

## RESEARCH ARTICLE

# Management of low back pain: Treatment provision within private practice in the UK in the context of clinical guidelines

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## Abstract

**Objective:** To summarise the combination of treatments private UK-based physiotherapists use with patients who have low back pain (LBP) and the extent to which the treatments used are consistent with clinical guideline recommendations.

**Design:** Cross-sectional observational survey.

**Methods:** Data were collected from physiotherapists within private UK-based clinics using an online standardised data collection system to record the treatment they provided for patients who had LBP with/without leg pain. Treatment data were classified into those that are 'recommended', 'not recommended' and had 'no recommendation'.

**Results/Findings:** Treatment provided to 8003 patients were included in the analyses. Most patients (95.0%) were provided with a 'recommended' treatment. Approximately half of the patients who received 'recommended' treatment were also provided with other treatments that were either 'not recommended' (16.7%), had 'no recommendation' (16.6%) or a combination of both (13.0%). Few patients were provided with only treatments that were 'not recommended' and/or treatment with 'no recommendation' (4.6%).

**Conclusion:** This study provides insight into the self-reported practice of participating physiotherapists and highlights how they generally adopted a multimodal treatment model for patients with LBP. Consistent with the National Institute for Health and Care Excellence guidelines, most patients received information and advice often in conjunction with exercise and manual therapy. Only a small proportion of patients were provided with treatments that are 'not recommended' and/or treatment that had 'no recommendation'. These findings are useful in documenting the implementation of clinical guidelines given the need for practitioners to balance the best available evidence with patient expectation and preference and to facilitate the therapeutic alliance.

## KEYWORDS

clinical guidelines, low back pain, private practice, standardised data collection

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## 1 | INTRODUCTION

Low back pain (LBP) is a leading cause of disability worldwide (Buchbinder et al., 2018). In the UK, LBP is the largest single cause of disability accounting for 11% of disability. It is estimated that LBP is responsible for 37% of all chronic pain in men and 44% in women, with the total cost to the UK economy estimated to be over £12 billion per year (NICE, 2016). The prevalence of LBP is thought to be increasing due to an increasing and ageing population (Buchbinder et al., 2018).

Most LBP is termed non-specific low back pain (NSLBP) because the pathoanatomical cause for pain cannot be determined (Maher et al., 2017). National clinical guidelines recommend a biopsychosocial approach to the management of people with NSLBP (Foster et al., 2018). The implementation of effective treatment in line with current guidelines is an international healthcare priority (Buchbinder et al., 2018). In the UK, National Institute for Health and Care Excellence (NICE) (2016) guidelines provide evidence-based recommendations to guide clinical practice for the assessment and treatment of people with LBP with/without sciatica (NICE, 2016). They recommend the provision of information and advice to support a person's ability to self-manage and to consider offering exercise, manual therapy (as part of a treatment package including exercise, combined physical and psychological programs) and psychological therapies (only as part of package including exercise, with or without manual therapy). The use of acupuncture, electrotherapy (percutaneous electrical nerve stimulation or transcutaneous electrical nerve stimulation, interferential), tractions, orthotics, belts and corsets is not recommended.

The updated NICE guidelines (NICE, 2016) were intended to overcome inconsistencies in the commissioning of back pain pathways and pain management programs as well as improving implementation of the guidelines due to clinicians' beliefs that previous recommendations were constraining (Slade et al., 2015). More generally, guidelines have been developed to assist practitioners' decisions about appropriate healthcare, thereby decreasing the gap between research and practice thus reducing variability in practice. Despite the progress made by developing and updating evidence-based guidelines, evidence exists to suggest that the implementation of current guidelines is not yet optimal. The overall extent to which physiotherapists choose recommended, not recommended and treatment with no recommendation for various musculoskeletal (MSK) conditions including LBP has been documented in a systematic review (Zadro et al., 2019). This included studies from across the world highlighting that many physiotherapists did not seem to follow guidelines when managing MSK conditions. According to the review, 35% (25%–76%) of physiotherapists treating patients with LBP provided (or would provide) treatments that were recommended, 44% (34%–61%) provided treatments that were not recommended and 72% (49%–96%) provided treatment that had no recommendation (Zadro et al., 2019).

