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Can healthcare practitioners deliver health behaviour change to patients with musculoskeletal injuries as part of routine care?: a feasibility study

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Abstract

The requirement to consider whole patient health is a core component of physiotherapy professional standards across several countries, including the U.K, Australia, New Zealand and the U.S.A. Although the wording varies, the standards place an obligation on practitioners to promote good health and prevent ill-health in patients. However, healthcare practitioners have reported a lack of confidence and skills to provide the necessary health behaviour change support. This study assessed the feasibility of implementing a practitioner training programme designed to enable physiotherapists to deliver health behaviour change support to patients with musculoskeletal injuries during the care pathway. A mixed-methods study utilising a quality improvement (QI) programme approach included the delivery of a training package to 21 healthcare practitioners at three musculoskeletal (MSK) primary care clinics within UK Defence. The study used the RE-AIM framework to guide the evaluation of programme implementation and determine factors influencing feasibility, successful adoption and maintenance by practitioners. Qualitative data including focus groups were used to inform assessment of the programme. The development of a patient health behaviour self-report tool, the Defence Health Behaviour Index (DHBI), is reported and its utility to initiate health conversations, where 99% of patients (n = 750) completed the DHBI. Evidence is presented demonstrating that it was possible to deliver training that enabled physiotherapists to include health behaviour change interventions during routine care, and that patients were receptive to these interventions. However, there were individual and organisational challenges in implementing this QI programme across a multi-centre, multi-practitioner patient population.

Contribution of the Paper

- Delivery of a training programme enabled healthcare practitioners to include health behaviour change support to patients, as part of standard musculoskeletal (MSK) care.
- This approach is consistent with national physiotherapy registrant standards which now require practitioners to promote good health and prevent ill-health in patients.
- The development and use of a patient self-report health behaviour tool helped reduce perceived barriers to discussing health topics.

Keywords: Health behaviour; Professional practice; Quality improvement; Patient education; Patient centred care

Introduction

Promoting patient good health is increasingly recognised as fundamental to the role for all healthcare practitioners

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and is 'codified' into several national professional standards of practice, including the UK [1], USA [2], Australia [3] and New Zealand [4]. These standards (see Box 1) place a requirement on healthcare practitioners to promote health and help prevent ill-health in patients, even when that is not the primary reason for referral [1–4].

Healthcare practitioners who engage with patients during the musculoskeletal injury (MSKI) rehabilitation pathway have an opportunity for health messaging and delivery of behaviour change interventions, as part of the care pathway standard practice. However, healthcare practitioners often feel ill-equipped to deliver health behaviour change support [5–8]. The reasons for this include low confidence in discussing health behaviours [5], perceived lack of specific skills and experience [6,8] and time-pressures [7,8].

There is justification to promote good health when the person suffers a MSKI, in addition to the general health benefits. Poor health behaviours are closely associated with an increased risk of MSKI [9,10] and increased use of healthcare resources when injured [11]. Unhealthy behaviours, including poor diet, lack of physical activity, excessive alcohol consumption, tobacco use, and inadequate sleep, also contribute to service personnel being at an increased risk of obesity-related health problems [12]. Musculoskeletal disorders and injuries have a significant impact on the health and well-being of service personnel with a quarter of all personnel being impacted [13].

To enable practitioners to change how they deliver care requires a systematic and planned approach to a 'healthcare change programme', and subsequent evaluation [14]. Therefore, a quality improvement (QI) methodology aligns with the study's aim of integrating health behaviour change support into standard care, as it focuses on enhancing existing processes rather than introducing entirely new systems. Second, a QI methodology facilitates the identification of barriers and enablers to implementation, which is critical for understanding how to scale and sustain such interventions in diverse healthcare settings [15].

Nevertheless, there are challenges when implementing any QI programme within healthcare [14]. It is important to understand the factors that influence success, both to mitigate these challenges to implementation, and to support an intervention to be scalable and enduring [16]. To enable an understanding of these factors, data must be collected throughout the implementation from a variety of sources [17]. Also, the consistency, accuracy and appropriateness of QI programme data collection is improved through the use of implementation and evaluation frameworks, such as the RE-AIM (i.e. Reach, Effectiveness, Adoption, Implementation and Maintenance) framework [18]. By considering factors like patient engagement, consistency of delivery, and long-term sustainability, the RE-AIM framework is useful for evaluating real-world implementation of public health programmes [18].

