Musculoskeletal disorders in self-employed construction workers: a qualitative study of the factors influencing the uptake and continuity of treatment

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Abstract

The construction industry is the largest source of work-related musculoskeletal disorders (MSDs), with self-employed construction workers at high risk as they are solely responsible for their health, safety and well-being at work. Globally MSDs are the second highest contributor to global disability and constitute a great burden to society. MSDs are treated by a broad range of interventions, at public and private care level. These forms of treatment include medical interventions, and alternative methods of treatment.

This research explores the experiences and perceptions of eight male self-employed construction workers towards the treatment of their MSDs, a semi-structured questionnaire was employed at interview to gather data. Thematic analysis identified key themes from the interview transcripts these included: perceptions of MSDs, attitudes towards seeking assistance, pharmaceutical interventions, alternative therapies and barriers to treatment.

The results illustrate the factors influencing the uptake and continuity of treatment, with the main factors being masculine behaviour, the effectiveness of treatment, the perceived barriers to treatment and the patient-provider relationship. Further research is recommended, to explore a larger sample of construction workers in order to confirm and explore the extent of these influencers on a generalisable scale.

Keywords: Musculoskeletal disorders, private health care, public health care, treatment, self-employed, construction industry, qualitative analysis, macho culture, barriers to treatment
Introduction

The Global Burden of Disease identified musculoskeletal disorders (MSDs) as the second highest contributor to global disability, with an estimated 33% of people across the globe living with a painful musculoskeletal condition (WHO, 2018). The severity of an MSD is demonstrated by the impact it has on an individual’s health and well-being, with functional impairment and severe, persistent pain being the main symptoms experienced (Babatunde et al., 2017; Bevan, 2015; Boschman et al., 2012). The characteristics of MSD encompass a spectrum of conditions, from short durations to life-long disorders of muscles, tendons, joints and nerves, affecting all body parts (Van Eerd et al., 2016; Woolf and Pfleger, 2003). Forms of MSDs comprise more than 150 conditions, most commonly lower back pain, rheumatoid arthritis, osteoarthritis and fractures associated with bone fragility (WHO, 2018).

Musculoskeletal conditions can limit an individual’s activity and participation in society (Woolf and Pfleger, 2003). Estimates from the Health and Safety Executive (HSE) indicate 8.9 million working days were lost in the UK during 2016/17 due to MSDs. The economic cost of MSDs to individuals, industries and society are excessive, with an estimated cost of just over £2 billion per year (HSE, 2017). MSDs account for 30% of General practitioner (GP) consultations and £4.76 billion of NHS spending each year (NHS, 2017). A large proportion of government expenditure and GP’s time towards musculoskeletal conditions demonstrates its widespread impacts. Indeed, more years are lived with musculoskeletal disability than any other long-term condition. However, a significant amount of musculoskeletal conditions go unreported universally (Giaccone, 2007; Veale & Woolf, 2008; Stock et al., 2014; Summers et al., 2015), implying that the prevalence and impacts of MSD could be substantially higher.

The construction trade constitutes the highest rate of work-related MSDs (HSE, 2017). Construction professionals are subject to occupational demands that require the use of hand and power tools, lifting and carrying heavy loads, constant movement in awkward positions, and repetitive, forceful, use of the back and upper and lower extremities (Punnett and Wegman, 2004). Routinely undertaking these tasks increases a worker’s susceptibility to musculoskeletal conditions. Workers in different construction occupations are at risk from different MSDs (Boschman et al., 2015). Holmstrom & Engholm (2003) found that MSD prevalence corresponds to the physical exertion of different trades. Neck disorders were common in painters, insulators and plasterers; lower back and lower extremity disorders were found in
roofers and floorers; and scaffolders showed the highest prevalence of MSDs in all body locations.

Interventions to prevent MSDs have previously focused on manual handling and task specific measures to reduce ergonomic risk factors (Raffler et al., 2016). Recently, there has been a shift towards the importance of risk elimination through design and encouragement of better ergonomic solutions through training and consultancy (HSE, 2018). The HSE have made work-related MSDs a priority, in order to raise awareness and promotion to tackle the contributing factors associated with MSD, the organisation hosts an 18-monthly MSD national summit (HSE, 2018). However, MSDs continue to remain highly prevalent in the construction workforce and demonstrate a significant public health concern for the industry.