The guidelines are based on reviews of contemporary research. However, evidence-based practice is more complex and nuanced, incorporating this evidence with clinical expertise and patient preference when making shared-decisions alongside patients. Contemporary debates recognise the benefits of guidelines in helping clinicians who

need information regarding the evidence, but also acknowledge them as hegemonic force of consensus and conformity that miss the nuances needed for treating individual persons (Copeland, 2020). A review synthesising results from qualitative and quantitative studies from outpatient settings concluded that physiotherapy treatment decisions in LBP are usually based on facilitating the relationship with the patient and expected patient engagement with treatment and/or self-management (Gardner et al., 2017). Whilst factors influencing decision making processes of an individualised treatment approach have been documented (Widerström et al., 2019), the complexities of such individualised approaches have not been recognised in recent LBP recommendations (Foster et al., 2018). Qualitative research conducted in a primary healthcare setting has provided a clinical perspective on the complexity of individualised treatment approaches that is not recognised in LBP guidelines. Specific characteristics of the patient, the assessment as well as the practitioners working environment, personal convictions, constraints and emotions have been shown to influence decisions for individualised care of patients with LBP (Widerström et al., 2019). Further, qualitative research has recently described how practitioners have combined treatments as well as applied treatments for atypical purposes in order to enhance treatment effectiveness, reach out to patients, facilitate the handling of complex situations and overcome personal shortcomings (Widerström et al., 2019). As a result, it is important to examine the combinations of treatments provided in practice to provide insight into the complexities of clinical decision making within this context.

Whilst the extent to which physiotherapists adhere to guidelines for LBP has been documented (Zadro et al., 2019), no study has examined the combinations of treatment offered. Such understanding will enable us to ascertain the extent to which patients receive treatment that is solely in line with the recommendations; the extent to which patients receive recommended treatment that is being provided alongside other treatments that are not recommended or have no recommendation; and the extent to which patients receive only treatments that are not recommended or have no recommendation. This is significant given the context in which clinical decision making occurs and in which clinicians balance patient expectation and preference with clinical guidelines to facilitate the patient-practitioner relationship and engages the patient in treatment and/or self-management.

The aim of this research was therefore to summarise the combination of treatments provided for patients with LBP within private practice in the UK and the extent to which these combinations of treatments are in agreement with evidence-based guidelines.

## 2 | METHODS

### 2.1 | Study design

A cross-sectional study was performed through an online standardised data collection (SDC) system, full details of which are reported by Moore et al. (2012). The SDC system recorded information

on patient details, diagnosis, referral information, body site and symptoms, treatment details and discharge information (i.e., outcome of referral and goal achievement). The use of an SDC system ensures data is collected in a systematic and agreed format, therefore improving data quality.

## 2.2 | Sampling and recruitment

All registered MSK physiotherapists in private practice in the UK who are Physio First members (the trade Organisation for Chartered Physiotherapists in Private Practice) were invited to participate in SDC, named the Data for Impact project. Practitioners were recruited through advertisements via Physio First in-house communication, email networks and at national physiotherapy conferences. Practitioners were asked to input data on all new MSK patients via the online SDC system.

## 2.3 | Data collection

The online SDC was administered through Filemaker Pro. Practitioners recruited to the study were provided with instructions concerning how to access and enter data onto the online SDC. Patient records submitted via the online system between January 2017 and January 2020 were included in the analyses. Practitioners commenced data collection following their recruitment to the study.

## 2.4 | Classification of treatments

Practitioners were able to report up to six initial treatment modalities. Treatments were classified according to the NICE guidelines (NICE, 2016) as 'recommended', 'not recommended' and those that had 'no recommendation' (i.e., treatments that were not specified in the guidelines). In accordance with the NICE guidelines (NICE, 2016), treatments that were 'recommended' were further characterised into those that 'must be provided', which were information and advice, and those that 'should be considered', which included exercise (both group and individual) and manual therapy (specifically spinal manipulation and mobilisation or soft tissue techniques such as massage) but only when combined with exercise.

## 2.5 | Statistical analysis

All analyses were performed using SPSS version 24 (IBM Corp.). The percentage of patients who received each of the treatment modalities and the percentage of patients who received a treatment that is 'recommended', 'not recommended' or has 'no recommendation' were calculated. Following this, all combinations of treatments (provided to >1.0% of patients) were reported. These combinations

are listed within the group they fall, for example, combinations that included 'recommended' forms of treatment only, combinations that included 'recommended' treatment and treatment that was 'not recommended' only.

