

## Research

# The experience of lower back pain and its treatment among paramedics in New Zealand: a qualitative study

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## Abstract

### Introduction

Paramedics have physically demanding jobs. Lower back pain is an occupation-related health condition that may cause difficulty with, or inability to, lift. Existing literature on lower back pain in paramedics is scant; no qualitative study specifically of lower back pain experiences or treatment was found. This qualitative study aimed to explore paramedics' experience of chronic lower back pain, with a focus on their expectations of musculoskeletal treatment.

### Methods

Nine paramedics (seven men, two women) who had sought chiropractic, physiotherapy, or osteopathy treatment for one or more episodes of chronic lower back pain, while working as a paramedic, were recruited from the national ambulance service. A general inductive qualitative approach was used and semi-structured interview data were thematically analysed.

### Results

The core theme was 'frustration'. For paramedics, frustration stemmed from the difficulties and delays finding a musculoskeletal practitioner who could 'help'; the widespread experience of lower back pain among paramedics that apparently went unacknowledged; their inability to make alterations at work; their risk of re-injuring their back at any time; and concerns about their future and job insecurity because they might not be able to continue working as a paramedic in the future due to their lower back pain

### Conclusion

The experience of the nine New Zealand paramedics interviewed for this study was frustration due to difficulties and delays in finding the right provider of helpful treatment, and persistent uncertainty about their future. Participants wished that the industry had better and more explicit organisational processes for managing lower back pain at work, and supporting them to better back health and being fit for work.

### Keywords:

lower back pain; musculoskeletal manipulations; occupational health; paramedical personnel; qualitative research

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## Introduction

Paramedics have physically demanding jobs; carrying heavy equipment, standing, bending, lifting, kneeling and crouching, often for extended periods of time (1). Paramedics are at a high risk of developing lower back pain (LBP) (2). Lower back pain is attributed to the physical demands of a paramedic's work (3-5) and fatigue during long shifts, contributing to diminishing attention to best practice in manual handling (6-8).

Acute LBP is disruptive and distressing. However, it is those with pain lasting more than 6 weeks, chronic LBP, who have significantly reduced quality-of-life due to activity limitation and reduced participation in social roles and leisure activities (9-12). There are also significant impacts on work roles, and relationships in the workplace can be strained (11). Factors that increase the risk of acute LBP becoming chronic include negative experience of the workplace, the person's emotional difficulties, their perception of having a 'serious' illness, negative attitude toward the treatment and less favourable social and external supports (12).

Many New Zealanders with an episode of LBP will first consult their general practitioner (GP), with encouragement to avoid bed rest and continue activity (13). However, a person with LBP may see a musculoskeletal practitioner such as a chiropractor, physiotherapist or osteopath for treatment either by self-referral or GP referral. Chiropractic treatment focuses on the spine and the nervous system and treats conditions using spinal manipulation (14). Physiotherapists primarily use joint mobilisation or, to a lesser extent, manipulation in treatment of LBP (15). Osteopathy uses the 'holistic diagnostic model' to guide provision of mobilisation, manipulation and massage (or adjunctive care) for LBP (16).

Although LBP is common among paramedics and often attributed to work, the authors were unable to locate any qualitative enquiry exploring paramedics' experience of chronic LBP, or their treatment experiences. The aim of this descriptive qualitative study was to explore paramedics' experience of chronic LBP and, more specifically, their experience and expectations of musculoskeletal treatment.

## Ethics approval

Ethics approval was received from the University of Otago Human Ethics Committee (H14/049) and St John Ambulance.

## Methods

A general inductive approach was taken to explore experiences of chronic LBP in paramedics. The authors' interest in the topic stemmed from experiences as paramedics and as health professionals.

Participants were recruited from St John Ambulance, New Zealand. St John Ambulance provides emergency ambulance services to 90% of New Zealanders, attending around 330,000 emergency call outs and attending 400,000 people every year (16). Following ethics approval, paramedics were recruited via monthly internal hardcopy and electronic newsletters. Those expressing interest emailed or phoned a study supervisor. After eligibility screening and a brief explanation of the study, verbal consent was sought to pass the paramedics' contact details to the primary researcher. The researcher sent potential participants a Participant Information Sheet, Consent Form, the Brief Illness Perceptions Questionnaire (B-IPQ) (18), and a stamped addressed envelope for return. Telephone or email follow-up was used to arrange an interview with those who consented to participate.

