n = 4$) at intervention practices where participating HCPs (GPs and nurses) experiences of and thoughts about the intervention were discussed.

Data analysis. All interviews and 21 of the 27 clinical observations were audio recorded and professionally transcribed verbatim (two nurses did not give consent for audio recording of their consultations). Field notes from clinical observations and study meetings were typed up into a standard format. Thematic analysis was undertaken using some of the principles laid out by grounded theory, in particular, focussing on identifying emergent codes, developing themes and constantly comparing data and coding (Charmaz, 2006). Data analysis took place in several stages. First, members of the research team independently read and closely coded transcripts and field notes. Independent coding was compared and broader themes agreed. Memos were used during analysis to record developments in coding and make connections between themes and supporting comparisons with existing literature (Charmaz, 2006). During analysis, 'deviant cases' in the data were searched for to act as 'disconfirming' checks and balances (Green and Thorogood, 2004). As analysis progressed the utility of Habermasian thought to situate findings was increasingly considered. As a final step, the data were deductively recoded using the Habermasian concepts to allow clear comparison with the open coding and ensure that there was strong conceptual and data 'fit' (Macfarlane and O'Reilly-de Brun, 2012) or alternatively, enough scope to credibly extend or expand theory (e.g. we discuss space and place in the context of the lifeworld). Another example of where Habermasian thought does not directly explain findings relates to the nurses' interpretation of the intervention's purpose and 'fit' with existing work (normalisation process theory is more relevant), however, their interpretation informs how they engaged with patients in the consultation (see also the 'Results' section).

Results

We begin by presenting data from observations of study meetings and post-intervention interviews which reveal nurses' interpretations of the intervention,

their role within it and how well they thought it went. We then turn to observational data from consultations and describe how nurses enacted discussions about exercise. Finally, we report data from patient interviews regarding their responses to exercise advice and attempts to fit exercise into their 'lifeworld'.

Nurse interviews and post-study meeting observations

'Fit' with existing practice. Our analysis revealed that the practice nurses involved in delivering the trial interpreted the intervention purpose, aligned it within their existing frame of reference, their usual working practices and rationalised what the core deliverables would be, indicating that nurses were attempting to 'normalise' the intervention within their immediate working context (Macfarlane and O'Reilly-de Brun, 2012). Within this framework, participants considered that the intervention significantly focussed on promoting lifestyle management to patients to help them manage pain:

It really does make you think about promoting lifestyle, it does, and a positive effect that pain control have. (Nurse 3)

Importantly, an emphasis on discussing lifestyle and imparting the correct information to patients was seen to 'fit' well with normal routine practice. In particular, it was interpreted as an 'extension' of what nurses did in other chronic condition clinics:

The practice nurse linked what she was taught in the MOSAICS training to what she has to deliver in other chronic disease clinics, just with more of an OA specific focus. (Practice 4 meeting observation, 13 November 2013)

Thus, nurses' interpretation of the intervention was about promoting lifestyle management which was deemed to be easily situated alongside their usual practice. Accordingly, nurses saw their role as being one to 'motivate' or 'educate' patients:

One lady had stopped going swimming because she thought it was making the joints worse, and as soon as I, sort of, explained, 'No', you know, 'that exercise is actually helping'... They were a bit fearful that they were causing harm, you know, and exercise was the one thing, I suppose, I did concentrate on a lot with them, you know. (Nurse 1)

As this interview extract demonstrates, challenging patient perceptions of harm and correcting patients' fears and worries was seen as central to the nurse's role in the intervention and important in encouraging people to maintain or take up exercise. Seemingly, little attempt was made to understand the social construction of patients' perceptions. Even though nurses received training to take this into account, the structure of the consultation was shaped by the OA guidelines.

Thus, for those nurses whose consultation style was more didactic they could more easily stay within their preferred style. The nurses who were more open to change, and/or patient-centred would adopt a dialogue-based style using the OA guidelines as guidelines rather than as rules.

'Good' patients versus 'bad' non-motivated patients. A key theme that emerged from interviews and observations with nurses centred on the depiction of patients who were either compliant and a 'success story' or deemed recalcitrant, uncooperative or beyond assistance. The latter patients were subsequently disowned.