## 3 | RESULTS

### 3.1 | Patient characteristics

A total of 8003 patients were recorded as having attended physiotherapy treatment for a condition in the lumbar spine with/without referred pain. Data were collected from 391 practitioners.

The mean age of patients was 54.02 years ( $SD = 16.6$ ). Patient characteristics are reported in Table 1.

### 3.2 | Overall treatment choices

The results summarising the percentages of patients receiving treatments that are 'recommended', 'not recommended' and have 'no recommendation' is shown in Table 2. Almost all patients were provided with a 'recommended' treatment (95.0%), 31.9% of patients were provided with a treatment that is 'not recommended' and 33.8% of patients were provided with a treatment that has 'no recommendation'. 82.3% of patients were provided information and advice. Manual therapy treatment (i.e., manipulation, mobilisation or soft tissue techniques such as massage) is recommended when combined with exercise, and this combination was provided to 62.3% of patients. The most frequently reported treatments that are specifically 'not recommended' included ultrasound, provided to 13.9% of patients and interferential, provided to 12.6% of patients. The most frequently reported treatments that had 'no recommendations' included manual therapy treatments (manipulation, mobilisation or soft tissue techniques such as massage) when provided without exercises (13.4%), cold therapy (5.8%), other forms of manual therapy (i.e., other than those specified in the guidelines) (5.5%) and other electrotherapy treatment (5.2%).

### 3.3 | Combinations of 'recommended' treatments, 'not recommended' treatments and treatments with 'no recommendation'

The percentage of patients that received only 'recommended' treatments, only 'not recommended' treatments, only treatments with 'no recommendation' and other combinations of treatments is summarised in Figure 1. Most patients (95.0%) received a recommended treatment, with 46.3% of patients also receiving a treatment that is 'not recommended' and/or a treatment that has 'no recommendation' alongside the 'recommended' treatment. A small percentage of patients received treatments that are 'not recommended' (0.3%), only treatment that has 'no recommendation' (2.4%), or a combination of

TABLE 1 Characteristics of patients with LBP

	n	%
<b>Gender</b>		
Male	4042	50.5%
Female	3939	49.2%
Not reported	22	0.3%
<b>Duration of symptoms</b>		
Acute (6 weeks or less)	4902	61.3%
Subacute (7–12 weeks)	980	12.2%
Chronic (more than 12 weeks)	2108	26.3%
Not reported	13	0.2%
<b>Previous episodes</b>		
No previous episodes	2964	37.0%
One previous episode	1489	18.6%
Two previous episodes	647	8.1%
Three previous episodes	257	3.2%
Many previous episodes	2628	32.8%
Not reported	18	0.2%
<b>Mechanism</b>		
Leisure activity	1363	17.0%
RTA or trauma	536	6.7%
Spontaneous	3921	49.0%
Sport	765	9.6%
Work	783	9.8%
Other	609	7.6%
Not reported	26	0.3%
<b>Body site</b>		
Lumbar spine only	2771	34.6%
Lumbar spine and referral to buttock	1879	23.5%
Lumbar spine and referral to mid-thigh	800	10.0%
Lumbar spine and referral to knee	721	9.0%
Lumbar spine and referral to mid-calf	583	7.3%
Lumbar spine and referral to heel	503	6.3%
Lumbar spine and referral to foot and toes	746	9.3%

Abbreviation: LBP, low back pain.

treatment that is 'not recommended' and treatment that has 'no recommendation' (1.8%) (see Figure 1).

The combination of 'recommended' treatments for all patients (i.e., regardless of other treatment 'not recommended' or with 'no recommendation' they may have received) is provided in Figure 2. Patients (51.2%) received a combination of information and advice, manual therapy and exercise; 17.4% of patients received information and advice alongside exercise; 9.6% received information and advice alongside manual therapy.

Details of the treatments provided for each combination is summarised in Table 3. For patients who received only 'recommended' treatment, the majority were provided information, advice and exercise with/without manual therapy (65.7%). Patients (11.6%) received only 'recommended' treatments (i.e., exercise with/without manual therapy) but, contrary to the guidelines did not specify that they provided information and advice.