Box 1: Physiotherapy Professional Standards- Promoting Health

What do professional or practice standards say?

UK

The HCPC has updated its standards of proficiency. From 1 September 2023, all registrants from the 15 HCPC regulated professions must meet a new standard 'Promoting public health and preventing ill-health". This standard states registrants must 'understand the role of their profession in health promotion, health education and preventing ill-health' and 'empower and enable individuals (including service users and colleagues) to play a part in managing their own health' and 'this may involve advice, referrals or other interventions which may not be directly connected to the reason the service user sought care.'[1].

USA

The American Physical Therapy Association 'Standards of Practice' says: 'Wellness and prevention encounters may occur without the presence of disease, illness, impairments, activity limitations, or participation restrictions. Physical therapist services include the use of assessments to identify the presence of risk factors, and cognitive and environmental barriers and opportunities that may be targets for health promotion activities' and 'emphasizes patient or client education, and promotes proactive, wellness-oriented lifestyles' [2].

Australia

The Australian Physiotherapy Association's 'Standards for Practices' says: 'Physiotherapists and other health professionals should be adept at recognising lifestyle factors and co-morbidities which will affect a client's health status. As part of the client's overall management program, the physiotherapist should routinely provide information and advice on health promotion and injury/disease prevention strategies which are based on the best available evidence.' [3].

New Zealand

The New Zealand Physiotherapy Board 'Code of Ethics and Professional Conduct', principle 2 says: 'Physiotherapists act to promote the health and wellbeing of the patient while acknowledging, respecting, and facilitating patient autonomy. Physiotherapists must consider the health and wellbeing of the patient to be their first priority.' [4].

The specific aims of the QI programme were to develop a health behaviour change support training package to enable healthcare practitioners to use a person-centred approach and agree or negotiate health behaviour support during a MSK rehabilitation care pathway.

Methods

Reporting of this study was guided by the Standards for Quality Improvement Reporting Excellence (SQUIRE) [19] and the Standards for Reporting Qualitative Research (SRQR) [20]. The purpose of these reporting tools is to improve the transparency and reporting of research [19,20].

Study design

The study used a multi-centre, QI programme approach, delivering training to healthcare practitioners in each centre to support patient health behaviour change, and provided educational resources for practitioners and patients. A mixed methods approach to evaluation used the RE-AIM framework enabling the assessment of factors influencing the feasibility, successful adoption, implementation, and maintenance of the QI programme within rehabilitation clinics' standard service [18].

The team delivering the training included a physiotherapist and a registered nutritionist, both with experience specific to their respective disciplines as well as in quality improvement and health behaviour change support. After delivering training to the first location, an experienced physiotherapist from the initial location joined the training team to provide a 'lessons learned' section for future training sessions. This approach supported the intent for the study to be implemented as an active learning system; responding to both the training needs of the practitioners as well as specific contextual issues at each study location. The training was scheduled to be integrated with the continuous professional development (CPD) programme at each centre to maximise attendance, and consisted of a half-day session, with the training team available for support and advice during the study period. The clinical leads at each study site met with the QI programme lead each month to discuss barriers and challenges to implementation.

The education resources included materials to support brief interventions, health messaging, and referrals to appropriate services or additional resources. The practitioner training included information about diet, sleep, physical activity, alcohol consumption, and tobacco use. However, which of these health behaviours, if any, were discussed with patients was following discussion and agreement between practitioner and patient. The availability of health behaviour support outside of the rehabilitation clinic varied across locations, being dependent on the presence of appropriately trained personnel either within the medical facility or the wider military unit, such as Physical Training Instructors.

The QI programme healthcare practitioner training package was developed and adapted from the Association for Nutrition (CC0049) Defence Health and Wellbeing Advisor (DHWA) training. The DHWA course adheres to National Institute of Clinical Excellence (NICE) best practices for person-centred, health behaviour change support [12], whilst being relevant to the target population.