Eligible participants were aged 21 years or older and working part- or full-time as a front-line paramedic; had experienced one or more episodes of LBP (defined according to the classification 1, 2, 3, 4 or 6 of the Quebec Task Force) (19), lasting more than 3 months while working as a paramedic; and had accessed chiropractic, physiotherapy or osteopathy treatment for their LBP. Exclusion criteria were duration of LBP greater than 1 year in 'one' episode, LBP from defined pathology (eg. cancer, scoliosis, inflammatory arthritis), co-morbid conditions which may complicate prognosis (eg. cardiovascular conditions) and current or previous diagnosis of major mental illness (including depression).

The aim was to recruit 8 to 10 participants and to purposively sample to select participants with a range of demographic factors and LBP experiences (based on B-IPQ responses). Sixteen potential participants contacted a research supervisor and nine consented to participate; thus, purposive sampling was not used and a convenience sample was obtained. Interviews were conducted face-to-face at a location of the participant's choice, or on Skype™ Version 7.27.0.295 (Skype Technologies, Luxembourg City, Luxembourg) if the participant did not live in the same city as the researcher. A semi-structured interview schedule was developed by the authors and covered three broad topics: LBP experience, effects of LBP including concerns related to work and musculoskeletal treatment choices, expectations and experiences. Open ended questions (such as 'please will you tell me about your lower back pain?') and prompts (such as 'please tell me more about that') were used to gather detailed descriptions of participant experiences. Interview duration ranged from 23–53 minutes; all interviews were digitally recorded and transcribed verbatim.

Data were managed in Microsoft Word documents Version 16.0 (Microsoft Corporation, Redmond, Washington, USA) and subject to thematic analysis as described by Braun and Clarke (20-21). The researcher read each transcript several times to become familiar with the data and the interview content was

then coded descriptively, capturing the essence of what the participants said. As coding progressed some coding categories were condensed; an updated log of codes was kept with a description of what each code encompassed. All interview data were coded by the researcher, and about a half were coded independently by a supervisor to check for agreement with the developing coding schedule. Themes were identified by grouping codes into larger categories and the candidate themes were reviewed in discussion with the second supervisor. Final themes were named, a definition agreed, and illustrative quotes selected from those coded to that theme.

## Results

Nine paramedics were interviewed (seven men, two women), six in the participants' home and three via Skype™. Two participants had partners present for support but they did not contribute to the interviews. Participant information is detailed in Table 1. All participants had experienced multiple episodes of chronic LBP for more than 12 months. Six of the nine

participants had LBP for less than 4 years, two participants for less than 10 years and one participant for more than 30 years. Six of the nine participants self-referred to a musculoskeletal practitioner; three to osteopaths, two to physiotherapists and one to a chiropractor. The remaining three made an initial appointment with their GP and all were referred to a physiotherapist.

The core theme was 'frustration', and particularly strong in themes of 'finding the right provider for me' and 'what sort of industry am I in'. The paper focuses on the effects of the LBP in terms of continuing to work as a paramedic, the choice of treatment provider and how help seeking continued until the expectation of finding 'help' was met.

### Frustration

Participants were frustrated about one or more aspects of living with and managing chronic LBP. They were annoyed or upset because they felt the chronic LBP impaired their ability to achieve or change things or that their progress, success or goal fulfilment was prevented.

Table 1. Description of the participants and their choice of musculoskeletal treatment