Patients receiving a combination of 'recommended' treatments alongside treatments with 'no recommendation' tended to receive information and advice, manual therapy (manipulation, mobilisation and/or soft tissue techniques such as massage and exercise) without exercise.

Patients who received treatments that were 'not recommended' alongside 'recommended' treatment, received information and advice, manual therapy, exercise and either ultrasound (5.3%), interferential (1.8%) or acupuncture (1.5%).

## 4 | DISCUSSION

The findings of this study provide insight into the self-reported clinical practice of participating physiotherapists and highlight the extent to which they follow the NICE guidelines (NICE, 2016). Almost all patients were provided with a 'recommended' treatment (95.0%). Approximately half of these patients were also provided with treatments that were either 'not recommended' (16.7%), had 'no recommendation' (16.6%) or a combination of both (13.0%). Few patients received only treatments that were 'not recommended' and/or had 'no recommendation' (4.6%). Practitioners reported using different combinations of treatments across all three recommendation domains. Most practitioners reported multimodal treatment programmes and only a few reported using treatments in isolation. The most highly reported treatment combination was information and advice with manual therapy and exercise (51.2%). This treatment combination is consistent with the guideline recommendations which state that manual therapy should be considered as part of a treatment package with exercise (NICE, 2016).

The highest reported treatment category was 'information and advice' with practitioners recording this in 82.8% of their patients. This category can be subsumed by the broader concept of 'patient education' which is recommended as a first line treatment for people with LBP (Foster et al., 2018). The NICE (2016) guidelines state that clinicians should provide people with advice and information to facilitate their ability to self-manage. The use of the word 'provide', instead of other terms used within the guidelines such as 'consider', reinforces the strength of this recommendation. Although a high proportion of patients in this study received education, it is possible that some practitioners did not report provision of information and advice, perhaps not viewing these as 'treatments' but rather as a standard part of health-care. Indeed, patient education is regarded as an integral part of physiotherapy practice (Caladine, 2013). Whilst the data highlight the frequency that information and advice were used during the care of individual patients, it does not provide an in-depth understanding

**TABLE 2** Number and percentage of treatments provided that involved treatments that were 'recommended', 'not recommended' or had 'no recommendation' according to NICE guidelines 2016 ( $n = 8003$ )

	<i>n</i>	%
<b>'Recommended'</b>		
<i>Must be provided</i>		
Information and advice	6629	82.8%
<i>Should be considered</i>		
Exercise	6467	80.8%
Manual therapy <sup>a</sup> , and exercise <sup>b</sup>	4989	62.3%
<b>Total patients provided a 'recommended' treatment</b>	<b>7602</b>	<b>95.0%</b>
<b>'Not recommended'</b>		
Orthotics	49	0.6%
Traction	584	7.3%
Ultrasound	1109	13.9%
TENS	41	0.5%
IF	1005	12.6%
Acupuncture	553	6.9%
<b>Total patients provided a 'not recommended' treatment</b>	<b>2556</b>	<b>31.9%</b>
<b>'No recommendation'</b>		
Manual therapy <sup>a</sup> (without exercise <sup>b</sup> )	1072	13.4%
Cold therapy	464	5.8%
Other manual therapy treatments	440	5.5%
Other electrotherapy treatments	417	5.2%
Local heat/heat therapy	244	3.1%
Other treatments (not specified)	213	2.7%
Other external support	177	2.2%
Biofeedback	14	0.2%
<b>Total patients provided a treatment with 'no recommendation'</b>	<b>2707</b>	<b>33.8%</b>

Abbreviation: NICE, National Institute for Health and Care Excellence.

<sup>a</sup>Spinal manipulation, mobilisation or soft tissue techniques such as massage.

<sup>b</sup>Includes individual and group exercises.

about how the education was used in practice. For example, details about the timing, frequency or duration of the education within the patient's episode of care were not investigated and the pedagogical approach, quality and relevance of the education are also unknown.