First, nurses 'good patients' or their 'best patients', who had been receptive to the messages that were conveyed. These patients were perceived to have made changes and benefitted from the intervention:

So, he was my best patient, because he came with his wife, and they were both encouraged by knowing if he lost weight, increased his exercise, then the benefits would help him. (Nurse 4)

Notably nurses took 'ownership' of such patients and emphasised how they were 'their' patient who reflected successful practice. The above example additionally illustrated that involving partners helped to reinforce the health messages.

Conversely, nurses described patients who were not 'success' stories. Observations revealed that they described characters who were problematic and non-adherent to advice:

... but they appear to have forgotten most of what the PN had told them, and when they felt 'well' have 'relapsed' into putting on weight or not doing exercise. The nurse sounded somewhat judgemental about patients not 'adhering'. (Practice 1 meeting observation, 09 October 2013)

Accordingly, nurses framed such patients as needing additional 'education' and as difficult to 'motivate' or take ownership of:

But patients can have the same attitude whether they're diabetic or whether they've got OA. It's to try and, you know, motivate them rather than tell them, 'Yes, you will do this, because this and this will happen', because it doesn't always work with some patients. You have to motivate them that it was their idea and for them to work with you. That's the thing, you know. They have to work with us and we work with them. (Nurse 3)

Nurses depicted themselves as patient-centred and with the intention to collaborate with patients, demonstrating some appreciation of the lifeworld by stating that patients needed to feel that it 'was their idea'. However, this was not carried through in their overall perceptions where they positioned 'failure' as the responsibility of the patient who had not 'worked' with them. Nurses distanced

themselves from such patients and critiqued them because they consulted ‘only because they wanted an operation and they were blinkered and wouldn’t listen’. Thus, ‘success’ and ‘failure’ were defined as the fault of individual patients’ intrinsic motivations and dispositions (Kennedy et al., 2013). We now detail how discussions about exercise were enacted in consultations.

Structuring the consultation around exercise. Our analysis developed a theme which describes the process of the consultation. This theme centres on the tendency for practice nurses to (a) utilise a particular structure during the consultation and (b) focus discussions on exercise and lifestyle.

Observations revealed that nurses heavily focussed on promoting exercise during clinics, in tandem with explaining why exercise was beneficial. This was particularly evident during first encounters with patients. Nurses followed a set format which arguably restricted mutual discussion and recognition of the patient’s agenda:

The nurse appeared to use a fairly rigid structure in the consultation . . . the approach she used shifted between quite a didactic one to being open to the patient’s concerns. However, she always focused upon the core NICE guidelines and promoting weight loss and exercise with the patient. Very little exploration of the patient’s context was engaged in. (notes from clinical observation, 18 June 2012)

This note points to the inherent tension in the intervention between asking the nurses to follow NICE guidelines (system world), while at the same time, being sensitive to patients’ perspectives (lifeworld). In the training emphasis was placed on flexibility in being responsive to the patient which is unusual in a trial where interventions tend to be tightly protocolised. In other words, the nurses had a degree of autonomy as to how they engaged with patients and thus they could either experiment with a patient-centred consultation or revert to their own preferred style.

Nurses usually asked patients whether the GP had discussed their understanding of and concerns about pain. They offered an explanation about the disease process of OA before explaining why patients needed to exercise, discussing how an osteoarthritic joint needs strengthening via exercise to ‘repair’ itself:

The nurse then brings in the importance of exercise and strengthening the ligaments and muscles to the patient. I.e. the muscles and ligaments support the knee joint, taking the strain which helps it repair itself. The patient has been generally agreeing with this explanation, saying ‘Okay’. (Clinical observation notes, 18 June 2012)

Consultations were often guided further towards the topic of exercise by the nurse asking the patient how active they are, or if they engage in a particular form of activity:

Nurse: Yes and what about activity, how active do you . . . how mobile are you, what you do in a day?

Patient: Well I have a dog that I take out twice, two or three miles I walk him. The thing is I have to watch myself when I take 'im through the woods obviously, the prospect of some of the ground being damp and slipping, you know you could give yourself a right...

Nurse: Tripping up as well?

Patient: And then there's the... basically he's quite good [whistles] and then he'll come [laughing].

Nurse: So he's quite well behaved?

Patient: Yeah.

Nurse: Do you do the garden or anything like that? Do you do anything else?

Patient: Only a little bit of digging, that's all. My wife does the gardening, she's the gardener.

