Pain Education in the Context of Non-Specific Low Back Pain: The Lived Experience of the Physiotherapist. An Interpretive Phenomenological Analysis

ABSTRACT

Objectives:

The aim of this study was to explore the physiotherapists' lived experiences of providing pain education (PE), to people living with non-specific low back pain (NSLBP). In previous studies, PE has been associated with positive clinical outcomes within the physiotherapeutic management of NSLBP. However, the meaning of providing PE, as experienced by physiotherapists, has not been specifically explored.

Methods:

This study adopted a hermeneutic phenomenological approach to explore PE experiences. Six semi-structured interviews were conducted, interviews were transcribed and analysed in line with the 'interpretative phenomenological analysis' framework.

Findings:

Five main thematic meaning structures emerged: *Experienced significance of assessment in understanding NSLBP, PE as explaining the nature of NSLBP, Experienced challenges in providing PE, Individualisation as key to PE for NSLBP and Reassurance as central to PE for people living with NSLBP.*

Conclusions:

The significance of subjective assessment, was a key component of PE, as experienced by participants. However, differences were noted between participants in addressing the sense of assessment; in seeking a physiotherapeutic understanding of the NSLBP, and in seeking to understand the situation of those who are in pain. Within the participant experience, the significance of 'patient' reassurance was highlighted, related to the individualisation and outcome of PE. Reassurance, as described by participants, was emotive and practically grounded and linked with physical activity promotion. Individualisation in PE, was meaningfully related to language modification and developing positive therapeutic relationships. Physiotherapists described PE particularly challenging related to pain chronicity and psychosocial factors, which may have significant implications to practice.

1. INTRODUCTION

Low back pain is a musculoskeletal condition, experienced by the majority of adults within their lifespan (Balagué, Mannion, Pellisé & Cedraschi 2012), and acknowledged as the most prominent cause of years lived with disability (Hoy et al., 2010; Global Burden of Disease Collaborators, 2015). In approximately 90% of people with low back pain, there is no identifiable pathology (Maher, Underwood & Buchbinder 2017) and thus they are classified as having non-specific low back pain (NSLBP). NSLBP refers to low back pain whereby no specific structural cause can be identified (Sullivan, Hebron & Vuoskoski 2019) and is associated with significant cost implications worldwide (Whitehurst et al., 2012). NSLBP is precipitated through a complex interrelationship between physical, social, psychological and neurophysiological factors (O'keefe et al., 2015; O'Sullivan et al., 2018) and is reported to have significant emotional, physical and social implications (Maher, Underwood & Buchbinder 2017). Specifically, people living with NSLBP have described a loss of the sense of self, and withdrawal from social activities (Froud et al., 2014). Clinical guidelines recommend a holistic, "biopsychosocial", approach to the management of NSLBP (National Institute for Health and Care Excellence (NICE), 2016).

The NICE guidelines advocate multimodal care comprising of exercise, manual therapy, behavioural therapies and pain education (PE). A holistic approach is encouraged owing to the absence of long-term positive clinical outcomes associated with single-dimensional therapies (O'Sullivan 2012). For example, exercise and manual therapy, when used in isolation, were shown to have minimal long-term effectiveness in the management of NSLBP (Deyo et al., 2009; Goertz et al., 2012). Thus, a multimodal package of care including exercise therapy, manual therapy, psychological therapies and PE has been advocated. PE includes discussion regarding pain complexity, psychosocial contributing factors and pacing (Traeger et al., 2018). Furthermore, neuroscience PE aims to provide people with a multidimensional understanding of their pain experience by informing people about the biology related to their pain, facilitate empowerment and reconceptualise beliefs (Lochting et al., 2016; Louw et al., 2016). A systematic literature review of randomised control trials has previously highlighted the addition of PE approaches in addition to 'usual' physiotherapy was beneficial in managing pain and disability (Marris et al.,

2019). Although PE is recognised as an important aspect of care in practice settings it provides some challenges related to communication with people living with NSLBP.