The NICE (2016) guidelines have a relatively broad focus on improving the person's ability to manage their LBP. As a result, the information and advice category within this study was underpinned by a broad range of education approaches being grouped under the recommended domain. In contrast, a recent systematic review by Zadro et al. (2019) categorised patient education-related activities across recommended, not recommended and no recommendation domains. The different approach to categorising treatments may be one reason why the reported use of information and advice in this study was higher than those recorded by Zadro and colleagues. For example, Zadro and colleagues categorised posture advice under the no recommendation domain. Although the quality of the posture

advice used by participants in this study was unknown, it was categorised under the recommended domain based on an assumption that treatment goals would be directed at improving the patient's ability to self-manage. In practice, posture advice is a wide-ranging concept. Whilst there is no strong evidence to support the provision of advice about maintaining a 'good' posture or avoiding particular postures for people with LBP (Swain et al., 2020), contemporary literature recommends clinicians support people to adopt more relaxed postures and challenge unhelpful beliefs and behaviours (Slater et al., 2019). In order to improve our understanding about how patient education is used in practice the SDC system could be adapted to capture further details.

Some practitioners reported provision of treatments which were not recommended (31.9%) or had no recommendations (33.8%) within the guidelines. These findings are consistent with previous research which also found that some physiotherapists in the UK used

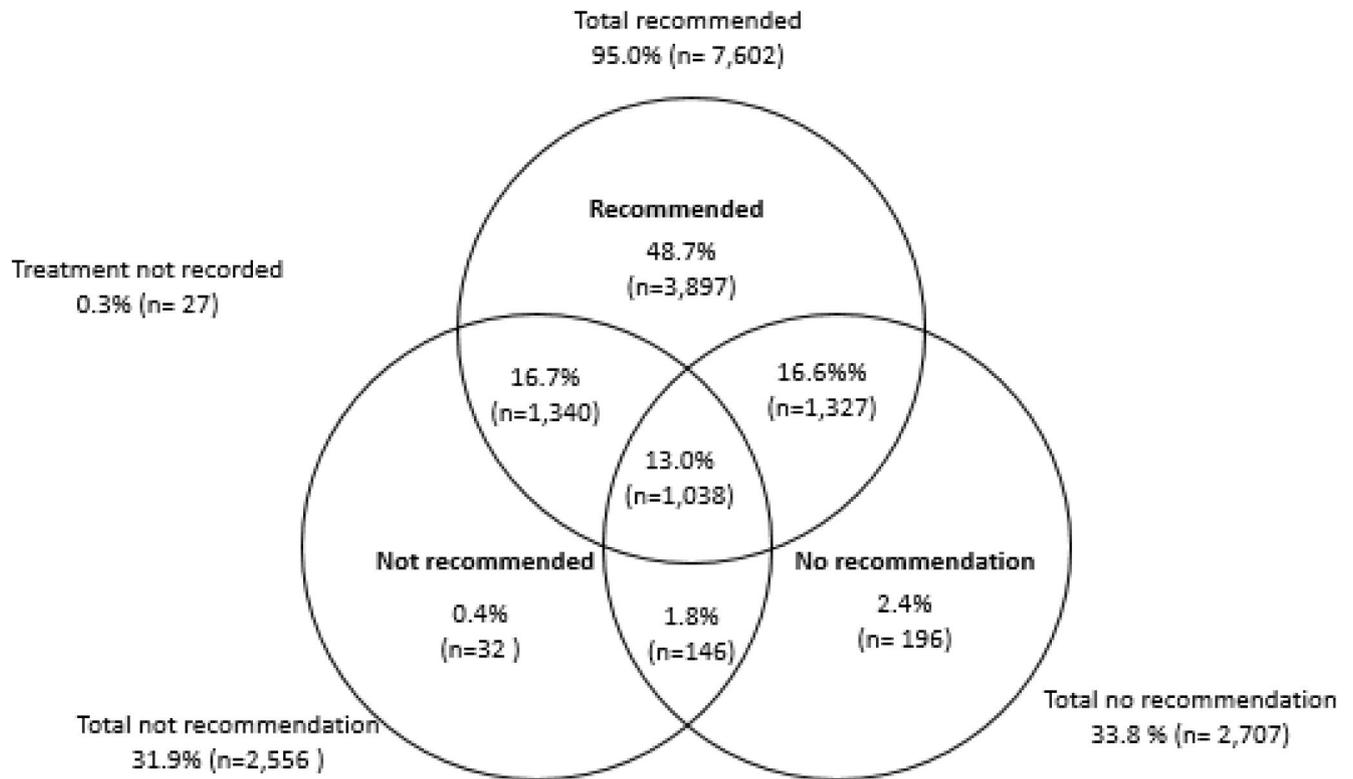


FIGURE 1 Number and percentage of patients receiving treatments that are 'recommended', 'not recommended' or have 'no recommendation'

