Word count: 5338

Introduction

The number of people in the UK affected by musculoskeletal (MSK) conditions is growing [1]. Certain groups are disproportionally affected, such as those from minoritised ethnic communities, who are more likely to have greater levels of pain [2] and less likely to be physically active [3]. National guidance highlights the role of healthcare professionals (HCPs) in supporting people with MSK conditions to engage with physical activity (PA) [4], however, little research has focused on understanding what optimum support should look like. One in five GP consultations are related to MSK conditions [5], it is therefore important to understand how and in what ways, advice, support, and guidance is translated into practice.

Literature focusing on minoritised ethnic groups report a range of barriers affecting self-management and engagement with PA including: a lack of access to PA opportunities, time, knowledge of resources [6,7], language barriers, fear of racial harassment or abuse when exercising [8], and poor communication and inadequate information from HCPs [9]. Exploring the impact of these wider determinants could improve understanding of contextual factors and enable the development of more effective guidance for supporting PA engagement for under-served population groups.

This project adopted a realist perspective, to understand 'what works, in which circumstances, and for whom?' rather than merely 'does it work?' [10]. An additional stage integrated Q-methodology as a tool to understand the priorities of stakeholders to find out what was most important from their perspective. The aim was to understand the support needs and preferences to engage with PA, for people with MSK conditions from ethnic minoritised communities, drawing on academic evidence and stakeholder engagement.

Patient and Public Involvement

Two public contributors were involved. One was able to commit to the initial ideas stage only, and one (TB) remained on the team and was involved in decision-making throughout all stages of the project. Both contributors were from ethnic minority population groups.

Realist Methodology

Realist Methodology is a form of theory-driven applied research particularly appropriate for unpacking complex interventions and pathways because of the focus on understanding how they work in different contexts, and importantly, why. It embraces the idea that complexity is inherent in social systems [10] with a key aim to make explicit the ways in which various contexts affect outcomes via the triggering (or inhibiting) of various mechanisms [11]. Several Hypotheses or 'initial programme theories' are developed in the form of context-mechanism-outcome configurations to explain the interaction between contexts (C) (such as economic, geographic, social, cultural factors), mechanisms (M) (the underlying processes which generate the outcomes of interest), and outcomes (O) (intended or unintended consequences of the mechanisms and related contexts)[12].

Q-Methodology

Q-methodology explores the subjective views of people with lived experience of the phenomenon being examined, to understand what is meaningful and valued from their perspective [13]. Participants rank statements relative to each other by sorting across a continuum of agreement to disagreement using a bell shaped grid (figure 1) [13]. The value in adopting Q-methodology over other qualitative approaches, is that it provides the tools (utilising inverse factor analysis methods) for making subjective meanings objective, offering a systematic means to examine human subjectivity [14], and enabling the relative importance of different topics, within sub-groups of the sample population to be identified and explained.

INSERT FIGURE 1 HERE

Combining methodologies

Q-methodology is increasingly being adopted in healthcare research [15], and has been integrated into realist evaluation approaches to assist with the refinement of initial programme theories [16]. The philosophical compatibility between the two approaches relates to the starting point of any Q-study, the concourse or 'a field of shared knowledge and meaning from which you can extract a range of statements about any situation or context'

[17] aligning to the realist approach of capturing the contextual conditions needed to trigger mechanisms that lead to outcomes [11].

Design and Methods

This project combined realist synthesis with stakeholder engagement and a Q-sort exercise to develop and refine initial programme theories. Guided by realist synthesis literature [18,19] four steps included: 1) defining the scope of the review, 2) searching and extracting the literature, 3) stakeholder validation, and 4) further validation and refinement using q-sort.

Ethical Approval

Ethical approval was granted for the q-sort study on 5th July 2022 from the University of the West of England Faculty Research Ethics Committee (HAS.22.05.106).

Step 1: Defining the scope of the review

First, we scoped the literature to hypothesise potential factors affecting engagement with PA for those with MSK conditions from minoritised ethnic population groups. This included developing search terms following informal community engagement (the lead researcher and PPI contributor visited several local community groups to informally discuss the broader topics) guided by the public contributor (TB) who had established links with several minority ethnic community groups. This was important to refine and focus the work, by asking community members what areas of interest were important to them. We asked what the focus of the project should be, and if the initial topics we had identified were important and relevant. This step ensured relevance of the project scope, purpose, and research questions.