As reported in previous studies, physiotherapists have conveyed difficulties communicating with people with NSLBP (Jeffrey & Foster 2012; Sanders et al., 2013). For example, physiotherapists have expressed reluctance to discuss 'patients' personal life in the context of their pain (Sanders et al., 2013). Additionally, physiotherapists have described communication difficulties when their advice has conflicted with a person's pain beliefs (Jeffrey & Foster 2012). These challenges may have significant implications to PE practice. However, in depth exploration of the therapist experience regarding PE has not yet been explored in qualitative research. Furthermore, quantitative research often explores PE as an isolated intervention, whereas in reality PE is often integrated throughout the therapeutic encounter over a number of sessions. Therefore, qualitative research exploring the physiotherapist experience of providing PE in the context of NSLBP would provide additional insight into the meaning, intricacies and nuances of its use in clinical practice. Qualitative research is thought to be helpful in exploring personal meaning and context in the clinical setting, particularly in pain related topics (Wideman, Hudon & Bostick 2018). Therefore, the current study aimed to explore the physiotherapists' lived experiences of providing PE to people living with NSLBP.

2. METHODOLOGY

2.1 Study Design

Ethical approval was obtained through a University ethics committee in the South of England. This study adopted a qualitative, hermeneutic phenomenological approach. This facilitated detailed exploration of the sense of providing PE in the context of managing NSLBP, as lived meaningful by physiotherapists. Phenomenology provides a true essence of lifeworld experiences whilst not presupposing knowledge of such experiences (Converse 2012; Petty, Thomson & Stew 2012). Hermeneutic phenomenological methodology was implemented owing to its efficiency when exploring individual variation and particularities of lived experiences (Giorgi, 2009; Smith, Flowers & Larkin 2009).

2.2 Participants and Recruitment

Six physiotherapists who identified themselves as using PE in their practice were purposefully recruited as participants of the research study. Physiotherapy clinics were contacted to enquire if physiotherapists would like to participate in the study. All participants provided informed consent prior to their participation. A minimum of three participants have previously been advocated to provide high quality, rich and varied descriptions in phenomenological research (Giorgi, 2009; Wertz et al., 2011). Furthermore, all authors agreed that sufficient depth had been achieved with the six interviews, therefore additional interviews were not required. Data saturation refers to the point at which further emergent themes will not be identified with further data collection (Saunders et al., 2018). Data saturation was not achieved in the current study as in phenomenological research additional meanings can always be explored (Van Manen, Higgins & van der Riet 2016).

Inclusion criteria demanded that the participants were currently working within musculoskeletal physiotherapy contexts and had experiences of providing PE for people with NSLBP within six-months prior to interview. This ensured participants' ability to discuss, in detail, their concrete lived-through experiences of the phenomenon of interest. To ensure richness and variation in the experience, participants were recruited via two private physiotherapy clinics. In this article, pseudonyms have been used to protect participant anonymity (see Table 1 for participant characteristics).

2.3 Interviews

Each physiotherapist participated in one individual, face-to-face interview with the first author (JW). Semi-structured interviews were conducted to encourage participants to discuss their experiences, in depth, freely and reflectively. An interview schedule adopted from the format of Smith et al. (2009) was used to facilitate both, structure and specificity throughout the interviews (Figure 1). Interviews commenced with an open question, "Can you put into words your experience of providing pain education with patients with non-specific low back pain?" As advocated by Kvale and Brinkman (1996), probing questions were utilised to encourage depth of description regarding

their experiences of providing PE, without leading or biasing the data. Such probing questions included “You mentioned…can you tell me more about that?” Interviews averaged 45 minutes in duration. All interviews were audio-recorded and transcribed verbatim by the same researcher-interviewer.

Figure 1. Interview Schedule:

Interview Schedule

Date:
Participant:
Information sheet provided: Y / N
Consent form completed: Y / N

1. Can you put into words your experience of providing pain education with patients with non-specific low back pain?

2. Now can you go through a concrete situation where you have provided pain education, with one patient with non-specific low back pain.

Probing Questions:

You mentioned…
What did you mean by that, can you explore that further?
Can you elaborate further?
Can you give me more detail about that?

Notes:

2.4 Data-Analysis

The process of data handling and analysis, in this study, followed the steps of interpretative phenomenological analysis (IPA), by Smith et al. (2009). The data-analysis was initially completed by the 1st author (JW) in close supervision and collaboration with the 4th author (PV), and later reviewed by the 2nd (LM) and 3rd author (CH). Hence, the findings and their implications are based on critical peer-review, as well as shared understanding and consensus reached within the research team.