Management of those at high risk or with early symptoms is prioritised in order to control and mitigate the impacts of MSD (Woolf, 2007). Initiatives to reduce the prevalence of MSDs in the construction industry include health monitoring and occupational health services for early identification, to achieve prompt treatment and rehabilitation and aid response of corrective action in the workplace (Adisesh et al., 2007). However, 42% of the construction workforce are self-employed and have sole responsibility for their health and safety (HSE, 2017), this is partly due to the deregulation bill which exempts them from health and safety laws and obligations (Deregulation Act, 2015). Self-employed construction workers are the most at risk of injury and ill-health on a construction site (HSE, 2017). Interventions developed to reduce the prevalence of MSDs in the workforce could prove ineffective for the self-employed population, as workers have poor access to occupational health services (Stocks et al., 2011 and McDonald, 2002), this could lead to a delayed uptake in appropriate treatment.

The central aim of treating MSD is to eliminate pain, and improve function and mobility. Fortunately, musculoskeletal pain is managed by a variety of treatment options, which can be selected on a case by case basis, best suited to the needs and characteristics of the patient. Treatment interventions are mostly delivered at public care level through contact with GPs (NICE, 2018). Pharmaceutical medicine commonly prescribed include non-steroidal anti-inflammatory drugs (NSAIDs) and analgesics to treat and manage associated symptoms (NICE, 2016; Moore et al., 2006; Haroutiunian et al., 2010). However, long-term use of drugs does not improve functioning for patients with chronic pain (National Center for Complementary and Integrative Health, 2018). MSDs frequently coexist in more than one body region (Hartvigsen et al., 2013) and symptoms are commonly persistent or recurring.
Consequently, those who develop persistent musculoskeletal pain may require secondary care which would involve referral to a specialist, such as, a Rheumatologist or Orthopaedist for further medical assistance. Secondary referrals or self-referrals could also include alternative intervention specialists that utilise a physical approach to treatment such as a Physiotherapist or Chiropractor. Alternative pain management is the management of pain without medication, for example, manipulation, mobilisation and massage are effective techniques used during treatment (Paige et al., 2017; Ferandez-De-Las-Penas et al., 2017; Blanchette et al., 2016). Three systematic reviews concluded that spinal manipulation therapy (SMT), practiced by a Chiropractor, is effective for a range of musculoskeletal conditions (Bronfort et al., 2010; Rubinstein et al., 2010; Paige et al., 2017). Other alternative interventions such as acupuncture are associated with lower pain intensity and improved functionality immediately after the intervention (Chou et al., 2017).

The uptake and continuity of treatment could be influenced by the predominantly male environment in the construction workforce. One study suggests a strong ‘macho culture’ exists in the industry, influenced by competitive time pressures and labour intensity (Carmichael et al., 2016). The ideology behind the ‘macho’ image has been linked to potential barriers to improving health, as males frequently fail to seek treatment. Addis and Mahalik (2003) identified that masculine ideologies, social norms and gender roles play a significant part in discouraging men to seek help. One systematic review identified three key factors that influence men’s relatively low rates of seeking medical help. These included, psychological behaviour traits such as embarrassment which affect the use of health care services; a poor relationship with care provider and rapport building discourages men from seeking and continuing treatment; and the perception of symptoms being minor and insignificant (Yousaf et al., 2015). The latter particularly ties in with masculinity, where men downplay their symptoms, and endure pain to feel strong and resilient. Additionally, one investigation found insufficient awareness and knowledge about musculoskeletal pain and lack of appropriate treatment options as reasons why individuals fail to seek or discontinue treatment (Nakamura et al., 2014).

This research provides an opportunity to explore some of the inefficiencies in treatment and find ways to optimise the management of such a widespread condition. It also aims to investigate the experiences and perceptions of treatment from a patient perspective for MSD. As well as to recognise effectiveness of interventions and to explore the barriers to treatment.
The research question posed is: Musculoskeletal disorders in self-employed construction workers: How do experiences and perceptions influence the uptake and continuity of treatments?

To identify influencing factors that could impact uptake or availability of treatment two areas of interest will also be explored: masculine behaviours and perceived barriers likely to impact the uptake of treatment.

Methods

A qualitative design consisting of semi-structured, face-to-face interviews was used in this study for an in-depth analysis on a small number of participants (Dworkin, 2012). Qualitative research was chosen to explore participant’s experiences and perceptions, to gain an understanding of effective MSD treatment and the factors influencing behaviours towards treatment.