Step 2: Searching and extracting the literature

Databases (PubMed, CINAHL, PsycINFO, Medline) were searched in March 2022 (Appendix 1). Papers were included if they contained: 1) MSK population, 2) PA as a topic, 3) ethnic minority population groups. Papers focusing on broader self-management were included if they provided specific insight into PA. Papers were excluded if they didn’t include a patient perspective. Citation tracking was carried out, and sibling studies and policy documents were included if they helped to refute, refine, or substantiate initial theory ideas. Data extraction was guided by recognised realist review procedures [19,20] in the form of 'journaling' [21]. This technique subjectively highlights key concepts to provide insight and causal explanation. Data were collated from the included papers, grouped into similar topics areas (communication/language, trust, literacy, cultural awareness) and this information was used to write early theory ideas in the form of 'if, then' statements, pulling out elements from the documents to help answer the research objectives. For example, '**IF** there are mis-matched expectations between healthcare professional (HCP) and patient, or decisions have already been made by the HCP about treatment options, **THEN** the patient will become disillusioned and disengaged from the interaction **BECAUSE** there was no sharing of power in the process, and treatment decisions or advice about healthy behaviours are not relevant, acceptable, or valued by the patient.'

Step 3: Validation with content experts - stakeholder workshops

Stakeholder workshops acted as a form of validation (sense checking with a view to making refinements) for the initial rough programme theories (in the form of 'if, then' statements) with content experts, in this case patients with MSK conditions from minority ethnic groups. Participants were identified by the PPI contributor who re-visited local community groups and invited people to take part. Local community champions highlighted a need for translated participant materials, and participant information sheets and consent forms were translated into Arabic and Farsi by a professional local council translation service. A translator (known to workshop participants) was also present during the workshops. Involving knowledge users (workshop participants) in this way increases the relevance and clarity of the review products (included papers), as well as their relevance to current practice (Saul et al, 2013). 'If, then' statements were articulated into context, mechanism, outcome (CMO) configurations.

Step 4: Further validation and refinement using a Q-sort

A further stage of validation and refinement was carried out by re-engaging with earlier stakeholders and asking them to complete a prioritisation (q-sort) exercise, as described below.

Q-Set: Development of statements

A 'Q-set' or set of 25 statements were developed from the initial programme theory areas which were drawn out of the literature and refined by the initial stakeholder engagement sessions. Short sentences/statements were created which aligned with the theory areas, and wording for each statement was piloted with PPI team members to check clarity and understanding (Appendix 2).

P-Set: Selection of participants

Recruitment of participants was carried out via stakeholder groups identified in earlier steps. The invite was also extended more broadly across wider community groups via links established in earlier steps. An information sheet (translated into Arabic and Farsi) and contact details were shared amongst community groups, and interested participants were asked to contact the research team or public contributor to arrange a q-sort session. Each participant was given a £10 voucher to thank them for their time. A translator was available for Q-sort sessions where needed, and they worked one-to-one with participants to assist in translating the Q-set and instructions for the Q-sort exercise.

Data collection

Following informed consent, participants were given cards (with statement headings printed) and a large, laminated sheet with the printed q-grid. Translators were present when needed.

Q-Sort session: 1) The lead researcher (AB) gave an overview of the topic areas and earlier work. 2) Each participant was given individual topic cards to place on the q-grid according to how much they agreed with the statement. The grid sorted the statements according to level of agreement/disagreement horizontally (with statements being equal vertically). Before sorting onto the grid, participants were asked to sort the statements into three piles of agree/disagree/neutral to help them with the process. Data were recorded and stored on a password protected university computer. 3) After each q-sort, participants were asked brief questions about the statements, including why they had chosen to place them on different areas of the grid (e.g. top 3, bottom 3). Answers were recorded and used to highlight key points about the most and least important topics.

Data Analysis

By-person factor analysis was carried out using the statistical programme PQmethod [22]. The programme looks for groups of participants who have rank ordered statements in a similar fashion, illustrating how they share similar perspectives [13]. The anonymised audio-responses were collated, and quotes used to highlight key points.

Sample

Data analysis techniques in Q methodology represent an inversion of traditional factor analysis techniques, where the 'Q-set' or set of statements become the 'study sample', and the 'P-set' or participants who carry out the sorting exercise become the variables [13]. The purpose here is not to generalise to the larger population, but to uncover the meaning and quality of viewpoints and to compare them across different groups. Outputs from the q-sort were used to refine the initial programme theories developed in earlier steps.

Results

Literature searches were carried out in March 2022. 17 papers were included (Appendix 3) (figure 2).

INSERT FIGURE 2 HERE

Initial CMOCs (Version 1)

Following completion of data extraction, initial theorising, and validation from stakeholder workshops (Four workshops were held (Summer 2022), 45 people attended in total. Ethnicities included: Afghan, Black African, Black Caribbean, Black Caribbean/British, British/South African, Chinese, Egyptian, Filipino, Guatemalan, Korean/Norwegian, Lebanese, Moroccan, Syrian, Turkish. MSK condition areas included: hip, low back, knee, wrist, shoulder, neck) several initial programme theories were developed (See Appendix 4).

Q-Sort Results

Eighteen participants (Table 1) completed a q-sort session between July and September 2023. Sixteen participants gave verbal feedback about their choices following the exercise.