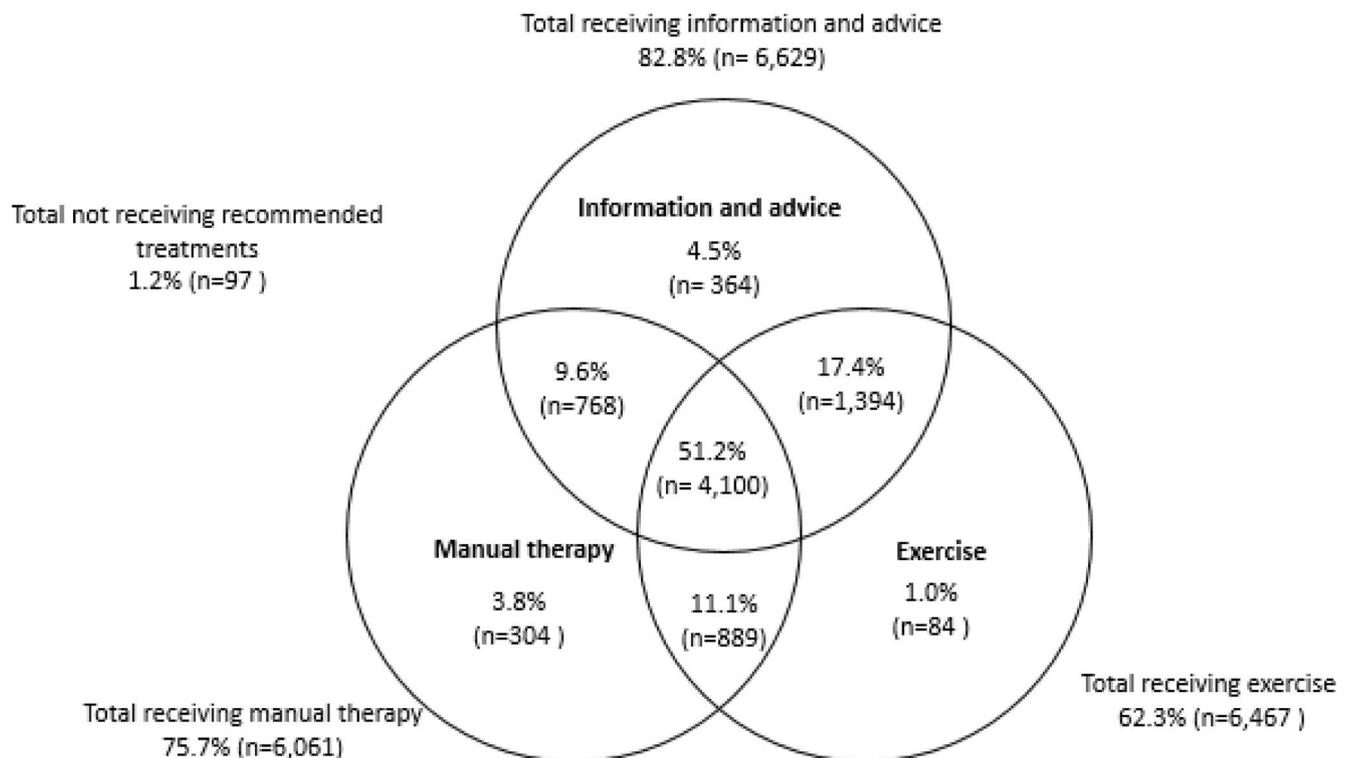


FIGURE 2 Number and percentage of patients receiving 'recommended' treatment

TABLE 3 Combinations of treatment provided for patients with LBP

Treatment Combinations	n	%	Overall %
<b>'Recommended' only</b>			
<i>Information and advice specified</i>			
Information and advice, manual therapy <sup>a</sup> and exercise	2562	65.7%	32.0%
Information and advice and exercise	792	20.3%	9.9%
Information and advice only	89	2.3%	1.1%
<i>Information and advice not specified</i>			
Manual therapy <sup>a</sup> and exercise	414	10.6%	5.2%
Exercise only	40	1.0%	0.5%
Total 'recommended' only	3897	100.0%	48.7%
<b>'Recommended' and 'no recommendation'</b>			
<i>Information and advice specified</i>			
Information and advice and manual therapy <sup>a</sup> (without exercise)	351	26.5%	4.4%
Information and advice, manual therapy <sup>a</sup> and exercise and other manual therapy treatments	157	11.8%	2.0%
Information and advice, manual therapy <sup>a</sup> and exercise, and local heat	108	8.1%	1.3%
Information and advice, manual therapy <sup>a</sup> and exercise, and other electrotherapy treatments	84	6.3%	1.0%
Other combinations of treatment <sup>b</sup>	398	30.0%	5.0%
<i>Information and advice not specified</i>			
Manual therapy <sup>a</sup> , exercise and other electrotherapy treatments	92	6.9%	1.1%
Other combinations of treatment <sup>b</sup>	137	10.3%	1.7%
Total 'recommended' and 'no recommendation'	1327	100.0%	16.6%
<b>'Recommended' and 'not recommended' forms</b>			
<i>Information and advice specified</i>			
Information and advice, manual therapy, exercise and acupuncture	121	9.0%	1.5%
Information and advice, manual therapy, exercise and ultrasound	422	31.5%	5.3%
Information and advice, manual therapy, exercise and interferential	145	10.8%	1.8%
Other combinations of treatment <sup>b</sup>	317	23.7%	4.0%
<i>Information and advice not specified</i>			
Manual therapy, exercise, and ultrasound	84	6.3%	1.0%
Other combinations of treatment <sup>b</sup>	251	18.7%	3.1%
Total 'recommended' and 'not recommended'	1340	100.0%	16.7%
<b>'Recommended', 'not recommended', and 'no recommendation'</b>			
<i>Information and advice specified</i>			
Information and advice, exercise, traction, interferential and cold therapy	195	18.8%	2.4%
Information and advice, traction, interferential and cold therapy	146	14.1%	1.8%
Information and advice, ultrasound, and manual therapy <sup>a</sup> (without exercise)	95	9.2%	1.2%