Data-analysis was completed in the following steps:

1. Simultaneously reading and listening to the audio recording of each interview. This facilitated active engagement with the data and supported the researcher to gather a sense of the ‘whole.’ During this process, the researcher recorded

personal, prevailing observations of the transcript, improving awareness of any pre-assumptions which may have impaired transparency during data-analysis.

2. Dividing each transcript into ‘meaning units’ (‘parts’ of the text containing a meaning), followed by initial noting; that is, highlighting descriptive, linguistic and conceptual comments identified with the meaning units. Reflection on these notes formulated emergent themes for each participant (Appendix 1). This served to reduce the volume of data whilst representing interrelationships and patterns.

3. Super-ordinate themes were then identified by searching for connections across emergent themes and subsequently grouping them (Appendix 2).

4. This rigorous process was repeated for each participant account, prior to searching for patterns across participants. Super-ordinate themes were then analysed, extrapolating similarities and differences to formulate final master themes (appendix 3), showing connections for the participant group as a whole.

Principles of the hermeneutic circle were closely considered throughout the entire process. This facilitates a continuous, dynamic relationship between the ‘parts’ and ‘whole’ of the data, the researchers’ and participants’ interpretations, and the new understandings obtained through the cyclical research process (Smith et al., 2009). This enhanced in-depth interpretation and understanding of the participants’ lifeworld, and the sense of PE as lived meaningful by physiotherapists through continual re-examination of propositions (Rapport & Wainwright 2006).

2.5 Methodological Rigour

Methodological rigour and trustworthiness were enhanced through an “independent audit”, a process described by Smith et al. (2009). This process required the recording of each step of data-analysis to demonstrate the coherent and thorough research approach (Appendix 1,2,3). In addition, the 1st author (JW) kept a reflexive diary throughout the research process to record his own understandings, pre-assumptions

and thoughts which may have implications to the data-analysis. This facilitated a transparent approach to the data analysis through repetitive consideration of personal experiences and beliefs.

2. FINDINGS

Table 1 describes the characteristics of the six participants who participated in the study.

Participant Name	Gender	Current Nature of Work	Years Worked in Private Practice	Length of Time in Previous NHS Employment (Years)	Level when working in NHS
Linda	Female	Musculoskeletal (private practice)	7	6	Band 6
Paula	Female	Musculoskeletal (private practice)	21	20	Band 7
Jessica	Female	Musculoskeletal (private practice)	15	23	Band 7
Sophie	Female	Musculoskeletal (private practice)	11	14	Band 7
Bethan	Female	Musculoskeletal (private practice)	30	21	Band 5
Rachel	Female	Musculoskeletal (private practice)	2	7	Band 6

Table 1. Participant characteristics

*Band 5 – Junior Physiotherapist, Band 6 – Senior Physiotherapist, Band 7 – Clinical specialist/team lead.

Following the data-analysis, five master themes were identified and are displayed in Figure 2. Interrelatedness exists between all themes and will be discussed using participant quotes.

Figure 2. Master Themes:

Theme 1	Experienced significance of assessment in understanding NSLBP
Theme 2	Pain education as explaining the nature of NSLBP
Theme 3	Experienced challenges in providing PE
Theme 4	Individualisation as key to PE for NSLBP
Theme 5	Reassurance as central to PE for people living with NSLBP

3.1 Experienced Significance of Assessment in Understanding NSLBP

The experienced significance of subjective assessment in understanding the nature of NSLBP, was a deep-rooted theme across participants. Participants highlighted the significance of assessment in understanding the nature and implications of pain as well as the situation of the person who is in pain. However, there was variation in how participants made sense of the significance and what perspectives to assessment they highlighted. For example, Linda and Paula, although in slightly different words, both highlighted the significance of subjective assessment, from the perspective of the physiotherapist:

> *"…I would go through your normal, sort of subjective assessment and there I would be working out if there were any sort of yellow flags or issues…that may be impacting their pain…I'd be sort of picking up any indication as to whether, that I guess if things would be impacting their pain or pain situation."*
>
> (Linda)