Sampling Procedure

This study recruited eight male construction workers between the ages of 32-66, residing in Pembrokeshire, South Wales. Construction workers were approached on two construction sites to determine their willingness to take part in the study as a method of recruitment. The construction workforce varies and participants were purposefully chosen by their occupation. Participants’ occupations included builders (3), labourers (2), plasterer (1), plant driver (1) and carpenter (1). In line with purposive selection participants were also selected on the basis of having or previously suffered with MSD. This was determined by a brief discussion when workers were first approached, with an explanation of the study and a description of MSDs. Upon selection participants were emailed a copy of the participant consent form and information sheet (see Appendix 1a and 1b).

Data Collection Process

A semi-structured questionnaire (see Appendix 2) was designed for the interview stage and tested using a pilot interview prior to official data collection. Carrying this out verified the structure and adequacy of the questions to determine the capability of answering the research question (Yin, 2014, p96) and its feasibility as a research instrument to ensure internal validity (Creswell, 2009). The questionnaire was designed in order to foster exploration, openness and
expansiveness around the topic; comprising of five main areas of questioning: (1) Participant profile and job characteristics, (2) Health issues of the participants involving work-related injuries/ health issues, (3) Exploring experiences and perceptions towards conventional medicine, (4) Exploring experiences and perceptions towards alternative treatment, (5) Perceived barriers to health care services and general summary thoughts. Interviews took place in the staff rooms of two construction sites and interview times ranged from 25 – 35 minutes. In order to achieve ethical practice, key considerations were taken into account to ensure participants had privacy and a comfortable environment when conducting the interview (Denscombe, 2014, p203). In order to do so all construction workers on site were made aware of interviews taking place and a sign stating ‘interview in process’ was placed on the door to ensure no disturbances during interviews that could potentially impact the participant’s answers.

The semi-structured interview allowed for deeper discussion into participant’s experiences by using open-ended questions (Denscombe, 2014, p186). Allowing the interviewer to probe and expand the interviewee’s responses, offering a flexible method of interviewing (Alshenqeeti, 2014). As the quality of qualitative research is heavily dependent on the researcher (Anderson, 2010), techniques were incorporated throughout the data collection stage to reduce researcher bias and ensure validity and reliability of the results. Techniques included no leading questions asked during interviews and interviewees were given the opportunity to clarify points they had made. Furthermore, the aim of the semi-structured interview was to collate meaningful data and offer a rich insight into each participant’s experiences and perceptions (Gibbs, 2007). In doing so, external validity is not accounted for within the study, as it has not been designed to generalise or compare to the larger population (Gomm et al., 2000, p98 – 99); however, findings may be transferrable to another setting (Anderson, 2010).

A self-diagnosis of MSDs was used during the interview stage on the basis of a brief explanation of MSDs stated by the researcher: “Common MSDs include; muscle/tendon pain, ligament sprains, bone fractures, stiff joints and dull aches. MSDs can affect your neck, shoulders, wrists, back, hip, legs, knees and feet. MSDs are commonly caused as a result of strenuous manual handling activities”. The use of a standardised questionnaire tool had been considered – ‘The Nordic Musculoskeletal Questionnaire (NMQ)’ which delved deeper into diagnosis, duration of the problem and assessment by a health care professional (Descatha et al., 2007). However, within the realms of this study the researcher felt adequate information could be collated from the semi-structured interview.
Prior to the commencement of the data collection process, ethical approval was granted by the Cardiff School of Health Sciences (ethics reference number: 4027). Dates and times of interviews were then scheduled and participants were contacted via a telephone call to make arrangements. In addition, a risk assessment was completed to determine potential risks to the researcher during data collection and measures were put in place to minimise and eliminate potential risks.

Method of Analysis

Interview transcripts were analysed using the six-phase thematic analysis process outlined by Braun and Clarke (2006). Each audio-recording was carefully listened to and transcribed verbatim to ensure familiarisation with the data and accessibility to the information. Transcripts were then read to identify codes for each line of data, and each code was used to generate potential themes. Field notes were used during analysis stage to aid interpretation of results and to help eliminate confirmation bias (Denscombe, 2014, p196-197). This ensures interpretation of results are soundly based on the data and not the result of personal bias (Denscombe, 2014).