Other combinations of treatment <sup>b</sup>	535	51.5%	6.7%
<i>Information and advice not specified</i>			
Other combinations <sup>b</sup>	67	6.5%	0.8%

(Continues)

TABLE 3 (Continued)

Treatment Combinations	n	%	Overall %
Total	1038	100.0%	13.0%
<b>'Not recommended' only<sup>b</sup></b>			
Total 'not recommended' only	32	100.0%	0.4%
<b>No recommendation only<sup>b</sup></b>			
Total no recommendation only	196	100.0%	2.4%

Abbreviation: LBP, low back pain.

<sup>a</sup>Spinal manipulation, mobilisation or soft tissue techniques such as massage.

<sup>b</sup>The reporting of treatment combinations that were provided to <1% of all patients were combined in the Table as 'Other combinations'.

treatments that were not supported by LBP guidelines (Bishop et al., 2008; Evans et al., 2010; Harte et al., 2005; Parr & May, 2014). Clinical practice which is inconsistent with guideline recommendations has also been demonstrated more broadly within international musculoskeletal physiotherapy practice (Zadro et al., 2019). The clinical reasoning processes underpinning practitioners' use of treatments were not investigated within this study. Previous literature has identified a range of factors which may influence physiotherapists' LBP guideline adherence (Bishop et al., 2008; Côté et al., 2009; Learman et al., 2014; Parr & May, 2014). For example, a qualitative study by Côté et al. (2009) found barriers to implementing LBP guideline recommendations may relate to physiotherapists' understanding and agreement, or how compatible or relevant they perceive them to be to their practice. However, the findings from these studies will have limited transferability to the context of the present study being based on previous LBP guidelines with some being conducted within other countries (Bishop et al., 2008; Côté et al., 2009; Learman et al., 2014; Parr & May, 2014). Further research has found that physiotherapists' management of people with LBP is influenced by a dynamic interplay between a range of different therapist-patient factors and clinicians' treatment orientations (Gardner et al., 2017). Therefore, the implementation of guideline recommendations relates to the wider concept of evidence-based practice and in this regard Copeland (2020) cautions against using guidelines as rules and advocates a dispositional view of causality and an individualised approach.