This was a common approach by the nurses, delving into the patient's 'lifeworld' with the purpose of framing the discussion around exercise and activity. Of note, the patient raised concerns about safety (slipping) which were not addressed; instead the nurse directed the conversation back to exercise and activity.

Maintaining the exercise agenda. In tandem with the previous theme, analysis revealed that as well as consultations containing a particular structure and initial emphasis, content was habitually steered towards a continual focus on an 'exercise agenda'. Exploring patients' existing activity was an entry route from which the nurses could begin to promote the benefits of exercise. They either promulgated the advantage of exercise for joint pain, or would reiterate previous explanations, frequently not engaging with patients' concerns that were seemingly considered tangential to the purpose of the consultation:

The patient attempts to initiate another discussion about eating fruit and OA pain.

The patient leads on this conversation and the nurse listens smiling, but does not deal with the patient's queries. Instead she changes to topic of the consultation to exercise again, reiterating that doing exercise does not necessarily make joint pain worse.

(notes from clinical observation, 01 August 2012)

Often patients would respond by either 'proving' they were active people, outlining that they struggled because of pain, or highlighting 'real world' reasons (finances, time issues) as to why they could not engage with exercise. Nurses responded by offering encouragement to 'good patients' who were thought to agree with their agenda. If patients questioned the rationale for doing exercise or described difficulties, the nurses would often reiterate the reasons for doing exercise or try to 'problem solve':

Nurse: Do you do anything like swimming or anything like that?

Patient: I would love to do swimming but I've got warts all over my torso and I've been to the nurse several times over the years to have them sort of removed round the back where a swimming costume would be, I just feel very self conscious about it...

Nurse: You know you can get . . . the Australian surfers use them and I must admit I do when it's really hot, it's got like a little polo neck there and it's like a t-shirt and it's pretty close fitting and it's all stretchy lycra type stuff and you can get them all different colours. They were selling them in TK Max at one time, if you look in the kids' section, the bigger kids, they're really stretchy, it's like a t-shirt so that would cover up quite a bit and that sort of help like that . . . and they're specifically for going in water.

The example highlights how the nurse engaged with the patient's worries about finding a suitable swimming costume, but did not discuss what alternative activities may be enjoyed or what may suit the patient. Thus, nurses tended to prioritise or repeat the OA guideline agenda, or try to solve patients' problems rather than enter into a dialogue about the patient's thinking and what might be an acceptable course of action.

Follow-up consultations featured a pattern of nurses checking up on what patients had been doing and exploring any problems that they had encountered. The agenda of promoting exercise and its benefits remained at the forefront of these consultations. Patients who demonstrated that they wanted to engage with exercise were praised for doing the 'correct things'. Where patients reported problems, nurses reminded them why it was important to exercise and their concerns were not discussed explicitly or negotiated, with nurses returning to a didactic or problem-solving approach.

In summary, nurses led consultations, focussed on exercise and tried to ensure that patients were compliant with the treatments emphasised by the NICE OA guidelines, which was ultimately what they were trained to do. Consequently, nurses were more pre-disposed to following a model of communication which limited engagement in patients' 'lifeworld' in a mutually beneficial way. Thus, while nurses may have operated a mode of communication that did not necessarily 'block' or 'ignore' the lifeworld (Barry et al., 2001), interactions were conducted with an underlying agenda which arguably did not serve to fully access the person's agenda and facilitate open communication (Greenhalgh et al., 2006). This communication style did not necessarily prevent patients from engaging with the advice provided. We turn to patient interview data to explore what happened after receiving the intervention.

Reactions to being advised to exercise: situating advice against interests, concerns and needs.

Analysis of patient interviews unearthed a theme which indicated that patients responded to exercise and lifestyle advice in a number of ways, but which were underpinned by a common theme, namely, how they related it to their existing lifestyle, experiences, concerns or personal agenda (or the 'lifeworld').