To address potential practitioner confidence issues when discussing sensitive health behaviour subjects, the QI programme team developed a patient self-report survey, the Defence Health Behaviour Index (DHBI) to facilitate patient-practitioner "health conversations" (see Supplementary information). This short survey, based on validated self-report scales and questionnaires, consists of eight scales covering sleep, physical activity, diet quality, hydration, alcohol use, and tobacco smoking habit. The DHBI was also used as a measurement tool for capturing a patient's self-reported health behaviour status. The validity and reliability of the DHBI is been evaluated as part of a separate study [21].

Implementation of the rehabilitation clinic QI programme

The health behaviour support QI programme was implemented across three large UK-based Defence primary care rehabilitation clinic centres. The aims and objectives of the QI programme were explained to the clinic teams at the three centres prior to the training session via email, and again at the start of the training session, emphasising voluntary participation, following which healthcare practitioners at all three centres agreed to participate.

The DHBI was utilised as the initial engagement tool for the patient intervention and facilitated health behaviour discussions, including brief interventions and health messaging. The timing of these discussions varied based on patient priorities, the complexity of the presenting condition, and the healthcare practitioner's judgment of the appropriate time to include health behaviour discussions in the patient's recovery.

Data collection and evaluation of the implementation

Routine operational data, typically collected as part of standard service, were utilised wherever possible. Data for the DHBI was collected via paper and Microsoft Forms.

To assess the maintenance – as well as the feasibility and effectiveness of the implementation phase at six months of the QI programme –data was collected from practitioner surveys, monthly meetings with clinical leads from each site, healthcare practitioner and patient focus groups, and the percentage of patients who completed the DHBI. Direct observation of clinical practice was not possible due to the COVID pandemic. The focus groups also enabled collection of data regarding perspectives, views, and experiences, of both healthcare practitioners and patients of the QI programme.

The QI programme implementation followed the RE-AIM framework. The RE-AIM model is frequently used to assess and report public health interventions, focusing on reach, effectiveness, adoption, implementation fidelity, and maintenance [18]. Using this approach, and to enable assessment of the intervention fidelity (i.e. is the intervention delivered as planned?), the QI programme team determined a priori the core components of the intervention (Table 2).

Data analysis

Summary data and percentages were calculated using Microsoft Excel. Qualitative data analysis involved transcribing audio-recorded focus groups, and subsequent analysis utilising NVIVO 12 software (Lumivero, Version 14). Qualitative methods allowed for a deep exploration of healthcare practitioners' and patients' experiences, perceptions and attitudes towards the health behaviour change programme [22]. This detail was important for understanding the patient-practitioner interactions and contextual nuances of implementing such a program in a real-world healthcare setting. Thematic analysis offers a flexible approach that can be adapted to various theoretical frameworks [22], which is beneficial for a quality improvement study where unexpected themes may emerge during implementation. Initial data codes were developed, potential themes were determined, and codes were reviewed and assessed against the entire data set. Final themes were confirmed and analysed to understand the story within the data. A thematic map was produced to aid interpretation and understanding.

Results

Population data

Three rehabilitation clinic centres serving a combined military population of approximately 18,000, were included in the initial implementation phase of the QI programme (Table 1). A total of 753 new patients were seen for a MSKI during the initial 12- month study period across Rehabilitation Clinic 1 (RC-1) and RC-2. The third rehabilitation clinic (RC-3) participated in the qualitative evaluation, however did not provide DHBI data during the implementation phase due to capacity and resource issues.

Completion of the DHBI

Among the 753 patients seen at RC-1 and RC-2, 99% (n = 750) completed the DHBI during their initial rehabilitation clinic appointment.

Reach

Out of the 22 healthcare practitioners invited to attend the QI programme healthcare practitioner training package, 95% (n = 21) attended (Table 2).

Table 1
Population at each study rehabilitation clinic centre, number of patients seen, and DHBI completion.

		RC-1	RC-2	RC-3	Total
Total Population [a]		3500	6500	8000	18,000
Healthcare practitioner, by role	Physiotherapists ERI	5 1	7 2	4 3	16 6
New patients at RC		221	532	No data[b]	753
No of patients completing DHBI		100% (n = 221 of 221)	99% (n = 529 of 532)	No data[b]	**99% (n = 750 of 753)**

Notes.ERI = Exercise Rehabilitation Instructor.
[a] Source: clinical leads at rehabilitation clinic centre.
[b] See text for detail.

Table 2
Adoption of intervention core components by each rehabilitation clinic centre, and any variation.