ID	G	Symptom onset and initial management	MSK practitioner and referrer	Time since onset	Current symptoms and consequences
1	M	Lifting furniture. Dull ache progressed to severe pain. Hospital assessment and analgesia	OP, SR (H)	More than a year	Intermittent. Activity limiting (running). No sick leave
2	F	Dropped stretcher. Severe pain, exercises and stretching	OP, SR (H)	More than a year	Intermittent. Activity limiting (sports). No sick leave
3	M	Lifting cadaver. Severe pain, attended CP	CP, SR (H)	More than 30 years	Intermittent pain with lifting. Activity limiting (running). No sick leave
4	M	Gradual onset over 10 years. Analgesia then MSK treatment	PT GPR (U) CP SR (H)	More than 10 years	Intermittent. Activity limiting (sports). No sick leave
5	M	Lifting heavy patient. Analgesia and PT	Two PT GPR (U) PT and OP SR (H)	9 years	Chronic pain. Activity limiting (gardening, family time). No sick leave
6	M	Lifting a patient. Gradual onset of pain, analgesia and exercises	PT SR (U) OP SR (U) CP SR (H)	3 to 4 years	Chronic pain, Activity limiting (running, gardening). No sick leave
7	M	Gradual onset severe pain. Analgesia	PTSR (H)	3 years	Intermittent pain. Activity limiting (sports training). No sick leave
8	M	Lifting a heavy patient. Work absence	OP SR (H)	Participant uncertain – a few years	Intermittent. Activity limiting (unable to play with his children). Limited sick leave
9	F	Dropped a patient in a carry-chair.	PT SR (U) PT SR (H)	Participant uncertain – a few years	Constant. Activity limiting. Six months work absence.

Abbreviations: ID = participant number, G = gender, M = male, F female, MSK = musculoskeletal, OP = osteopath, PT = physiotherapist, CP = chiropractor, SR = self-referral, GP ref = general practitioner referral, H = helpful, U = unhelpful

'I look at long term people in the same sort of role that I am doing, and 60-70% have got long-term back injuries that they just chew on painkillers all day and I don't want to go down that path... it's a tricky one because you do see so many people with so many back injuries... and you are just like oh gosh... what sort of industry am I in?' (Participant 1)

Vulnerability – a major contributor to frustration – was felt because the participants knew they were at risk of future episodes of LBP given the nature of their job. In addition, vulnerability was experienced with an apparent inability to locate a satisfactory answer to why they had chronic LBP and the difficulties for some of finding a pathway to a treatment that helped. Frustration also grew out of feeling uncertain about the future and, in particular, how long it might be possible to keep working as a paramedic with LBP.

### Finding the right provider for me

Help-seeking began with either an acute LBP episode or when an acute LBP episode did not resolve as expected. Participants used recommendations from others to find treatment that worked. However, they did not always find the 'right' provider initially, and kept trying until they did. Having to try multiple providers meant false starts and delays, compounded by uncertainty that the 'right' provider and treatment would be found. Recommendations came from family, friends and health professionals, especially the GP. Suggestions from friends and family were particularly credible:

'Some family friends I was staying with, some of their family members had been to see the same osteopath before and they had good success with back injuries. I have recommended him to other people who I have worked with who have had back injuries... I have recommended him to them because it worked for me, it might not work for them. But it worked really, really well for me'. (Participant 4)

In contrast, recommendations or referrals from the GP were not generally felt to be helpful; three participants had GP referrals (all to a physiotherapist) and none were felt to be helpful. However, two of these later self-referred to a different physiotherapist and reported that the treatment provided was helpful.

The 'right' musculoskeletal practitioner was someone that the participants had confidence in and believed was providing helpful treatment. It was about the trust the patient developed with the practitioner. Preferred providers included chiropractor, osteopath and physiotherapist (Table 1). Participants also tried multiple practitioners from the same or different profession (Table 1) until they found the 'right' person and 'right' treatment for them:

'When I got the combination of the physio and the acupuncture I managed to get good release of muscle

spasm... physio and acupuncture and exercises has just strengthened everything up... that's the combination you need. And as I say there is good physios out there and there is some bloody horrible ones to put it bluntly'. (Participant 2)

Once a helpful practitioner was found, participants chose to return to the same person with repeat LBP episodes, which reduced the earlier frustration of delays in finding the 'right' provider:

'...about back pains I say to the boss I gotta go to the chiropractor because it's gonna save you 4 days of me not working and certainly they are so happy with that... I bugger off to the chiropractor as soon as possible pretty much...' (Participant 8)

### What sort of industry am I in?

All participants were concerned about their future in the industry. Although the participants were committed to their job, they had a persistent sense of uncertainty about their long-term future as a paramedic with chronic LBP, with attendant consequences for job and income security:

'My concern is that I lift as part of my job for a living. It's my livelihood that's affected so that makes me really concerned because I love what I do. I mean if I had to retrain and I do have another degree, I have already got a bachelor [degree] so there are other options for me. But given that I am on single income as well, as I said, at one stage I actually wondered if I was gonna get back to work so it hugely concerned me'. (Participant 7)

Although some participants struggled to understand the cause of their LBP, they all stated that lifting was probably the biggest risk factor for recurrent LBP episodes. However, lifting is unavoidable in daily duties of a paramedic and participants believed therefore that LBP was inevitable. Participants also realised risks were higher when staffing issues meant an ambulance was single crewed, or they worked with a volunteer. They felt that the only acknowledgement by their employer of the risk of heavy lifting causing injury was provision of lifting training and equipment. Beyond that they felt little was being done in the industry to enable their 'fitness' for the physically demanding work of paramedic.