In the interviews, a number of participants ($n=4$) explained that being given exercise was not uncharted territory because 'a lot of it, I already knew', especially, if they were recreational walkers or cyclists. Thus, they interpreted the advice as useful because it reinforced existing knowledge, but not novel. In the main,

participants were receptive to the rationale for doing exercises, because they integrated well with a broader concern or priority in terms of maintenance of health and ability to avoid the disruptive qualities of ill health, well exemplified by this quote:

And I do think that the explanation about keeping the certain muscles, you know, above the knee and behind the knee, and keeping those strong, actually helps, you know, the knee, and keeps that mobility. And, obviously, from my point of view, I want to keep my mobility for as long as possible. I've had both knees cleaned out – one twice and one once – and I'd prefer not to have an operation on them for, you know, the foreseeable future. So it was helpful to have that information from the nurse. (Participant 15)

In short, patients appreciated being given a technical explanation which underpinned the reason for undertaking exercise and allayed future fears of disability. This participant, in common with others, compared the actions of the nurse favourably with previous experiences of visiting physiotherapists for musculoskeletal complaints: I think that the, you know, the fact that she doesn't just give you the piece of paper with it on saying do these. She explained them properly and the benefits of doing them. That's what I get out of them so you know I thought that was pretty good. (Participant 4)

Participants valued that the nurse actively demonstrated the exercises because it helped to clarify what they needed to do and how, coupled with explanations about their current and future benefit. In other words, nurse consultations influenced how patients *thought* about knee OA and offered some reassurance about future prospects.

For some participants, the series of visits to see the nurse acted as a motivator and, without the nurse's engagement, they would not always have continued using strengthening exercises beyond the first week. As a result, participants suggested they should routinely use exercises, or as another person put it, used them 'religiously three times a day, just like she said'. While participants were cognizant about the reasons for exercising, they did not always maintain exercise as part of their daily lives and routines. Patients who had difficulties (discussed below) suggested that nurses had a particular agenda, intimating that they felt little room was offered for discussion or exploration of alternatives that represented a better fit with their own views: 'she wasn't talking off a script, but it wasn't too much of an interactive discussion' and 'she just kept on about these exercises' (Participant 23).

Continuation with muscle strengthening or aerobic exercise was influenced by either contextual embodied knowledge or availability of appropriate 'places' within which to exercise. We now discuss this in more detail.

Effectiveness of exercise: embodied experiential knowledge. Analysis revealed an important factor in determining the effectiveness of exercise(s) was whether some

form of ‘proof’ existed in terms of feeling less pain or other perceived benefit. Closely related was the ease of being able to take up exercise, often situated against living with the symptoms of other health conditions.

For some participants, doing muscle strengthening exercise rested upon whether they were found to be beneficial after a period of testing and observation:

The first few times I said it was very, very painful, and was really uncomfortable, but the pain in my knee, I can get comfortable again now, so I’m hoping that that’s because of the exercises. So I keep doing them. And keep trying them. (Participant 14)

The above participant demonstrates that decisions about effectiveness were informed by a period of observation whether muscle strengthening exercises had reduced pain. Other ‘visible’ evidence of success included reduction in swelling or inflammation or improvement in function.

Conversely, some participants contested the utility of doing exercise by suggesting it increased pain, again drawing on experiential evidence to make the case:

I tried riding a push bike and I can’t, I mean obviously I can ride it but once I come to getting up a hill and that I can’t put the pressure on me knees. And any distance walking I can walk for so long but after that I can’t, I’ve got to stop, I’ve got to rest me knees. (Participant 6)

For this man, the level of pain experienced when cycling or walking made him feel like stopping and resting, thus, he decided that subjecting himself to self-inflicted suffering was not worth persevering.

This next person subtly suggested that the prescribed exercise was ineffectual as it had not made any *immediate* noticeable improvements to her condition:

Well I am doing it, I can’t say that I’ve noticed a difference yet, but then again, we’re just shy of two weeks of seeing her so, maybe it’s not had time to work yet. It hasn’t made it worse, but I can say that it’s made it better either. (Participant 12)

The lack of definitive experiential evidence indicating ‘difference’ in pain or function levels left her unconvinced that she could derive any benefits from the exercises.

A number of participants ($n = 5$) who suggested that aerobic exercises might be difficult and unpleasant were influenced by the presence of co-existing health conditions. This man suffered from respiratory problems and said that walking could, at times, be problematic:

I have to stop and get my breath as well because it seems like I get out of breath as well and it’s ever so awkward, I can’t really explain it. I’ve got my walking stick, I’m getting out of breath and I’m thinking I’m only 48, it’s ridiculous. (Participant 13)

Because of difficulties arising from his chest complaint, he did not prioritise doing additional exercise for knee pain because of the additional complications and discomfort. Again, embodied knowledge played a role in exercise uptake. This was further influenced by previous advice received from HCPs that had been incorporated into the life world and in turn shaped the meaning and relative importance of other morbidities (Cheraghi-Sohi et al., 2013).