Core component	RC-1	RC-2	RC-3	Source of evidence
Majority (>70%) of healthcare practitioners invited, completed training session.	6 out of 6 (100%)	9 out of 9 (100%)	6 out of 7 (85%)	Training log.
Issuing of DHBI to patients on admission	√	√	√[1]	Database of DHBI results, QI programme clinical lead meetings. [1]No DHBI database provided for RC 3
Discussion of DHBI with patients	√	√	√	Healthcare practitioner self-report, QI programme clinical lead meetings.

Table 3
Maintenance of the implementation: proportion of healthcare practitioners (who attended initial training) reported delivering support for health behaviour change at six months.[b].

		RC-1	RC-2	RC-3	Total
Healthcare practitioner	Physiotherapists	5	7	4	16
	ERI	1	2	2	5
Healthcare practitioners reporting delivering QI programme at six months[b]		100% (6/6)	100% (9/9)	67% (4/6)[a]	90% (*n* = 19/21)

Notes.
[a] Two healthcare practitioners delivered with significant variation from planned implementation (source: focus groups).
[b] Source: Healthcare practitioner self-report and QI programme clinical lead meetings.

Adoption and fidelity

All participating rehabilitation clinic centres initially reported the successful adoption of most core components of the health behaviour change QI programme into their standard service, including the DHBI, educational support materials, and appropriate signposting (Table 2). These data indicated good fidelity, accepting the limitations in assessing RC-3 (i.e. no DHBI data provided).

Maintenance

All healthcare practitioners (100%, *n* = 21) self-reported they were still including discussion of health behaviour change support at six months, as part of person-centred care. However, two practitioners reported delivering with some variation that did not meet all the intervention core components (Table 3). As such, 86% (*n* = 19) of healthcare practitioners were considered to have maintained the fidelity of the QI programme intervention, delivering as planned, at six months.

Focus groups-healthcare practitioners

Healthcare practitioners (*n* = 21) at the three study sites were invited to join one of three focus groups which informed the evaluation of feasibility and effectiveness. Four main themes were identified from the transcripts: "Person-Centred Care," "Capability for Change," "Development of Practice," and "Engaging with the System." The thematic map (Fig. 1) illustrates the key themes.

Practitioner confidence in discussing health behaviours

The focus group data indicated that participants were previously unsure about their role in providing health