INSERT TABLE 1 HERE

Following Q-factor analysis, a two-factor solution was chosen. Twelve participants loaded onto factor 1, and six participants loaded into factor 2. By-factor rankings of all statements are provided in Appendix 5.

Factor 1: A valued therapeutic relationship where I am listened to, not dismissed, and with ongoing accessible support

Factor 1 had an eigenvalue of 5.14 and explained 29% of the study variance. Twelve participants were significantly associated with this factor. They included 11 female and one male. All participants were able to converse in English, and no interpreters were needed for any of the q-sort sessions.

A key focus for this factor group centred on the importance of building a trusted and valued therapeutic relationship with a healthcare professional, alongside elements of positive shared decision making such as being listened to (9: +4) not feeling dismissed (7: +3) and having enough time during an appointment to talk through symptoms and treatment options (4: +2).

Despite this, having the same viewpoints as a healthcare professional (6: 0) and an equal balance of power (10: -1) when making decisions together about treatment and physical activity options (20: -1) was less important, whereas elements of patient centred care such as being able to build a relationship with the same individual (11: +3). Being able to easily access long-term support (14: +1) and follow-up appointments with the same person (13: +1) was central, as was the ability to book an appointment in the first instance (2: +3). For this group, a translator was not a requirement (1: -4).

Conversely, having a healthcare professional understand one's broader cultural background and values (16: -1) or having knowledge of, and links with, one's community (25: -2) was not essential, however, healthcare professionals actively recognising and acknowledging a history of negative experiences often related to healthcare (15: +1) was relevant, particularly when there is a focus on re-building trust.

Overall, the sense that this group valued a strong relationship with a healthcare provider that enabled them to receive efficient support and advice to be physically active, potentially earlier on in the care pathway, came through as more relevant when compared to broader physical activity engagement and signposting to activities (20: -1), including knowing about locally available exercise classes or courses (19: -2) or having lots of choice of physical activity options in their local area (18: -3).

Factor 2: We can't get to the support that we want and need. The front door is locked!

Factor 2 had an eigenvalue of 1.85 and explained 10% of the study variance. Six participants (5 female, 1 male) were significantly associated with this factor. Three participants were supported by interpreters during the Q-sort exercise.

For this factor group a significant issue was being able to access the necessary support from the health system. Complicated booking processes meant that being able to book an initial appointment (2: +4) (or follow-up appointments (13: +2)) to get help and advice was difficult (2: +4), and this was further impacted by not being given the choice of a face-to-face appointment rather than online or telephone (5: +3). A lack of access to translation services, particularly at this initial step of engaging with the health service within primary care (1: +3) added another barrier to accessing support, and these difficulties at the start of the journey was further impacted by not knowing who or where to go for relevant advice (3: +1).

If it was possible to book an appointment to see a healthcare professional, the importance of shared power during the consultation was valuable for this group (10: +2), though having the same viewpoint about treatment options as the healthcare professional was not always deemed necessary (6: -2). Group preferences were to be directed by a healthcare professional about what type of physical activity sessions or classes might be most appropriate for them to do (20: +2), though this didn't need to extend to what classes or courses were accessible locally (17: -4) (19: -2) and it wasn't necessary for healthcare professionals to know all about local communities (25: -1).

A focus on patient centred care for this group included the importance of healthcare professionals recognising the relevance of a history of negative experiences and discrimination related to healthcare (15: +1) and how this might impact ongoing engagement with support, for example, a number described seeking alternative pathways to care (via A&E etc) avoiding other options because of negative experience. It was also important for this group that healthcare professionals understand an individual's cultural values to help re-build trust (16: +1) and not be dismissed (7: +1). Conversely, seeing the same person (11: 0), being listened to (9: 0) and having enough time to describe symptoms (4: -1) were not as relevant, and neither was being supported or directed by friends or family to specific physical activities (21: -3) or seeing similar types of people like me, being active (22: -1).

Overall, a significant barrier for this factor group was being able to access health service support in the first place, knowing where and who to speak to, and being able to arrange a translator to be present at this first step. Beyond this initial engagement, receiving knowledge from an expert about what activities were most appropriate was important, whilst at the same time acknowledging previous negative experiences so that efforts could be made to rebuild trust within both the therapeutic and wider health system relationship.

Refined CMOCs (Version 2)

Following consideration of the results of the Q-Sort, and review of most and least important topic areas for both factor group (Appendices 7 and 9), initial programme theories were refined and are reported below. Qualitative data illustrating viewpoints within each factor group and how these are reflected in the CMOs below, are reported in appendices 6,8,10.

1) Lack of initial access to support in primary care

CMO 1a) Getting through the front door - Complex booking procedures and inadequate translation services make initial engagement difficult.