In summary, aerobic and muscle strengthening exercises which participants thought were difficult (often pain conferring), hard to do or yielded little tangible effect were off-putting and discontinued. In our study, a combination of 'lifeworld' embodied experiential knowledge (Germond and Cochrane, 2010) and advice from clinicians shaped participants' engagement with exercise. In some instances, OA was balanced against their experiences and sense-making about other health problems, so patients restricted aerobic exercises to what they felt was manageable and would not 'threaten' their overall health.

Incorporating exercises into the 'places' of the lifeworld. A co-existing theme emerged during analysis of patient interviews which details how the social and geographical position of individuals was a central factor whether and how they could embed exercise into their 'lifeworld'. This was partly an issue of resource, but more strikingly, an issue of the meaning of spaces and place.

One example is how participants' engagement with exercise was influenced by their interpretation as to how it could fit into existing routines and whether appropriate places could be found to exercise:

I work on the third floor of the building, I don't like lifts so I am always up and down the stairs; been catching the bus recently so it's a 10, 12 minute walk into the village and back and then it's just really, housework and gardening. (Participant 7)

This woman considered herself active due to the nature of where she worked and her existing pursuits. Furthermore, she also assessed her existing routine and modified it by incorporating additional activity into it by catching the bus to work. Thus, she did not experience a contradiction between her lifeworld and medical advice and, as a result, she could adapt her everyday routine without too much difficulty and embed the prescribed advice.

Exercise as an isolated and individual experience, on the surface, could be interpreted to not 'motivate' people. Notably, participants discussed the role of appropriate venues for doing exercise. As the following excerpt highlights, participants did not position the 'home' (a part of the lifeworld often seen as a place of leisure, relaxation, safety and retreat (Imrie, 2004)) as an appropriate place to undertake exercise:

Why I don't do the exercises? I don't know. It's just – I think you've got to get into a routine of doing exercise, haven't you? I go to a health spa; a few of us go to a health

spa every so often. So I always do exercises there. It's just doing them on your own in the house, which I know sounds silly, but it's just a bit boring. (Participant 9)

Being able to access an appropriate 'place' or venue that had meaning as an arena within which to exercise and socialise was important and this meaning giving as either appropriate or inappropriate for exercise or activity in turn influenced the activities engaged in and health benefits obtained (Doughty, 2013; Krenichyn, 2006; Milligan et al., 2013).

A lack of facilities to exercise (including group classes which would provide an appropriate social space) was highlighted. Finding group classes was not necessarily easy, with participants citing the high cost of using gyms or stating that they would not belong because 'it's hard to find something where there's other people of a similar age'. Other participants felt that they would feel awkward due to their weight and not meeting a 'fit and healthy' body image they associated with gyms:

I think they'd laugh at me if I went to a gym now, too embarrassed... I used to go to gyms; it's probably 'cause I was looking at people who were overweight when I wasn't and my comments around that, which were not very nice. And I could imagine the same thing being said about me. (Participant 17)

The presence or absence of venues or 'places' that were meaningful, comfortable and appropriate for exercise was an important facilitator or inhibitory factor for participants when trying to undertake more exercise(s). In Habermasian terms, participants resisted the encroachment of medical 'system' imperatives (exercise) into certain places of the 'lifeworld' (the home) and embedded the advice using 'suitable' places where possible.

Discussion

We have described a nested qualitative study within a trial that examined if, how and why patients engaged with an intervention to test a method of increasing patient self-management of OA in line with the relevant NICE guidelines (Dziedzic et al., 2018). The findings draw from data gathered via a combination of observations and interviews with practice nurses and patients.