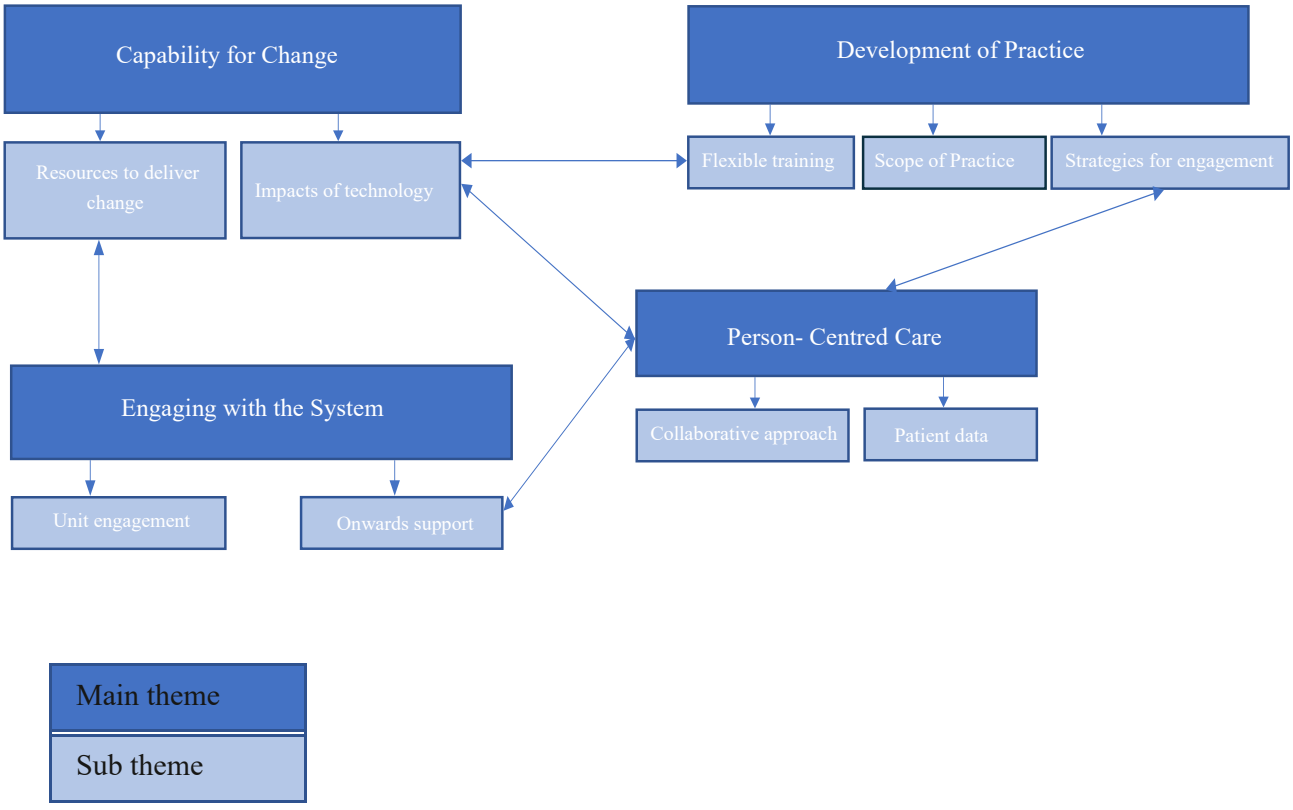

Fig. 1. Thematic map from the healthcare practitioner focus groups.

behaviour support, and lacked confidence initiating health conversations during routine care. The transcripts indicate that participants felt the training provided as part of the QI programme improved their confidence and awareness of health behaviour change.

> P1'…I've always struggled a little bit with knowing where my boundaries were with being able to talk to patients about health behaviours… I always felt like I was working outside my boundary and scope … I feel like [the training] has given me a bit more ownership back to sort of say 'Yep that is relevant.' I've got training and suitable skills to be able to help them make a change…'

> P2: '…'It's really opened our department's eyes to a whole section of health that we maybe had put on the back burner… I found [the training] really insightful and really useful…'

Development of practice

Focus group participants acknowledged the importance of health behaviours in patient recovery and felt this as within their scope of practice. The QI programme training package was perceived by participants as appropriate for developing their competence for delivering health behaviour change support, and the DHBI was viewed as a non-threatening stimulus for engaging in health behaviour conversations.

> P7: '…It's been pretty useful just in encouraging us to start those conversations that we may not have otherwise had. And use that as part of our practice so to keep encouraging [and] to facilitate patients' recovery alongside their specific MSK rehab…'

Capability for change

In terms of 'capability for change', focus group participants highlighted how their ability to engage with quality improvement programmes was impacted by increased administrative requirements. The lack of administrative support in collecting patient outcome data and the time spent on paperwork were identified as barriers to successful healthcare quality improvement.

> P3: '…And then another questionnaire that you've got to send out and then extract the information from it. I could pretty much spend 3/4 of an hour just doing the admin for a new patient…'.

Engaging with the system

In terms of 'engaging with the system', the focus group transcripts suggest that participants encountered challenges with enabling patients to access health behaviour support outside of the care pathway. Participants felt that prioritisation of health promotion within the organisation was perceived as low. The transcript data suggests that participants felt the lack of onward support for patients leaving rehabilitation was a significant challenge, with limited availability of trained personnel to provide health support, resulting in a disjointed patient journey.

> P4: '…the chain of command are good at like signposting towards things but I would say the majority don't really understand [health behaviours] and don't really get it and aren't very helpful […] They use unhelpful […] negative language which isn't helpful for the patient.'

Focus groups-patients

The patient focus groups were conducted with eleven patients from the three rehabilitation clinic centres. The patient participants were recruited following an email sent to patient lists from the three participating sites at six months. The main themes (Fig. 2) that emerged from the patient focus group data were: 'Individualised Care'; 'Enthusiasm for Health Behaviour Support'; and 'Support from the Unit'.

The patient focus groups also shed light on the profound impact of injuries on patients' identities. Many participants described a significant 'Loss of Identity', attributing the development or exacerbation of adverse health behaviours to the changes brought about by their injuries. Transitioning from highly active to more sedentary roles was seen as a contributing factor to these health issues. Moreover, participants expressed feeling undervalued and perceived a shift in how their colleagues viewed them after their injuries.