Data was then grouped into categories including: a) management of musculoskeletal disorders in primary care, b) management of musculoskeletal disorders in alternative treatments, c) Patient-provider satisfaction d) barriers to pain management. Categories captured themes within the data sets which were further characterised by subthemes in more specific groups (Denscombe, 2014, p286). To ensure a high standard of data analysis was maintained throughout Braun and Clark’s (2006) “15-point checklist of criteria for good thematic analysis” (p36) was strictly adhered to. In line with this it was important to remain consistent throughout the analytical stage (Burnard et al., 2008), this reduced interviewer errors, which is essential to reduce confirmation bias.
Results

All participants defined their past and current encounters with MSD, experiences with different treatment and described various barriers to the remedy of their disorder. The following section outlines the main themes and subthemes emerging from the analysis of the interview transcripts.

Theme one: Perceptions of MSD

This theme was derived from commonalities in the participant’s perceived views towards MSDs as a whole. ‘Wear and tear’ caused by manual handling, was the most prominent reason given by participants as the cause of their MSD:

“I’m always suffering with back pain and sciatica, but that’s just through general wear and tear” (Interviewee 7)

Another influencing factor believed by three participants was age/years in trade, with one participant stating:

“From the age of 50 it’s like a lifetime of wear and tear from years of doing the heavy lifting, the young people on site don’t [suffer with MSDs]” (Interviewee 3)

Theme two: Attitudes towards seeking assistance

All participants described tolerating symptoms in some way, with the general narrative among the men expressing endurance of pain “You’ve just got to get on with it”. When speaking about their symptoms, participants suggested that there was not much that could be done to resolve it, in terms of treatment options, two men articulated this by saying:

“I mean it’s hard if you go out and get treatment because you go back to work the next day and are hurting the same muscles again, so it’s a lose lose situation” (Interviewee 6)

“I know once they click you [chiropractor treatment], you go back to where you were 10 minutes later so I have never really bothered” (Interviewee 4)
Participant’s narratives suggest that when symptoms are minor they do not seek treatment. This quote captures a general attitude of the participants towards seeking assistance:

“I’ve got the pain all the time but I live with it and if it gets too bad, then I’ll take painkillers.” (Interviewee 8)

Coping Mechanisms

Participants found various methods to mitigate the stress on the body through workplace adjustments and pre-emptive exercises, for example:

- Employing further manpower and use of machinery - “I’ve got my labourer and if we have a machine we will use the machine”
- Reducing workload - “I just do what I can do and if it is too heavy I won’t do it, make it as easy as you can do”
- Stretching to reduce physical impact on muscles - “what I do now is stretch and since I’ve stretched I don’t pull my back, and I stretch as much as possible and I haven’t had any more problems with my back since I’ve been doing this”

Theme three: Pharmaceutical Interventions

MSD interventions consisted of medication (painkillers, NSAIDs and cortisone injections) along with medical professional advice. There were varying opinions on its effectiveness to treat MSD. Two participants found they were able to rely on medication to relieve their symptoms:

“I’ve got to take painkillers during the day to help me get through” (Interviewee 6)

On the other hand, three participants did not see painkillers as an adequate measure to treat their conditions. Participants desired a more permanent solution to their MSD rather than masking pain with medication; a temporary solution. Over-reliance, long-term use and lack of doctor interest were key reasons why participants described dissatisfaction with medication:
“The doctor told me to take painkillers. I didn’t because I didn’t want to become reliant on them. I’ve only ever taken one painkiller in the past” (Interviewee 1)

“If you have a bad back you can only take painkillers for so long” (Interviewee 3)

“Painkillers, that’s what the Doctor told me to do, because he thinks I’ve got arthritis now, he just told me because of your age there is nothing we can do, but I think there is” (Interviewee 5)

One participant was dissatisfied when they perceived their GPs recommendations to be infeasible, one respondent explained:

“The GP told me to change my job... I said to do what? That’s easier said than done isn’t it?” (Interviewee 1)

Although participant one described a change in occupation as impractical, all participants recognised the link between their profession and ill-health:

“The only way you are going to stop it [MSD], is by stopping working, which people can’t do at 60, you can’t re-trade” (Interviewee 6)

**Theme four: Alternative Therapies**

From the investigations participants held differing views towards the different types of alternative treatment.