Evidenced-based physiotherapy practice should be informed by research evidence, clinical expertise and patient preferences (Sackett et al., 1996). A systematic review (Scurlock-Evans et al., 2014) found physiotherapists based their decision-making mostly on evidence from the patient, personal experience and in-service training. Recent research by Horler et al. (2020) found physiotherapists' clinical reasoning for using education with people who had LBP centred primarily on an understanding of the person's world and although their decisions were influenced by other factors, such as research evidence, they did not explicitly report that they were following clinical guideline recommendations. The role of the patient within the evidence-base practice model has been emphasised in line with the drive to embed person-centred care and shared-decision making in clinical practice (Hoffman

et al., 2020; Hoogeboom et al., 2014). The shared decision-making model requires a collaborative approach to discussing appropriate treatment options and the clinician should be able to effectively communicate the best available evidence to help inform these decisions (Hoffman et al., 2020). This means that the evidence underpinning guideline recommendations should be discussed with people receiving care to inform a shared decision-making process. Therefore, practitioners using treatments that are not advocated within the guidelines may be basing their decisions more on patient preferences and prior experience. It is unknown if patient preferences had a greater influence on treatment choices within the private practice context of this study. Nevertheless, the reasons underpinning the instances of not adhering to guideline recommendations within this study may be complex and dependent on different contextual and patient specific factors.

This is the first study to examine the combination of treatments provided by physiotherapists within the management of people with LBP compared to national clinical guidelines and therefore it is a novel contribution to the literature. One of the strengths of this study was the use of the SDC because it enabled concurrent data collection within clinical practice and therefore practitioners did not need to rely on their recall of previous experiences. Data was collected from a large sample of physiotherapists across the UK and examined their care of multiple patients over a 3-year period. Therefore, the findings provided a broad insight into physiotherapy clinical practice when treating people who have LBP.

There were some limitations to the study. The SDC does not provide an in-depth understanding of practice. The clinical reasoning underpinning treatment choices and the specific details about the treatments used by practitioners remain unknown. Findings are based on the participant's interpretation of the SDC codes in relation to their perception of their practice. Similarly, categorisation was based on the author's interpretations of the clinical guidelines and the SDC codes. All authors were involved in the data analysis process and each category was discussed until agreement was reached. Some codes such as 'posture correction' were ambiguous and therefore categorisation relied on some assumptions about clinical practice. Therefore, the SDC codes and the categorisation process have limitations which need to be addressed for future data collection in order to provide more accurate and detailed information about clinical

practice. Finally, this study was based in private practice within the UK which may limit the generalisability of the findings to other setting such as the public sector and other countries.

## 5 | CONCLUSIONS

This study provides insight into participating physiotherapists' self-reported practice for the treatment of people who have LBP with/without leg pain and the extent to which their practice aligns to clinical guideline recommendations. Most practitioners reported using a multimodal treatment approach and most patients were provided with treatments which are recommended by the national clinical guidelines. The findings do illuminate the extent to which treatments, which are either not recommended or have no specific recommendation within the guidelines, are used in the practitioners' reported practice. This paper adds to the wider discussion about how clinical guidelines are used to inform patient care and how practitioners need to balance the best available evidence with patient expectation and preference to facilitate the therapeutic alliance (Cosgrove & Hebron, 2020). Future investigations, particularly through the use of qualitative studies, would provide further insight and help understand inconsistencies between guidelines and practice.

## ACKNOWLEDGEMENTS

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## CONFLICT OF INTERESTS

The authors declare that there are no conflict of interests.

## AUTHOR CONTRIBUTIONS

Shemane Murtagh was involved in the planning the work, data collection, processing the data, performing the analysis, writing the manuscript and preparing the tables and figures. Clair Hebron and Colette Ridehalgh were involved in the design, the data coding, interpretation of the results and commented on the manuscript. Caroline Trosh was involved in the data coding, the interpretation of the results and commented on the manuscript. Christopher Horler was involved in the data coding, the interpretation of the results and to the writing of the manuscript. George Olivier was involved in the data collection, interpretation of the results and commented on the manuscript. Elizabeth Bryant was involved in planning and supervising the work, was involved in the data collection, the data coding and commented on the manuscript.

## ETHICS STATEMENT

Ethical approval was provided by the University of Brighton, School of Health Sciences Research Ethics Panel.

## DATA AVAILABILITY STATEMENT

Data are available on request from the lead author (S. Murtagh) or coauthor (E. Bryant).

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