> *"…the subjective was really important because you could see, you could see his worries…He had also recently changed jobs and had some issues at home I think as well. So, there was a whole heap of other stuff going on as well. And of course, with back pain, we tend to look at if there is other things going on in their lives as well. And whether there is other stresses."*
>
> (Paula)

Rachel, in turn, addressed the significance of herself (as a physiotherapist) asking questions and using methods that would help the person (who is in pain) themselves to understand their pain and situation with it:

> *"…ask them loads of questions about their lifestyle...Then I videoed him as well, looked um, showed him how he was moving, and he could see that his back wasn't in a good position when he was squatting. And that gave him that kind of feedback, he could see it, so when he could see it, he was like aw ok, I can see what's happening now."*
>
> (Rachel)

Sophie also explicitly addressed the significance of helping the person themselves to understand the meaning of their pain.

> *"But this was really key for him finding out for himself…so, explaining to him in his case that his injury will have long healed, but he would have been left with the results of the injury such as scar tissue maybe um tight, tight muscles, immobile joints and so on…And then showing him how his adaptive behaviour was what was making him worse rather than the um, the original injury that happened in the first place."*
>
> (Sophie)

Overall, the experienced significance of assessment and understanding the nature of the NSLBP was present in all participant descriptions, but in a qualitatively different sense. There is a qualitatively significant difference between addressing one's understanding of the pain and situation of another person, and addressing the understanding of one's own situation and pain; the former addressing the perspective of the 'therapist' and the latter the perspective of the 'patient'.

3.2 PE as Explaining the Nature of NSLBP

The experienced significance of PE as explaining the nature of NSLBP was meaningfully present throughout the data. All participants highlighted the significance of being able to explain the rationale of the contributing pain factors to their 'patients'.

However, the sense of the experienced significance again varied between participants. For example, Bethan and Rachel, both explicitly addressed the significance of explaining the rationale behind the potential causes of pain for the 'patient', in helping the understanding of their 'patient':

> *"…you're stiff there and it's a bit tight over there…your back is a bit tight. You know the muscles are a bit tight and therefore, it's quite normal for you to actually feel it a bit…it's people understanding that actually why have they got, you know why have they got pain."*
>
> (Bethan)

> *"…they've got a stiff back, if they've got muscle weakness, muscle tightness. And then I'll say all of those things can be a possible source of pain…pick something up and you're moving just through your back and not from your hips and your knees where you should be moving then you're loading the back…you're doing nothing, you're not stretching, you're not strengthening, you're not moving, you're not servicing your body. And that all adds up to kind of pain and you know whatever structure I think potentially is at fault."*
>
> (Rachel)

Bethan and Rachel, thus, addressed the significance of explaining potential causes of NSLBP, by focusing on mechanical factors and 'structures', to help people understand their pain. Moreover, Rachel's description conveyed a sense of blame towards the person living with NSLBP, addressing their actions as directly contributing pain factors. This contrasts with Sophie's description, who related pain explanations to wider, experiential aspects, and helping people to understand the meaning and inter-related nature of their pain, in a somewhat wider sense.

> *"Explaining to people how when they're stressed, when their anxious and so on that can make things worse…because someone's in low mood, they will do less, cus they're doing less, they get weakness, they then have got weakness, that will in turn then effect the pain…when you're stressed it will, it's like turning up an amplifier, up the volume, it can make your pain worse."*
>
> (Sophie)

Thus, this theme highlighted the experienced significance of explaining the rationale of pain for the person living with NSLBP (as experienced by therapists). However, there was variation again in how participants related the sense of their experience, which may have significant implications to PE practice. There is a qualitatively significant difference between addressing 'patient responsibility' and 'blaming the patient'; the former suggesting a more positively related sense and the latter a more negatively related sense of understanding.

3.3 Experienced Challenges in Providing PE

All participants described situations of PE that they experienced challenging, in providing PE related to NSLBP. However, the contextual relatedness of such challenges varied between participants. Linda and Jessica, for example, expressed PE to be particularly challenging when providing PE to people living with chronic NSLBP.