**Chiropractic Management**

Chiropractic management, for four participants, was the most common alternative therapy used to treat MSDs. All the participants who had received Chiropractic treatment found it to be effective, in both the short and long-term:

“Brilliant - he sorted my back and I haven’t had a pain since, this was 30 years ago and I’ve not had a problem with my back since I’ve seen the chiropractor” (Interviewee 5)

“Well straight away I could feel it and my neck and my shoulders were a lot better, think they manipulated them back where they were supposed to be yanno?” (Interviewee 2)
Although stating that chiropractic care cured his back and neck pain, one participant expressed doubt towards the treatment:

“*It helped me, it cured my back and neck pain, but you still don’t know if your neck pain would’ve gone anyway, I had the pain for months and then a couple months of treatment and it went then but there is still an element of doubt whether my pain was going to go anyway, so I’ve got to believe that it was the Chiropractor that cured it*” (Interviewee 1)

Physiotherapy

One participant described a short-term improvement after receiving physiotherapy, however, they thought it was unrealistic to use this method as a long-term solution to pain relief:

“I did see a Physiotherapist once for the bad back that I went to the doctors with, and they click and pull you. There were great short-term benefits but I couldn’t imagine doing that every month or so, I just wouldn’t do it again, unless I was desperate.” (Interviewee 4)

Other alternative treatments

Two participants had used massage therapy and perceived it as being ineffective in reducing musculoskeletal symptoms: “*It had no pain relief benefits*” and “*It did nothing for me*”. Only one participant received acupuncture for MSD and did not find it beneficial:

“I did acupuncture through the national health, I think I had 6 sessions but it didn’t do any good, it wasn’t helpful” (Interviewee 6)

Comparison of healthcare services

Participants were asked what their first step would be when treating musculoskeletal pain in the future. Three participants promptly stated chiropractic treatment as their first option and then some expressed their views on primary care services:

“I would just go to the Chiropractor I think. At least when you go to the Chiropractor they examine you and pretty much give you an idea of what’s going on or they explain it to you.
But at the doctors it’s just ah lower back pain, they can’t really diagnose it, it’s just something that comes and goes.” (Interviewee 5)

“I go straight to the chiropractor because going to the doctor takes too much time, by the time you’re referred I’ll probably have to pay for my own treatment because the NHS is so short staffed, it would be weeks or months before you got anyone to help you” (Interviewee 1)

**Theme five: Barriers to treatment**

Public healthcare system

For a number of reasons the National Health Service (NHS) was not considered a viable option and private health care was a better alternative for faster and more efficient treatment:

“Well, when I first done my back in I tried getting a doctor’s appointment but couldn’t, so I went to the Chiropractor and that helped” (Interviewee 2)

“It’s probably the state of the NHS that they haven’t got the staff to be run effectively, so they couldn’t refer me because of the long waiting list. People do get better treatment when they persist to the doctors, maybe I should’ve kept going back and nagging, and they usually refer you if you keep on nagging” (Interviewee 4)

Participants found the long waiting lists for secondary referrals to be a barrier to healthcare. A few of the participant felt that GPs lacked interest and empathy, especially when managing their pain:

“I asked [GP] to see a specialist and he said it would be 18 months before I got to see anybody and he said they wouldn’t do anything anyway because you’re walking. So basically what he told me, they wouldn’t do anything for me because I wasn’t crippled, totally crippled.” (Interviewee 1)
Financial barriers

However, private healthcare also had barriers, with financial reasons being cited as a hindrance to treatment:

“Some people can’t afford treatment... Sometimes I have plenty of money, sometimes I don’t, I haven’t always had enough money to go for treatment” (Interviewee 1)

“It’s just the expense really because of how much it costs, you can’t afford to keep going every week. It would be effective if you carried it on but when its £30 a session it works out at £150 a month or something” (Interviewee 2)

Discussion

The aim of the current study was to explore self-employed construction workers experiences of and perceptions towards treatment for musculoskeletal conditions. It is evident that participant’s experiences with public and private healthcare have influenced their perceptions towards the different treatment options for MSD. The findings revealed four themes that were found to be most influential in the uptake and continuity of treatment: masculine behaviour, effectiveness of treatment, perceived barriers to treatment and patient-provider relationship.

In line with the perceived ‘macho’ culture in the construction workforce (Carmichael et al., 2016), participants emphasised enduring pain and expressed a ‘just get on with it’ attitude, accepting the condition as part of the job. This is in agreement with Addis and Mahalik’s (2003) study, which concluded masculine ideologies discourage men from seeking medical help. Furthermore, masculine behaviour influences a delay in seeking treatment among men (Galdas et al., 2005). It was common for participants in the present study to describe tolerating minor symptoms of musculoskeletal conditions, proving a reluctance and delay in seeking help. This delay in seeking treatment can aggravate and worsen the disorder, causing unnecessary debilitating and distressing disability due to MSDs and injuries. Thus, potentially impacting the outcome of treatment due to late diagnosis (Woolf, 2012).