Data analysis revealed that nurses thought that the intervention fitted with existing ways of working and the interpretation of their role (Macfarlane and O'Reilly-de Brun, 2012) which was to educate and motivate in a patient-centred manner. They depicted 'success' and 'failure' to be related to patients' willingness or motivation to work with them and their agenda, thus blame was attached to patients for lacking the necessary intrinsic dispositions or personal qualities (Kennedy et al., 2013). Observations of clinical consultations revealed a pattern where nurses discussed exercise in a way which situated a biomedicalised 'system' (Barry et al., 2001; Greenhalgh et al., 2006) agenda, often drawing from the 'lifeworld' (or patient experiences) to ensure that a means-ends goal was achieved via

problem solving or turning the focus of the clinics back to exercise, thus ensuring compliance to a biomedicalised model (Zola, 1972). The intervention was unusual for a trial in that there was a degree of flexibility in consultations to ensure patient centeredness. This may have caused some tensions which the nurses had to decide how best to resolve, reflecting previous findings that nurses attempt to remain 'in charge' to maintain their professional role and purpose and not feel undermined (McDonald et al., 2008).

Interviews with patients indicated that attending nurse clinics had ameliorated some commonly reported perceptions that exercise would further damage the joint (Hendry et al., 2006; Holden et al., 2012) and encouraged people to try to exercise. In other words, the explanation and potential of exercise made sense to patients. While patients understood the benefits and logic behind exercise(s) and said that they had engaged with them, they did not necessarily continue with them, consistent with preceding research that patient compliance is influenced by experience and meaning-making, thus 'reasoned' (Conrad, 1985; Donovan and Blake, 1992; Zola, 1982). Patients made short-term assessments of the efficacy of exercise(s) in terms of pain reduction and improvements in function. This was aided by the perceived ease in which they could do exercises (both strengthening and aerobic), but patients reported that they found it difficult to discuss with the nurses if they encountered any problems. Conversely, other patients cited experiential evidence of no improvements to pain or function, said that exercises caused more pain (Holden et al., 2012), or that exercises were physically difficult to complete. Thus, lay experiential knowledge played a role in if and how patients felt willing or able to incorporate exercise into their lives, similar to previous findings that embodied knowledge is an important resource which influences self-management activities (Pickard and Rogers, 2012). This was sometimes further compounded by the presence of complex multi-morbidities which can be the focus of patients' attention dependent upon (temporally shifting) fluctuations of symptoms and their impact (Cheraghi-Sohi et al., 2013). Notably, engaging in exercise was influenced by the meanings that people placed upon particular environments in relation to their appropriateness as a 'place' to exercise (Doughty, 2013; Krenichyn, 2006; Milligan et al., 2013), which contrasted with meanings associated with the 'home' (Imrie, 2004), arguably a place not connected to exercise because it relates to refuge, safety and relaxation. Participants preferred participating in group exercise classes or using venues which provided an element of social interaction, which was beneficial because it matched their personal priorities or dispositions (Milligan et al., 2013). Conversely, participation could be inhibited by the lack of affordable and welcoming places to exercise where people felt they 'fitted in' (Ali et al. 2012; Morden et al., 2011).

To recapitulate, the trial demonstrated no changes in physical functioning between control and intervention while making improvements in patient enablement and uptake in core OA treatments (Dziedzic et al., 2018). The findings from the qualitative study offer insights into why, despite the trial demonstrating an initial uptake in core treatments, no broader change in physical function because,

notwithstanding those who reported benefits, of the range of challenges in adopting maintaining or exercise long term within the patient's sense-making domain. Other factors may have played a role, not least the length of the intervention which may not have provided patients with ongoing support or motivation. However, a longer intervention dose would also benefit from taking account of this study's findings.

Previous research suggests that failing to openly engage with the 'lifeworld' can be detrimental to consultation outcomes (Barry et al., 2001; Greenhalgh et al., 2006; Mishler, 2005). Our findings indicate that this was not necessarily the case. One way of explaining this dissonance is that the Habermasian perspective of society depicts that negative things stem from the 'system' and good things arise from the 'lifeworld' (How, 2003). In contrast, Edwards (2012) notes 'that "system" and "lifeworld" are intermeshed in ways more complex than Habermas suggests' (p. 43) because patients seek to make gains from medicine, which could, for example, be receiving a diagnosis or treating complaints (Ballard and Elston, 2005). Therefore, patients arguably attended nurse clinics because they were seeking a way to ameliorate the impact of pain (discussed as the reason for consulting in interviews, but not reported above) and they followed the nurses' advice because they obtained a clear sense of the potential benefits of exercise.