> *"…It is much harder when they have had issues going on for a long time…Somebody who's been in pain for 10 years and they've seen I don't know five chiropractors and several physios and several doctors who have told them different things...it's quite difficult then because why are you different from any of those other people they have seen…it is really hard."*
>
> (Linda)

> *"That's often the story with chronic people that you end up, you know they're so depressed and low that you feel a bit like the Dementors in Harry Potter, you feel like your soul is being sucked out of you because you're constantly trying to kind of buffer them up…So you've got chronic problems and they're depressed…they can't play golf, they can't do their shopping, they can't drive very far, they're not working…you cry with people sometimes, it's tough…with him I did get a bit frustrated…he seemed a bit needy."*
>
> (Jessica)

Thus, the challenges for Linda and Jessica, were meaningfully related to providing PE for people with chronic pain, who may have previously experienced several

unsuccessful treatments. Bethan, in turn, addressed the challenge of exploring the beliefs of pain in people living with NSLBP.

> *"…people aren't going to know what they believe about their pain…it's not easy to kind of come out and say, well what do you believe about your pain?"*
>
> (Bethan)

Collectively, participants addressed experienced challenges related to PE in varying situations. A qualitatively significant commonality between participants, nevertheless, highlights the experienced challenges in providing PE, which may have significant implications to practice.

3.4 Individualisation as Key to PE for NSLBP

All participants more or less explicitly addressed the experienced significance of individualisation in PE. Again, the sense and relatedness of individualisation varied between participants. For Jessica, for example, individualisation related to linguistic modification; use of analogies in explaining the rationale of pain, utilised on an individualised-basis.

> *"I often use the analogy of a car that say has got an oil light on the dashboard. You take it to the garage and you get it all looked at, the mechanic at the garage makes sure that everything is fine...you bring it home and the oil light is still on…you know pain is being maintained by a centralised system rather than a problem with the joints, or the ligaments…I don't think I used the oil light analogy with him because I think, he had never had back pain before."*
>
> (Jessica)

For Bethan, the sense of individualisation related to the building of sound therapeutic relationships, and a personalised approach to PE. Bethan explicitly addressed teamwork and honesty as routes to building trust and rapport with the person in pain.

"…you've got to see them as individuals. And really what is needed as an individual...I'm trying to be honest with them, they need to be honest with me…part of teamwork…you've got to have a little bit of rapport…They have to trust you, and that doesn't come overnight. And it doesn't come by just doing the physical…you've got to have a relationship."

(Bethan)

The significance of individualisation for Bethan thus related to viewing 'patients' as 'individuals' and adopting an interpersonal approach as meaningful to PE. Whereas, for Jessica, the significance of individualisation per se perhaps was less explicitly present, and related to her (the therapist) choice of language in communicating with the person in pain (the 'patient'). Hence, the variation again in how participants related the sense of 'individualisation' may have significant implications to PE practice.

3.5 Reassurance as Central to PE for People Living with NSLBP

'Patient' reassurance as a significant part of PE was meaningfully present throughout the participant descriptions, although in a somewhat varied sense. For example, Paula explicitly addressed the essential role of 'patient' reassurance in providing PE:

"…my pain management was all about reassurance…Reassurance that there is nothing sinister, which I think is what they're after…I held her hand and I promised her she would be alright...mostly it's just reassurance."

(Paula)

Jessica, in her account, similarly addressed the significance of 'patient' reassurance. For Jessica, however, reassurance as a key element of PE, is ultimately linked to encouragement for physical activity.

"…you can then reassure them really well…the signs are that there is nothing seriously wrong...what I did with him, was just reassure him that nothing serious was wrong. And that as long as he was willing to move and you know try and get back to a normal pattern at work he would be absolutely fine…You know

your joints need movement, muscles need movement…getting him to understand that movement was harmless and it would be good."

(Jessica)

In summary, although all participants addressed the significance of 'patient' reassurance in providing PE, meaningful differences were identified across participant experiences. For example, there is a qualitatively significant difference in addressing 'patient' reassurance as such, and addressing reassurance as the means for encouraging physical activity.

4. DISCUSSION

This study was undertaken to explore, in what way providing PE is experientially meaningful to physiotherapists when related to the physiotherapy management of NSLBP. Based on the interpretive phenomenological analysis, five master themes emerged from the empirical data: *Experienced significance of assessment in understanding NSLBP, PE as explaining the nature of NSLBP, Experienced challenges in providing PE, Individualisation as key to PE for NSLBP and Reassurance as central to PE for people living with NSLBP*. These themes are interrelated and indicate the qualitative significance of certain key meanings which stood out in the participant descriptions. These themes will now be discussed together with relevant research.