Reviewing the participant’s experiences of treatment, it was identified that treatment outcomes influenced the participant’s continuity of care. Chiropractic care in particular, had positive outcomes, with testimonials stating it provided immediate pain relief and a long-term solution
for musculoskeletal conditions. This finding is in line with the evidence that demonstrates spinal manipulation therapy is associated with pain relief and functional improvement for several musculoskeletal conditions (Bronfort et al., 2010; Rubinstein et al., 2010; Paige et al., 2017). Due to this positive outcome, chiropractic care was found to be the first choice for several participants to treat their MSD. Similar to Brown et al’s (2014) study, that found chiropractic interventions to be the most common choice for managing musculoskeletal complaints. However, findings suggest that the perceived financial barrier for private health care hindered long-term usage of the treatment.

Musculoskeletal conditions are primarily managed at public care level, and a number of health-system and healthcare professional barriers were highlighted. The main healthcare professional barrier voiced was inadequate treatment. Some participants expressed dissatisfaction with medical interventions such as pain relief and anti-inflammatory. Penney et al’s (2017) qualitative study found their participants were dissatisfied with using medication for long-term chronic pain management. This finding was echoed in the present study where majority of the participants felt medication was not a suitable option to treat their symptoms, due to the persistent and recurring nature of MSD. In addition to this previous research has identified that health practitioners do not receive adequate training in musculoskeletal conditions on a global level (Akesson et al., 2003; Bernstein et al., 2007; Day et al., 2007; Pinney and Regan, 2001; Williams, 2000). As a result, many health practitioners do not feel confident about the assessment and management of patients with MSD, due to their own lack of educational practice (Mody and Brooks, 2012). Due to the ineffectiveness of medical interventions for majority of the participants, they were inclined to and even directly stated that in the case of future severe MSDs they would seek alternative forms of treatment.

The health-system related barriers were in line with the evidence (Hadi et al., 2017), the key concerns expressed by participants include: difficulty to get an initial consultation with a GP, lack of an integrated approach to managing pain and the long wait for secondary referral (including physiotherapy). Rapid access to physiotherapy has been a long term problem in the NHS, with waiting times of several weeks or months for treatment (Woolf, 2012; Salisbury et al., 2013). Self-referral for NHS physiotherapy is offered in some areas in the UK (NHS, 2016) and evidence suggests that Physiotherapists can be considered the primary assessors of patients with MSD. In addition to this patients were satisfied with self-referral to a Physiotherapist, due to prompt and effective treatment (Ludvigsson and Enthoven, 2012). The barriers influencing uptake or continuity of treatment could have a detrimental impact on an individual’s quality of
life, it is recommended that MSDs are treated at the earliest onset of symptoms to avoid the condition worsening or becoming aggravated by physical activity (HSE, 2017).

Participants in the present study valued a positive patient-provider relationship with their healthcare provider. The findings suggest that the explanation of the disorder and individualised care, were important elements shaping participants perceptions towards treatment. Three studies have identified elements for a positive patient-provider relationship, explanation of the pathology of the disorder, individualised delivery of care and patient-centred communication are essential between a patient and a healthcare provider (Slade et al., 2009; Cooper et al., 2008; Lyons et al., 2013). Furthermore, this study found that participants had the most positive relationship with their Chiropractor, similar to Bussieres et al’s (2017) study which found that chiropractic care held the largest proportion of ‘highly satisfied’ patients when compared to a Physical therapist, Acupuncturist and GP.

Limitations
This study reflects the views of eight male self-employed construction workers, that all contributed to the final results. However, due to the small sample size and all participants being self-employed, the study cannot be used to generalise the wider population of the self-employed construction industry. Furthermore, limited research was conducted into the severity of MSDs and how many treatment sessions each participant undertook, due to this it is unknown whether participants sought the appropriate number of treatment sessions required to treat their MSD. Therefore, the results obtained regarding the effectiveness of treatment may not give a true representation and should be interpreted regardful of this.

Conclusion and Recommendations
This study identified four major influences on treatment uptake and continuity these were: masculine attitudes, effectiveness of treatment, perceived barriers to treatment and the patient-provider relationship. It is acknowledged that MSDs should be treated at the earliest onset of symptoms, to reduce disability and increase the effectiveness of treatment. To achieve this there is an ongoing need to address the downfalls in policies and initiatives to improve workplace health and wellbeing in self-employed construction workers. It is recommended that further research be conducted by performing a quantitative study on a larger scale in order to confirm and interrogate the main influences of uptake and continuity of treatment. In order to instigate policy making and interventions that target reducing MSDs in this demographic.
As surmised, masculine behaviours influenced an endurance of symptoms until the condition became more severe. Hence, the first major practical contribution of the present research is that awareness needs to be raised on the importance of treating MSDs at the earliest onset of symptoms. This can be achieved through media campaigns targeted towards self-employed construction workers, and the construction industry.