'I think the industry itself is not pro-active enough to encourage staff to either do flexibility or strengthening programs or things like that and I think the industry takes a more reactive approach... it's kinda like oh well you are sick, so here take some leave, get yourself fixed and fill out a form and let us know when you can come back and do light duties or you can come back and lift people and we will assess you then'. (Participant four)

Participants talked with emotion ranging from sadness to dissatisfaction to anger about what they perceived as a lack of

concern within their ambulance service about paramedic health; specifically, the health of the back and the core (the middle section of the body). When they had LBP, participants did not want to take sick leave because they feared being labelled as weak. They felt LBP was so common among paramedics, and so likely to lead to work absence or having to leave the job, that supporting all paramedics to better back health should be a priority. Thus, the participants found the absence of obvious attempts by the employing organisation or wider industry to prevent LBP, or accessing effective treatment when they needed it, immensely frustrating:

'I think it's unfortunate that it is just accepted that that is how it... it's not like there is something that the ambulance service can get that can miraculously help in every situation that'll help people not having back pain. But I think they have to stand up and look at the bigger picture and say okay we understand that we have got a high percentage of staff with this injury... we can give you the tools to do it as far as practical but it's outside of work what we'll like to do is to encourage you and to help you to look after yourselves a little bit more and that being the gym membership discounts, even free, or provide stations with gyms... or even just personal trainers who can go through something with you and say oh how about this and how about that for strengthening your core or whatever... and offering you a little more support to encourage you and I think that's what you need is that encouragement to look after yourself a little bit more'. (Participant 9)

Some participants were concerned about their future, knowing recurrent or persistent LBP could end their career. This worry was persistent, even when pain-free. They were concerned that they did not have skills to earn a living in a different industry and thought it was too late for retraining. There were participants who talked about future-proofing themselves and had thought about other careers or jobs if they ever needed it.

## Discussion

These paramedics with experience of chronic LBP felt they worked in a job where the risk of recurrent or worsening LBP was inevitable and this was a persistent source of concern. Participants had felt lost in, and frustrated by, the circuitous path to finding the 'right' musculoskeletal practitioner for them. They felt the problem of LBP and attention to better management of it was insufficiently acknowledged by their ambulance service, even though they believed LBP was a widespread problem for paramedics. A lack of strategies (aside from the provision of manual handling training and equipment) to manage and prevent LBP among paramedics was frustrating.

### Finding the 'right' provider of the 'right' treatment

Finding a treatment provider was usually directed by an external influencer and suggestions made by friends and family were particularly credible. Participants also returned to the

same practitioner for subsequent LBP episodes having found the 'right' person for them. This accords with data from other qualitative work; prior experience of a particular provider and practitioner recommendation from family and friends were two of the four strongest influences on the choice of treatment provider for chronic LBP in a subgroup of 50 Australian women aged 60–65 years taking part in the Australian Longitudinal Study on Women's Health (22). Further, the participant experience of multiple consultations to find the right provider, and the variation in preferred practitioner discipline for self-referral was also found (22). Sibbritt and colleagues (23) found an average of three health professional consultations in 12 months in 1851 women aged 45–50 years seeking help for back pain. About 56% had consulted their GP, 40% a chiropractor, 36% a physiotherapist and 9% an osteopath. The profession of the practitioner consulted first also varied, with about half consulting the GP first, 20% a chiropractor and 8% a physiotherapist. Although both studies included only women the similar findings suggest perceived treatment benefit occurs when practitioners are found through recommendations or after consulting several practitioners.