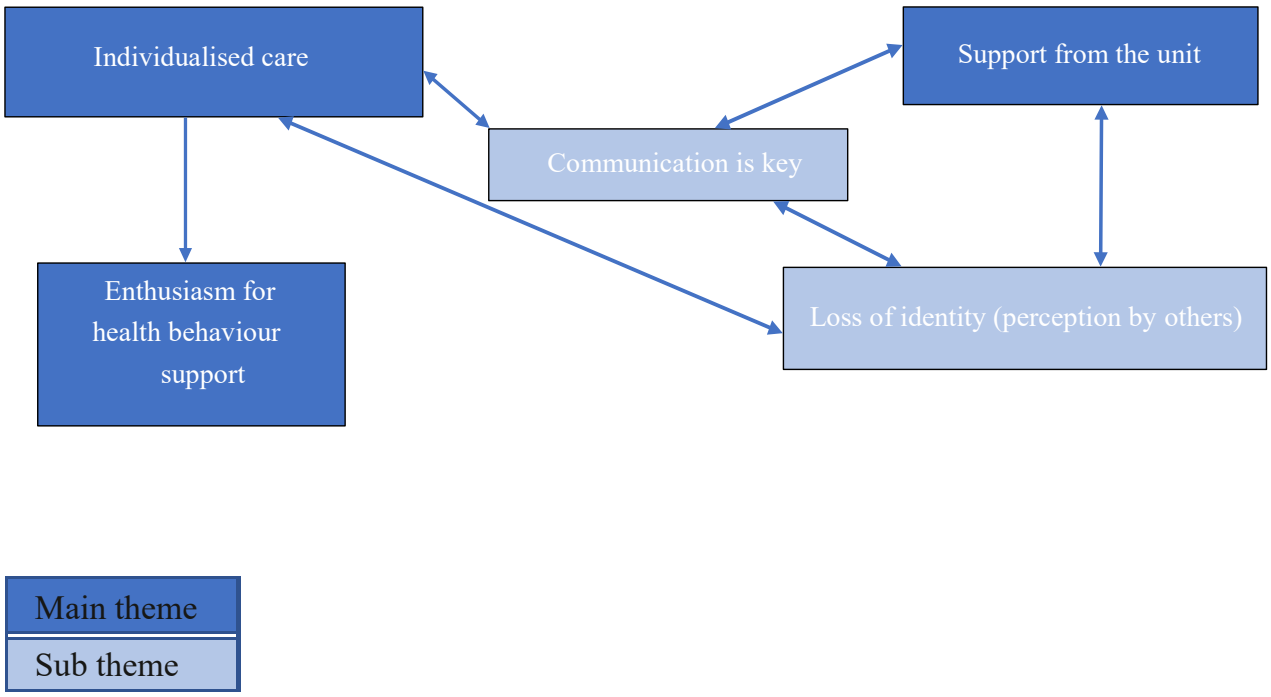

Fig. 2. Thematic map from the patient focus groups.

Pt5: '..but I've also put the weight on after the injury, how?..'
Pt6: '..Where you know I was running around a Carrier all day long… Took off the Ship [after injury] and then I suddenly find myself behind a desk and then so started putting weight on. Struggling with […] sleep and stuff like that. it's a real hard pill to swallow..'
Pt1: '..Because of my injury […] I couldn't fulfil 100% of my job. Although, however I was doing 95% of it. they directly told me basically I shouldn't be there 'cause my injury. which was wrong? So basically they tried to remove me..'.
Pt7: '..They're like, well, you could do this, can't you? surely, and [they say] you're not that bad and you're like well.. [I was in] a full job with lots of people and I went to being left behind myself…on my own, you know, so it's been like a really horrible affair.'
Pt4: '..But the thing that's really common in the Navy is obviously there's a stigma around the injury and that..'

In summary, the healthcare practitioner and patient focus groups emphasised the importance of health behaviours and the provision of comprehensive support in the rehabilitation process.

The transcript data demonstrated patient participants value clinicians who actively engage with them, listen attentively, and ask questions that address their needs.