Another potential recommendation is the standardising of self-referral to the Physiotherapist, as observed this provides an avenue to allow prompt and specialised alternative treatment to be given for MSDs. This provision gives opportunity for a reduction of pressure on GP consultations and NHS spending. However, further research into this policy intervention is required to confirm its merit.
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Appendices
Appendix 1a. Participant Consent Form

Reference Number:

Participant name:

Title of Project: Musculoskeletal disorders in self-employed construction workers: a qualitative study of the factors influencing uptake and continuity of treatment

Name of Researcher:

Participant to complete this section: Please initial each box.

1. I confirm that I have read and understand the information sheet for the above study. I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily.

2. I understand that my participation is voluntary and that I am free to withdraw at any time, without giving any reason.

3. I agree to take part in the above study.
4. I agree to the interview being audio recorded

5. I agree to the use of anonymised quotes in publications

_______________________________________   ___________________
Signature of Participant

_______________________________________  ___________________
Name of person taking consent   Date

_______________________________________
Signature of person taking consent

* When completed, 1 copy for participant & 1 copy for researcher site file
Appendix 1b. Participant Information Sheet

Title of project:
Musculoskeletal disorders in self-employed construction workers: a qualitative study of the factors influencing uptake and continuity of treatment

1. Background information:
This research project focuses on musculoskeletal disorders in construction workers in Pembrokeshire. It aims to explore the attitudes and perceptions of available treatment options for pain management. Several studies have identified a high rate of musculoskeletal disorders in construction workers due to the nature of the job role and strenuous manual handling tasks. An opportunity was recognised to develop further research into this topic area.

2. Invitation
You have been invited to participate in this study due to your occupation and area of residence. Whether you have or have not suffered from musculoskeletal disorders your participation in this study will be valuable to gaining knowledge on attitudes and perceptions on a wide variety of health care treatment options.

3. Are there any risks?
No risks have been identified for you, as the participant while taking part in this research project.

4. What will happen to me if I take part?
You will be asked to complete an interview, which will take place during the month of January. One researcher will conduct the interview. The design of the interview will consist of more of an informal chat. I estimate that this will take around 30 – 40 minutes; a more accurate time will be found after a pilot interview has been completed. This interview will primarily focus on your personal experience of work-related health and your attitudes and perceptions towards health care treatment options.

5. How I protect your privacy:
Your privacy is of high importance, so I have taken steps to ensure your identity isn’t at risk, for example not using your name in the interview transcript. As a participant, you have full rights to view the transcript as well as withdraw during experiment. Or if you wish to withdraw the information you have given to me, you can withdraw from the project 5 weeks after the interview has taken place.

In terms of storing the data, the transcript will be kept in a secure location on a password protected laptop accessed by only the researcher. The consent form signed by the participant will also be secured safely in a filing storage system which is protected by a lock of which again will only be accessed by the researcher.
Important Note:

If you are worried or have any concerns about your health or safety, I have listed a number of resources below that can offer suitable help/advice:

- Visit your local GP (General Practitioner), if you have any concerns regarding your health.
- NHS Employers website regarding Musculoskeletal disorders:
- Health and safety Executive – Health and Safety in construction:

If you have any questions about the research or how I intend to conduct the study please contact myself (the researcher):

Name:

Email:

Name: Senior Lecturer in Environmental & Public Health

Email:

Number:
Appendix 2. **Semi-structured interview questionnaire**

**Participant Profile & Job Characteristics**

**Age**
- o Less than 18
- o 18 – 24
- o 25 – 34
- o 35 – 44
- o 45 – 54
- o 55 and over
- o Prefer not to say

**Highest Level of Education**
- ..............................................

**Occupation**
- ..............................................

1. You say you are a ___________________, could you describe to me what your general day-to-day activities would include?