Context: Complex procedures to book an initial appointment, and absence of choice of interaction, particularly for those who need support from translation services, make it difficult to engage with the primary care system, to successfully receive MSK self-management support from a HCP. [23–28]

Mechanism: Patients are unable to book an initial appointment (resource), and this leads to them becoming disengaged and disillusioned with the system early on (response).

Outcome: Disengagement. A poor experience early on when trying to access support in primary care, means that patients are less likely to reengage, and increases the chances of them exploring alternative treatment routes, such as presenting to secondary care (A&E).

It is important that patients receive timely support to engage with healthy behaviours such as PA, but there are major barriers at the initial stage of engagement with the health system. It is difficult to navigate the primary care system to book an appointment to explore options for MSK support with a healthcare professional (e.g. complex online booking systems), complicated by a lack of choice of interaction with HCP (face-to-face, online, telephone), and availability of interpreting services during the initial booking stage. This lack of access at the start of the MSK pathway reduces the likelihood of the patient having the opportunity to receive adequate skill training, education, and knowledge about successful self-management and PA. This poor experience causes patients to become disengaged with the system early on, meaning that they are less likely to reengage, and increasing the chances of patients exploring alternative treatment routes, including presenting into secondary care (A&E).

CMO 1b) Time to talk - The impact of time constraints on patient-centred care

Context: Pressures on the health system results in short appointment times, means there is insufficient time and continuity to support best practice in the delivery of patient-centred care. [27], (stakeholder engagement).

Mechanism: Longer appt times, which are patient-focused, means that the patient is listened to, and can fully explain the experience and impact of their pain and symptoms, and their needs for support.

Outcome: patient is more likely to engage with advice provided regarding self-management and engagement with health behaviours.

Short appointment times mean that patients do not feel listened to, and are unable to adequately describe their symptoms, experience of pain, and support needs. This results in the patient feeling dismissed, becoming disengaged with the service more broadly, and reduced likelihood of them re-engaging with the system for support in the future. Longer appointment times which are patient-centred, with a greater focus on listening and understanding the patients' experience of pain and symptoms, where decisions are shared, make the patient experience more positive.

2) The nature of MSK self-management support - Understanding the importance of the therapeutic relationship and value of shared conversations

CMO 2a) The negative impact of dismissive attitudes and mismatched expectations on shared decision making – the fine art of balancing power

Context: Patients and healthcare professionals may not share the same expectations from an encounter due to negative messaging around aging, dismissive attitudes, or differing perspectives on the options available for discussion.[23,27,28]

Mechanism: If there is clear, accurate, and positive messaging about MSK conditions and options for engaging in self-management and PA, and an understanding of the expectations of the patient, then patients and healthcare professionals will engage in shared decision-making bringing equal input into the process.

Outcome: The patient will value the care and advice received and engage with self-management and healthy behaviour such as PA.

The impact of mis-matched expectations between HCP and patient, leads to a sense that decisions have already been made and there is no sharing of power in the decision-making process, which results in feelings of dismissal and an increased likelihood of disengagement or dissatisfaction with the encounter. This can be further compounded when a patient receives negative messaging around aging ('this is very normal for your age, just take painkillers') or if HCPs dismiss the concerns of the patient, meaning that it becomes more difficult to work together with shared power and make decisions about the management of the MSK condition which are acceptable to the patient.

CMO 2b) Developing a positive therapeutic relationship and re-building trust between HCP and patient.

Context: A lack of consistent care, difficulty in re-establishing contact for support, and history of discrimination and negative experiences can impact attitudes and expectations about future care, resulting in a lack of trust in the HCP and system more widely. This means that the patient might avoid future engagement with the service where poor care was received and seek alternative avenues of support.[25,28–32]

Mechanism: Acknowledging previous negative experiences and ensuring consistent and accessible care which is driven by the HCP/team actively 'checking-in' with the patient , could help to restore trust, encourage engagement and activation from the patient, and strengthen the therapeutic relationship.

Outcome: Active engagement from the healthcare professional to help restore trust and strengthen the therapeutic relationship, impacting future engagement with advice received about self-management and healthy behaviours.

Consistent care with the same HCP (or team), who listens and does not dismiss the topics that the patient brings to the conversation, can support the development of a positive therapeutic relationship, impacting future engagement with advice received within that relationship. Furthermore, if HCPs (or teams) can maintain contact with disengaged patients and ensure regular check-ins to support self-management, this will positively impact the relationship, helping to restore trust and engagement with healthy behaviours such as PA over the long-term. If a patient has a negative experience in the health system, then they will be less likely to engage with future care and may take an alternative route to care (avoiding the service where poor area received). Acknowledging that negative past experiences impact attitudes and expectations about future care is vital to support the future development of a strong therapeutic relationship. When a patient has previously experienced discrimination which has led to a poor care experience, this will lead to further mistrust and disillusionment and will increase the changes of disengagement from the service, and the seeking of alternative routes of care.