Habermasian literature argues that when patients encounter the 'system' voice of medicine, in some cases, they engage in forms of 'resistance' when it encroaches into the 'lifeworld' and fails to resonate with values, preferences and existing ways of living and knowing (Jackson and Scambler, 2007; Williams and Popay, 2001). Our findings simultaneously differ from and corroborate this corpus of work. Some patients *appropriated* medicalised exercise regimes into their lives, be that by incorporating exercise into daily routines, by ensuring it was effective and therefore worthwhile, or by finding appropriate places and spaces to exercise. Other patients *resisted* the voice of medicine: first, because they had no experiential evidence of effectiveness or were worried about the interaction with co-morbidities; second, because they lacked access to venues that felt meaningful and comfortable as places to exercise. In other words, they placed a boundary around the meaning of places central to their 'lifeworld'. Lived experiential knowledge and meanings attached to 'place' influenced if, how and why people took up exercise with joint pain. Our findings suggest that incorporating aspects of human geography, specifically how people engage with the phenomenological embodied spatial elements of the lifeworld, can enhance Habermasian theorising, something not always explicitly incorporated into this lineage of thought and analysis. Patients' accounts suggest that they did (initially at least) try exercise(s) despite closed consultations, which contradicts Habermasian literature (Barry et al., 2001; Greenhalgh et al., 2006; Mishler, 2005) for reasons outlined above. Patients may have benefitted from a more open communication style, especially in follow-up consultations (which focussed on reiterating messages about exercise). For example, research has found that it is possible to help patients transcend fears of pain relating to exercise (Hurley et al., 2010) and we suggest that *how* topics are discussed over a series of

consultations plays an important role. Positioning patients as motivated or unmotivated as a result of intrinsic personal dispositions can be problematic, because focussing on individual behaviours often omits the contextual factors which underpin ‘motivation’ (Ong et al., 2014b). A more open and detailed discussion is arguably beneficial for patients (Barry et al., 2001), because it can uncover the complexities of their embodied experiences and sense-making (Germond and Cochrane, 2010), what constitutes appropriate healthful actions and when and where they are deemed acceptable. Such an approach would arguably support continued uptake of exercise and support continued enablement as per the trial findings (Dziedzic et al., 2018). Recent debate considers the importance of whether incorporating lay experiential (or ‘lifeworld’) knowledge can improve the development and conduct of complex interventions and clinical practice (Greenhalgh, 2014; Percival et al., 2017). The findings from this study, particularly relating to the challenges and tensions inherent in communication and negotiation of different agendas, reiterate that paying greater attention to how patient experience is responded to during an intervention as well as during its design stage could influence positive outcomes (or otherwise).

Conclusion

This article demonstrates the importance of nesting qualitative studies within trials and drawing on social theory to contextualise and explain findings. Furthermore, the study also elucidates the importance of paying attention to communication styles and patient agendas in consultations. In this case, trial outcomes may have been improved by greater emphasis on consultation style and being responsive to patient needs (beyond what was already incorporated). Finally, the study also offers potential for developing the scope of Habermasian theory applied to health by more explicitly incorporating phenomenological approaches human geography (space and place) into analysis.

Declaration of conflicting interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The author(s) disclosed receipt of the following financial support for the research, authorship and/or publication of this article: This paper presents independent research commissioned by the National Institute for Health Research (NIHR) Programme Grant (RP-PG-0407-10386). The views expressed in this paper are those of the author(s) and not necessarily those of the NHS, the NIHR or the Department of Health. This research was also funded by the Arthritis Research UK Centre in Primary Care grant (Grant Number 18139). CJ is part-funded by the National Institute for Health Research (NIHR) Collaborations for

Leadership in Applied Health Research and Care West Midlands. The MOSAICS trial was supported by Keele Clinical Trials Unit.

ORCID iD

Andrew Morden  <https://orcid.org/0000-0003-2482-7179>

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Author biographies

Andrew Morden has a background in medical sociology and has previously worked as a researcher at the Universities of Bristol, Keele and Wolverhampton.

Bie Nio Ong is Emeritus professor of Health Services Research at Keele University.

Clare Jinks is a professor of Health Research at Keele University.

Emma Healey is a senior research fellow in Applied Health Research at Keele University.

Andrew Finney is a senior lecturer in Nursing at Keele University.

Krysia S Dziedzic is a professor of Musculoskeletal Therapies and an NIHR senior investigator at Keele University.