Pt1: '..I'm just happy that somebody was taking notice..'
Pt2: '..If I've got a few pounds I could lose here or there I'd like for someone to say to me..'

Not all patient participants were enthusiastic, as the focus group data suggests other aspects of care may be the patient's priority at the time.

Pt4: '..there was discussions and they went through all those kind of things there. I just couldn't understand at the time I was like, well I'm in pain..'

However, the transcripts indicate that patient participants viewed altered health behaviours, whether caused by their injuries or exacerbated by injury, as a natural focus for intervention during rehabilitation. The use of the DHBI was also noted and it was felt that it facilitated conversations about health behaviours.

Pt6: '..[The DHBI] form was a very very comprehensive discussion about all those contributing factors..'
Pt1: '..so we kind of we just had conversations […] about it though which is really good and then I've been recommended various things and I've learned quite a lot..'

Discussion

The QI programme demonstrated the feasibility of providing training to healthcare practitioners, that enabled health behaviour support to be considered as part of standard MSKI care within a Defence setting. Healthcare practitioners and patients valued the resources and information provided and recognised the importance of supporting health behaviours as part of person-centred care.

Following the delivery of training, healthcare practitioners reported increased confidence in engaging patients in conversations about health behaviours. The majority of practitioners reported implementing the QI programme with good fidelity. Further, most of the QI programme practitioners continued to deliver health behaviour change support at six months post-implementation; this indicated good maintenance of the QI programme.

Maintaining intervention fidelity is crucial for intervention effectiveness [23]. Whilst fidelity was generally good, some variation was reported. Variation may be beneficial in enabling tailoring of interventions to individual patient needs, however too much variation from the planned approach can impair an intervention in achieving the intended effect [23]. Direct observation of clinical practice was not possible because of the COVID pandemic, the evaluation utilised self-report data from healthcare practitioners - which is a limitation. To mitigate, data from other sources (i.e. reports from the monthly clinical leads meetings) also informed this finding. Observation of practitioners and patients during consultations where health behaviours are discussed may provide further insight with regards implementation of a health behaviour change programme.

The findings from the healthcare practitioner focus groups highlighted reasons why health behaviour change support was not previously included in their usual practice. Lack of confidence, perceived lack of relevant knowledge or skills, and perceived patient disinterest were identified as barriers. However, despite the perception patients may be disinterested, the focus group data demonstrated that patients engaged with, and valued, health behaviour change support as an essential part of their recovery.

While the QI programme implementation was generally successful, some areas for improvement have been identified. Both healthcare practitioners and patients highlighted the limited support for promoting positive health behaviours before injury, as well as after the MSKI care pathway. Addressing these challenges may require effective health promotion support to be provided more widely across Defence – and this requirement extends beyond the control of Defence Healthcare. It is essential to recognise that a health promotion programme solely focused on the short time patients spend within the care pathway will have limited impact.

As well as demonstrating that healthcare practitioners can implement health behaviour support within a Defence primary care rehabilitation setting, and therefore evidencing how they meet professional and regulatory standards [1–4], the QI programme approach also aligns with the goals of the NHS Long Term Plan [25]. This Plan emphasises the importance of increasing support for individuals to manage their own health and ensure behavioural interventions are readily available.

The QI programme provides evidence the training package and support successfully enabled practitioners to incorporate health behaviour change support for MSKI patients in primary care. Although the QI programme was generally successful, the limited support for promoting positive health behaviours before and after the MSKI care pathway provides challenges for 'joined-up' patient care across the Defence setting. Nevertheless, the ability of practitioners to incorporate such interventions into routine practice has been demonstrated.

The setting of the study within UK Defence with military patients may limit the generalisability of the results across other healthcare settings. However, in conclusion, these findings align with previous research demonstrating that physiotherapists can incorporate health behaviour change interventions into their routine practice [24]. The findings from the implementation phase of the QI programme provide insight as to how healthcare practitioners may play a role in promoting public health and preventing ill-health.

Ethical approval

This study was approved by the Ministry of Defence Research Ethics Group (1028MODREC19) and the University of Southampton Research Integrity and Governance team (ERGO II 57247).

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Conflict of interest

There are no conflicts of interest.

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Appendix A. Supporting information

Supplementary data associated with this article can be found in the online version at doi:10.1016/j.physio.2024.101461.

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