CMO 2c) Cultural relevance in developing collaborative therapeutic relationships.

Context: Cultural relevance is an important element of patient-centred care, and a good understanding of the ethnocultural values of local communities can help HCPs to consider how self-management strategies and engagement with healthy behaviours is viewed from different cultural perspectives.[24,25,31–35]

Mechanisms: Having a good awareness of the cultural values within local communities can help HCPs to understand and provide relevant and acceptable self-management advice and information on relevant PA opportunities.

Outcomes: Development of more collaborative therapeutic relationships, where patient is listened to, and viewpoints are not dismissed.

There is a benefit to HCPs understanding the ethnocultural values of local community groups, and this will positively impact their ability to provide patient-centred support and advice. Having an awareness of local communities and their cultural differences can help HCPs relate to their communities, meaning that they are more able to understand the patient perspective, and provide relevant and acceptable self-management support and PA advice.

3) Accessible long-term support for PA engagement

CMO 3a: Clinician recommended PA opportunities increase knowledge and exposure to PA.

Context: It is important to consider how knowledge about local opportunities is shared. Patients want up-to-date information from a credible source (directly from a HCP/health service) about what opportunities are available locally. [6,25,28–30,36,37]

Mechanism: Up-to-date information about relevant local PA opportunities, ideally coming directly from a HCP through joined up working with community groups, means that patients will trust and value the information.

Outcome: Increased likelihood of long-term engagement with healthy behaviours such as PA, as well as increased feelings of social connectedness and feelings of belonging.

Patients felt it was important to know what PA opportunities were available locally but wanted up-to-date information from a credible source (via a community leader with links to HCPs, or directly from a HCP). If up-to-date information about relevant local PA opportunities are available and come from a credible source through joined up working via community groups and HCPs, this can increase the likelihood of engagement with various PA activities. Patients trust the source, the information is relevant and meaningful, and it simplifies decision-making about PA engagement.

Discussion

This realist synthesis and integrated q-sort study explored the barriers and facilitators impacting how people with MSK conditions from minority ethnic communities are supported to engage with PA. Initial programme theories were developed from the literature, then validated and refined by combining stakeholder engagement and q-methodology to highlight important topics. The findings have been able to investigate to a greater depth the barriers identified in previous literature, such as a lack of access to PA opportunities, time, knowledge of resources [6,7], language barriers, fear of racial harassment or abuse when exercising [8], and poor communication and inadequate information from HCPs [9].

This review shows that complex booking procedures and inadequate translation services make initial engagement with primary care difficult, emphasise the impact of time constraints on effective patient-centred care, dismissive attitudes on shared decision making, the importance of a positive therapeutic relationship and re-building trust, cultural relevance in developing collaborative conversations, and significance of PA advice coming from a credible source (HCP). Many of these topics sit outside of the more commonly reported barriers such as lack of facilities or time and focus more on the importance of receiving adequate support and advice from the health system, to gain the knowledge and skills needed to confidently engage in physical activity. Difficulties in getting an initial appointment to access support was highlighted, holding greater relevance for people who required translation support at this first step. The problem of equal access to care, potentially overshadows the relevance of re-building trust by acknowledging previous negative experiences and delivering culturally relevant support and care, emphasising the nuance around service level equality and deeper equity issues.

A focus on patient centred care for this group included the importance of healthcare professionals recognising the relevance of a history of negative experiences and discrimination related to healthcare (15: +1) and how this might impact ongoing engagement with support. For example, several participants described seeking alternative pathways to care (via A&E etc) avoiding other options because of previous negative experiences. It was also important for this group that healthcare professionals understand an individual's cultural values to help re-build trust (16: +1) and not be dismissed (7: +1).

Access to health service support

Not being able to get an initial appointment with a HCP to discuss symptoms, diagnosis, potential treatment options and subsequent engagement with healthy behaviours such as PA was highlighted from multiple literature sources, during both stakeholder workshops and the q-sort sessions, as being a major barrier, contributing to disillusionment and disengagement with the health service more broadly. This finding is echoed in other literature which highlights the importance of getting the basics right, ensuring that healthcare professionals communicate with people in a format that works for them, and offer meaningful support [38]. Moreover, findings from this work highlight how not getting the basics right is likely to affect specific population groups more greatly than others. This point is perhaps overlooked in PA literature which focuses further along the pathway on barriers to engagement with actual PA, rather than barriers to accessing the support to engage with PA.

Recommendation: Research and service evaluation should focus on opportunities to remove barriers to initial health system engagement for people from underserved communities, and particularly those who require assistance with language translation. Shifting MSK care to be more place-based, removing barriers to access, simplifying booking procedures, embedding interpreting services, and providing longer appointments where needed, could enable those impacted with the greatest inequities to more easily access support and advice to engage with relevant and acceptable PA opportunities. One emerging model of care which could address such barriers is the Community Appointment Day (CAD) which provides a comprehensive range of MSK support services under one roof, typically local leisure centres, and offered to patients on MSK referral waiting lists. The model offers access to services including assessments, advice, health promotion, rehabilitation and community and voluntary sector support, all in a non-medicalised environment and on the same day[39].