Thus, it may be of less concern who provides the treatment so long as it 'helps'. Main et al (24) in their narrative review of pain beliefs and expectations of recovery contend that 'intuitively it makes sense that if patients with back pain get the treatment they prefer or for which they hold higher expectations of benefit, then their outcomes might be improved' and found that return to work outcomes are better when expectations and preferences are met. Participants in the present study all wanted treatment that helped their pain, helped them return to work, keep working and ideally prevent further LBP occurrence. It was this focus on finding what helped that meant participants consulted multiple practitioners until their expectations were met.

It was unfortunate that GP referrals did not seem to lead to the 'right' practitioner. It might appear to patients that GPs or other health professionals are gatekeepers (25), and GPs believe this to be their role too (26). Those who choose to go through their GP place the onus on their doctor to provide the possible options available to them, and may also be influenced by the GP's beliefs about pain and its management (27). However, in New Zealand a person with back pain can self-refer to a primary provider such as a chiropractor, physiotherapist or osteopath directly. This ability to choose one's treatment provider in line with one's preferences or recommendations from social networks might increase the likelihood that treatment 'helps'.

### The longer-term future as a paramedic with LBP

Paramedics' concerns about being able to work with LBP, and their feelings of vulnerability, stemmed from the unpredictable environment in which they worked and their constant exposure to lifting, perceived as the key precipitant of their LBP. Particular sources of frustration were working alone (or with a volunteer who had less training) and the uncontrollability of the lifting situations. The latter seemed inherent in the job and an irresolvable problem.

The influence of inadequate staffing on implementing safe lifting is congruent with the findings of Schoenfisch et al (28) who gathered data from 13 focus groups with healthcare workers (eg. nurses and nurse aids) including 80 participants from two hospitals. Two key factors relating to the day-to-day working environment were identified as barriers to safe lifting. First, the time barrier to access, set up, use and return the lifting equipment often discouraged the nurses from using the equipment. Second, the nurses reported that the number of staff available was not sufficient with increased responsibility on those available on shift at the time of the lift. It is difficult to see how the risk paramedic participants associated with lifting can be ameliorated in the unpredictable environment of first-response when similar barriers cannot be surmounted in the more controlled environment of a hospital. However, engagement with paramedics to problem-solve barriers to equipment use is recommended.

The finding of participants' concern about employment future with LBP was reported in a prior qualitative study of working age people in the United Kingdom with chronic LBP. While not necessarily in physically demanding jobs, study participants expressed uncertainty about their employment future and considered sick leave a last resort due to the uncertainty of management response if sick leave was frequent (29). As work is integral to financial security and wellbeing, it seems essential that industries and government address employees' work conditions and the structure of work so that work participation can be maintained (29).

It is acknowledged that the transferability of findings from this small sample may be limited. The participants had sought treatment for their LBP and it might be that paramedics who self-manage without any health professional contact have different views about the industry. Further, the paramedic participants came from a single organisation and New Zealand also has a particular injury compensation context that might influence participant perceptions and behaviour.

However, in considering the application of findings it is of concern that the paramedics perceived, despite training in lifting techniques, that the high apparent prevalence of LBP among paramedics was not recognised or actively mitigated in the industry. There is certainly scope within organisations employing paramedics to consider the benefits of evidence-based 'internal' communication plans specific to managing LBP at work, and separate and regular communications that help paramedics know what to do when they experience an episode of back pain. A more radical suggestion is that the service selects for certain body types, requires paramedics to do physical training and that there is regular testing to ensure that the fitness level of paramedics is at par with the physical requirement of the job. Career counselling services could also be provided to support those who are concerned about their future in a paramedic role.

## Conclusion

The principal finding of this qualitative study exploring experience of LBP and its treatment among paramedics in New Zealand was one of frustration arising from delays and difficulties finding the right provider of helpful treatment, and persistent uncertainty about one's future in an industry where lifting is part of daily work. Paramedic participants wished that the ambulance service had better and more explicit organisational processes for managing LBP at work, and supporting them to achieve better back health and being fit for work. Although this is a small study, the congruence with other studies suggests the significant impact of work-related LBP among paramedics and frustration with their recovery and ambulance service warrant further scrutiny. Research priorities might include prevalence, impact and outcomes of LBP ambulance or first-response services in other countries and to investigate the most effective approaches for prevention and holistic management of work-related LBP. These might include changes to work practices to prevent chronic or recurrent LBP and pathways to recovery via treatment.

## Conflict of interest

The authors declare they have no competing interests. Each author of this paper has completed the ICMJE conflict of interest statement.

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