2. Do any of these activities include the following tasks?

**Checklist**

<table>
<thead>
<tr>
<th>Task</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Repetitive movement</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Heavy lifting</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bending/ Twisting</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Uncomfortable work Positions</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Exerting force</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Repeating an action</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

3. Status of Employment?

<table>
<thead>
<tr>
<th>Employed</th>
<th>Self-Employed</th>
<th>Contractor</th>
<th>Other</th>
</tr>
</thead>
</table>

4. How do you control risks at work to reduce/minimize hazards?  
   E.g. Risk Assessments/ H&S Guidance?
5. How often do you assess risks at work? (in terms of assessing for tasks taken place on a regular basis)

<table>
<thead>
<tr>
<th>Daily</th>
<th>Weekly</th>
<th>Monthly</th>
<th>Quarterly</th>
<th>Annually</th>
</tr>
</thead>
</table>

6. Do you find any of the tasks physically demanding? **If Yes** please describe how you manage such tasks on a daily basis:

7. What do you love about the job?

**Questions About Health Issues**

1. Have you ever suffered an injury at work?
   - o Yes
   - o No
   - o Prefer not to say

2. **If yes** – can you please describe to me briefly:
   - ❖ What caused the injury/accident?
   - ❖ What type of Injury occurred?
   - ❖ What measures you took to treat the injury?
   - ❖ Did it cause prolonged effects?
   - ❖ Did it cause any further health issues?

My next few questions involve musculoskeletal disorders – common MSDs injuries/ symptoms include – muscle/tendon pain; ligament sprain; bone fractures; stiff joints; dull aches. MSDs can affect your neck; shoulders; wrists; back; hips; legs; knees and feet. MSDs can commonly occur as a result of manual handling.

3. From what I have just discussed – Do you feel you have suffered a musculoskeletal disorder? **(If no Continue to Q 6)**

4. **If Yes** – Do you feel like it was a work related injury or a result of something other than work?

5. Can you describe to me what exactly you think caused this health issue – (in terms of activity or task)?
6. Do you know any work colleagues or friends in similar trades that have suffered from MSD?

7. If Yes – Do you know what measures they have taken to treat the health issue and what was this measure?

8. If working on a site around other construction workers – do you hear many men complaining of any health issues (e.g. I have a bad back)?

9. If so what health complaints do you feel are common in ‘construction workers’ (through word of mouth)?

10. From your personal opinion do you feel like male colleagues/ friends are open about their health?

11. Could you describe the reasons why you think the reason for this is?

12. If you were suffering from pain of any sort – what would your first option be in terms of health care option?

Questions about treatments

Conventional Medicine

1. Have you been to see your GP for pain of any sort previously?
   If Yes – sub-questions

   ❖ What sort of treatment did your GP recommend for pain management?

   ❖ Did you follow that course of treatment?

   ❖ How effective was that treatment for you and your well-being?

   ❖ Have you been referred to see another healthcare specialist and who?

2. Would you consider visiting your GP for a pain management?

3. Please describe how your general experience/ history has been overall in terms of visiting/ receiving treatment from your GP:

Complementary Therapy

4. Have you ever heard of complementary therapies?

5. What do you know about complementary therapies?
If unknown briefly explain – CT are commonly used alongside/ instead of conventional medicine. Such therapies include acupuncture, Chiropractic, Reflexology, massage therapy along with many others. CT aim to treat physical and mental health to improve overall wellbeing.

6. Have you ever tried or considered complementary therapy?

7. Have you ever seen Complementary therapies advertised and if yes where?

8. If tried, was complementary therapy effective for you and in what ways?

9. Can you explain if it was effective for long or short term?

10. Would you recommend complementary therapies to a friend/ family member?

11. Would you return for the same treatment again?

12. What other treatments would you consider trying?

13. In general terms, how do you feel overall about complementary therapies?

Summary Questions

1. From the treatment options we have just discussed, what would be your first option when getting treatment and why?

2. Do you feel like there are enough services in Pembrokeshire in regards to treatment options?
   - GP
   - Hospitals
   - Private specialist to therapies

Barriers to service

3. Distance to travel is a barrier to treatment options

<table>
<thead>
<tr>
<th>Strongly Agree</th>
<th>Agree</th>
<th>No opinion</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
</table>

4. Time and Length of service is a barrier to treatment
<table>
<thead>
<tr>
<th>Strongly Agree</th>
<th>Agree</th>
<th>No opinion</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>5. Location/place is a barrier to treatment (e.g. some therapists hold their sessions in their own home)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Strongly Agree</td>
<td>Agree</td>
<td>No opinion</td>
<td>Disagree</td>
<td>Strongly Disagree</td>
</tr>
<tr>
<td>6. The cost of treatment is a barrier to treatment</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>