Nature of health service support

Dismissive attitudes of HCPs, mismatched expectations, not being listened to, or feeling valued and engaged during a healthcare consultation all contributed to further dissatisfaction and disillusionment of the health system. HCP guiding principles [40] frequently highlight shared decision-making and person-centred care as core constructs embedded in patient care, yet findings highlighted that such principles are not reflected widely. The importance of listening, to understand the needs and expectations of the patient, and restore trust by acknowledging previous negative experiences, should be a fundamental element of care, and is echoed in other literature which highlights the need for clinicians to provide decision support through two-way communication, sharing expertise in an understandable way, and listening to and acting on patient's preferences [41]. The relevance of cultural health capitol, a set of cultural skills, verbal and nonverbal competencies, attitudes and behaviours, and interactional styles, cultivated by both patients and clinicians, and the extent to which these impact positive health care relationships is highly relevant here [42] with the findings from this work reinforcing the importance and relevance of such skills. Health professionals need the skills and empathy [43] to accurately access an individual's understanding and capacity to manage their condition [44].

Recommendation: Are you listening? Findings highlight the importance of listening to understand the needs and expectations of the patient and consider avenues for shared decision making and therapeutic relationship development. Talking about PA – future research should seek to understand the beliefs, attitudes and barriers to healthcare professionals recommending PA for MSK conditions, to influence future guidance on shared decision making and therapeutic relationships in MSK long-term condition management.

Access to PA opportunities

The importance of receiving advice from a credible source was key. Participants wanted up-to-date, accurate, culturally relevant, in-depth advice from a healthcare professional about what physical activities could be beneficial and wanted ‘more than just a sheet of exercises.’
Recommendation: Future research and service evaluation should explore how models of care might be adapted so that HCPs can better support PA engagement through awareness of up-to-date local PA opportunities, cultural relevance of different activities, and opportunities for joined up working with local communities.

Strengths and Limitations

A key strength of this project was the involvement of stakeholders, whose input helped to direct the work initially, highlight key topics of interest, and refine programme theories throughout. Whilst the results are not generalisable to the wider population, the approach was able to gain a greater understanding of how broad health system issues are likely to be impacting specific populations groups more greatly than others.
The realist approach to literature synthesis provided an opportunity to gain a nuanced and detailed understanding of the issues surrounding optimal support (and access to support) for PA engagement. These initial theories will be utilised in future work, becoming the object of inquiry and framework for examining and theory testing at a greater scale (realist evaluation) [45–47].

Although the participant sample were made up of people from ethnic minority population groups in the UK, most did not require translation support. Therefore, it is important to acknowledge that the results are likely to reflect the experiences of those not needing translation support, and a sample where most participants did require translation support may have yielded different outcomes. This is also the first time that the lead author has adopted both realist and q methodologies. In future, they might consider adjusting future q-sort sessions, for example, carrying out more in-depth follow-up interviews to understand each individual’s q-sort, rather than focusing on the reasoning behind only the most/least important ranked statements.

Conclusion

Findings from this work contribute to our understanding of inequities experienced across MSK pathways in the UK and highlight how they might be addressed, emphasising tangible actions to remove barriers to accessing support, as well as healthcare professional confidence and training requirements to deliver effective shared decision making and the ability to develop strong therapeutic working relationships.

This work illustrates how broader contextual factors impact the ways in which people with MSK conditions from underserved population groups can access good quality support from the health system and subsequent engagement with PA. Whilst these issues form only a small part of a bigger problem of the wider societal determinants of health, it is reasonable to suggest that small actions have the potential to make change, and that removing identified barriers has the potential to impact both the inequities and inequalities seen across MSK pathways.

References

1. Versus Arthritis. The State of Musculoskeletal Health 2023. Published online 2023:1-65.
2. Huckleby J, Williams F, Ramos R, Nápoles AM. The effects of race/ethnicity and physician recommendation for physical activity on physical activity levels and arthritis symptoms among adults with arthritis. *BMC Public Health*. 2021;21(1):1-10. doi:10.1186/s12889-021-11570-6
3. gov.uk. *Physical Activity: Ethnicity Facts and Figures*.; 2024.
4. NICE. Osteoarthritis in over 16s: diagnosis and management. *NICE Guidel*. 2022;(October). https://www.brit-thoracic.org.uk/standards-of-care/guidelines/nice-guideline-copd-in-over-16s-diagnosis-and-management/
5. Versus Arthritis. The state of musculoskeletal health 2019. *Versus Arthritis*. 2019;91(5):31-32. doi:10.1017/CBO9781107415324.004
6. Booker S, Herr K, Tripp-Reimer T. Black American older adults' motivation to engage in osteoarthritis treatment recommendations for pain self-management: A mixed methods study. *Int J Nurs Stud*. 2020;(xxxx):103510. doi:10.1016/j.ijnurstu.2019.103510
7. Goldsmith S, Friedman D, Horton R, Seehaus M, Robbins L. Creating Musculoskeletal Programs for Culturally Diverse, Underserved Communities: a Community-Based Participatory Research Survey. *HSS J*. 2014;10(3):266-275. doi:10.1007/s11420-014-9413-9
8. Patel N, Ferrer HB, Tyrer F, et al. Barriers and Facilitators to Healthy Lifestyle Changes in Minority Ethnic Populations in the UK: a Narrative Review. *J Racial Ethn Heal Disparities*. 2017;4(6):1107-1119. doi:10.1007/s40615-016-0316-y
9. Ige-Elegbede J, Pilkington P, Gray S, Powell J. Barriers and facilitators of physical activity among adults and older adults from Black and Minority Ethnic groups in the UK: A systematic review of qualitative studies. *Prev Med Reports*. 2019;15(February):100952. doi:10.1016/j.pmedr.2019.100952
10. Westhorp G. Using complexity-consistent theory for evaluating complex systems. *Evaluation*. 2012;18(4):405-420. doi:10.1177/1356389012460963
11. Pawson R, Tilley N. *Realist Evaluation*. SAGE Publications; 1997.

12. Shearn K, Allmark P, Piercy H, Hirst J. Building Realist Program Theory for Large Complex and Messy Interventions. *Int J Qual Methods*. 2017;16(1):1-11. doi:10.1177/1609406917741796
13. Watts S, Stenner P. *Doing Q Methodological Research*. SAGE Publications; 2012.
14. McKeown B, Thomas D. *Q Methodology*. 2nd ed. SAGE Publications; 2013.
15. Churruca K, Ludlow K, Wu W, et al. A scoping review of Q-methodology in healthcare research. *BMC Med Res Methodol*. 2021;21(1). doi:10.1186/s12874-021-01309-7
16. Harris K, Henderson S, Wink B. Mobilising Q methodology within a realist evaluation: Lessons from an empirical study. *Evaluation*. 2019;25(4):430-448. doi:10.1177/1356389019841645
17. Stephenson W. Protoconcursus: The concourse theory of communication. Operant Subjectivity. *Int J Q Methodol*. 1986;9(2):37–58.
18. Hunter R, Gorely T, Beattie M, Harris K. Realist review. *Int Rev Sport Exerc Psychol*. 2022;15(1):242-265. doi:10.1080/1750984X.2021.1969674
19. Saul JE, Willis CD, Bitz J, Best A. A time-responsive tool for informing policy making: Rapid realist review. *Implement Sci*. 2013;8(1):1-15. doi:10.1186/1748-5908-8-103
20. Gilmore B, McAuliffe E, Power J, Vallières F. Data Analysis and Synthesis Within a Realist Evaluation: Toward More Transparent Methodological Approaches. *Int J Qual Methods*. 2019;18:1-11. doi:10.1177/1609406919859754
21. Jagosh J. Realist Synthesis for Public Health: Building an Ontologically Deep Understanding of How Programs Work, for Whom, and in Which Contexts. *Annu Rev Public Health*. 2019;40:361-372. doi:10.1146/annurev-publhealth-031816-044451
22. The QMethod Page. Published 2021. http://schmolck.org/qmethod/
23. Adebajo A, Shikoh S, Kumar K, Walker D. Ethnic minority musculoskeletal health. *Rheumatol (United Kingdom)*. 2018;57(2):201-203. doi:10.1093/rheumatology/kex006
24. Adebajo A, Blenkiron L, Dieppe P. Patient education for diverse populations. *Rheumatology*. 2004;43(11):1321-1322. doi:10.1093/rheumatology/keh327
25. Bostick GP, Norman KE, Sharma A, Toxopeus R, Irwin G, Dhillon R. Improving cultural knowledge to facilitate cultural adaptation of pain management in a culturally and linguistically diverse community. *Physiother Canada*. 2021;73(1):19-25.

doi:10.3138/ptc-2019-0027

26. Caperchione CM, Kolt GS, Tennent R, Mummery WK. Physical activity behaviours of Culturally and Linguistically Diverse (CALD) women living in Australia: A qualitative study of socio-cultural influences. *BMC Public Health*. 2011;11. doi:10.1186/1471-2458-11-26

27. Conte KP, Schure MB, Goins RT. Older American Indians' perspectives on health, arthritis, and physical activity: Implications for adapting evidence-based interventions, Oregon, 2013. *Prev Chronic Dis*. 2016;13(6):1-10. doi:10.5888/pcd13.160098

28. Scheermesser M, Bachmann S, Schämann A, Oesch P, Kool J. A qualitative study on the role of cultural background in patients' perspectives on rehabilitation. *BMC Musculoskelet Disord*. 2012;13(1):5. doi:10.1186/1471-2474-13-5

29. Mingo CA, McIlvane JM, Jefferson M, Edwards LJ, Haley WE. Preferences for arthritis interventions: Identifying similarities and differences among African Americans and whites with osteoarthritis. *Arthritis Care Res*. 2013;65(2):203-211. doi:10.1002/acr.21781

30. Middleton KR, Magana Lopez M, Haaz Moonaz S, Tataw-Ayuketah G, Ward MM, Wallen GR. A qualitative approach exploring the acceptability of yoga for minorities living with arthritis: 'Where are the people who look like me?' *Complement Ther Med*. 2017;31(1):82-89. doi:10.1016/j.ctim.2017.02.006.A

31. Ehrlich C, Kendall E, Parekh S, Walters C. The impact of culturally responsive self-management interventions on health outcomes for minority populations: A systematic review. *Chronic Illn*. 2016;12(1):41-57. doi:10.1177/1742395315587764

32. Lin I, Coffin J, Bullen J, Barnabe C. Opportunities and challenges for physical rehabilitation with indigenous populations. *Pain Reports*. 2020;5(5):1-8. doi:10.1097/PR9.0000000000000838

33. Ali N, Abdy D. *Race Equality Foundation. Musculoskeletal (MSK) Conditions: A Literature Review of the Barriers and Facilitators and Effectiveness of Interventions/Education Programmes BAME Groups in the UK: Scoping Literature Review*.; 2020.

34. Brady B, Veljanova I, Schabrun S, Chipchase L. Integrating culturally informed

approaches into physiotherapy assessment and treatment of chronic pain: A pilot randomised controlled trial. *BMJ Open*. 2018;8(7):1-10. doi:10.1136/bmjopen-2018-021999

35. Grandpierre V, Milloy V, Sikora L, Fitzpatrick E, Thomas R, Potter B. Barriers and facilitators to cultural competence in rehabilitation services: A scoping review. *BMC Health Serv Res*. 2018;18(1):1-14. doi:10.1186/s12913-017-2811-1
36. Burton AE, Hissey L, Milgate S. Exploring thoughts about pain and pain management: Interviews with South Asian community members in the UK. *Musculoskeletal Care*. 2019;17(2):242-252. doi:10.1002/msc.1400
37. Parker SJ, Chen EK, Pillemer K, et al. Participatory adaptation of an evidence-based, arthritis self-management program: Making changes to improve program fit. *Fam Community Heal*. 2012;35(3):236-245. doi:10.1097/FCH.0b013e318250bd5f
38. National Voices. *National Voices' Manifesto for Equitable Healthcare*.; 2024. doi:10.1088/1751-8113/44/8/085201
39. Chowdhury S. A community-centred approach to musculoskeletal care (Case Study). NHS Confederation. Published 2023. https://www.nhsconfed.org/case-studies/community-centred-approach-musculoskeletal-care
40. Health Education England. Musculoskeletal First Contact Practitioner Services-Implementation Guide. Published online 2019:1-29.
41. Grenfell J, Soundy A. behavioral sciences People ' s Experience of Shared Decision Making in Musculoskeletal Physiotherapy : A Systematic Review and Thematic Synthesis. *Behav Sci (Basel)*. 2022;12(12). doi:https://doi.org/10.3390/bs12010012
42. Shim JK. Cultural Health Capital: A Theoretical Approach to Understanding Health Care Interactions and the Dynamics of Unequal Treatment. *J Heal Soc Behav*. 2010;51(1):1-15. doi:10.1177/0022146509361185.Cultural
43. Licciardone JC, Tran Y, Ngo K, Toledo D, Peddireddy N, Aryal S. Physician Empathy and Chronic Pain Outcomes. *JAMA Netw Open*. 2024;7(4):1-14. doi:10.1001/jamanetworkopen.2024.6026
44. Arthritis and Musculoskeletal Alliance (ARMA). *Act Now : Musculoskeletal Health Inequalities and Deprivation. Report of ARMA's Inquiry*.; 2024.
45. Manzano A. The craft of interviewing in realist evaluation. *Evaluation*.

2016;22(3):342-360. doi:10.1177/1356389016638615

46. Pawson R, Greenhalgh T, Harvey G, Walshe K. Realist review - A new method of systematic review designed for complex policy interventions. *J Heal Serv Res Policy*. 2005;10(SUPPL. 1):21-34. doi:10.1258/1355819054308530

47. Rycroft-Malone J, McCormack B, Hutchinson AM, et al. Realist synthesis: illustrating the method for implementation research. *Implement Sci*. 2012;7(1):1. doi:10.1186/1748-5908-7-33