In this study, the meaning of providing PE to people living with NSLBP was examined from the perspective of the physiotherapist. The findings highlighted the experienced significance of subjective assessment in PE. The participants particularly highlighted the significance of assessment related to understanding and explaining the nature of NSLBP. However, a qualitatively significant contrast was evidenced between participants who emphasised assessment as a route to their own understanding of their 'patient's' pain, and those who highlighted the experienced significance of assessment in helping the 'patient' to understand their own pain, and situation of living with the NSLBP. In addition, participants described experiences of challenging

situations in PE related to physiotherapeutic management of people with chronic NSLBP, and attempts to explore pain beliefs in those living with pain.

Similar issues have been previously discussed in other papers. Wijma et al. (2016), for example, describes the importance of the assessment process to explore biopsychosocial pain contributing factors to subsequently 'tailor education' to individualise the management approach for people with chronic pain. Holopainen et al. (2018), in their phenomenographic paper, discussed the conceptions of 'patients' with NSLBP about their encounters in health care system. Participants valued a shared understanding of their pain and a strong therapeutic relationship to facilitate an active role in their own rehabilitation. These discussions all highlight the significance of understanding the phenomenon of pain as well as the individual in pain, although from varying perspectives to PE.

Collectively, the participants highlighted challenging situations in PE, particularly when working with people living with chronic NSLBP. In addition, some of the participants described doubting their own skills as a physiotherapist, in exploring the meaning of the pain for the person living with NSLBP. This resonates with the findings of a meta-synthesis where physiotherapists described working with people living with NSLBP particularly challenging when psychosocial factors predominate (Synnott et al., 2015). Physiotherapists have previously been reported to describe the profession as 'standing on thin ice' when exploring the psychosocial factors associated with pain (Singla et al., 2015). Moreover, in previous studies, physiotherapists described feelings of incapability in providing PE, for people with NSLBP, due to minimal training (Synnott et al., 2016). These findings suggest wide-reaching implications for the physiotherapy profession and practice, and as such need further exploration in the future.

Individualisation of PE was central to participant experiences, although the sense and relatedness of their experience varied. Participants addressed language modification; such as the use of analogies, as a means to individualisation and positive clinical outcomes. This resonates with existing research suggesting that individualisation of 'patient' care influences outcomes patient-therapist interactions (O'Keefe et al., 2016). Furthermore, the modification of communication facilitates understanding, PE

effectiveness and ‘patient’ satisfaction (Laerum, Indahl & Skouen 2006). Individualisation of PE was also positively linked with therapeutic relationships, in the current analysis. The significance of the therapeutic relationship, as described by participants, related to building rapport and viewing the person as an ‘individual’. In previous studies, therapeutic relationship has been positively linked with patient-centred communication (Pinto et al., 2012), therapist interpersonal skills (Fuentes et al., 2014), and treatment adherence (Ferreira et al., 2013). Overall, the findings of this study are harmonious with previous studies.

The participants of this study highlighted the experienced significance of ‘patient’ reassurance in PE, positively related with therapeutic outcomes and therapeutic relationship. This parallels with guidelines advocating reassurance techniques in the management of NSLBP, addressing that reassurance may reduce fear and negative health beliefs, which can both negatively impact NSLBP (Koes et al., 2010). In the current study, the significance of reassurance was meaningfully related to consideration of symptom severity and diagnosis of NSLBP, and participants aimed to encourage improved outlook on their patient’s prognosis. Participants also described using non-verbal communication, presented through hand-holding during the reassurance process. This resonates with research highlighting touch as a method of communicating empathy within physiotherapy (Bjorbaekmo & Mengshoel 2016) and thus, may reflect an emotive approach. Aligning with this, Holt and Pincus (2016) found people with NSLBP to value emotionally-reassuring physiotherapist behaviours (verbal and non-verbal).

Current findings suggest that PE, through reassuring individuals in pain, as experienced by participants, can be perceived to be central to encouraging people’s physical activity. Moreover, Jessica particularly addressed patient reassurance as a key element of PE, ultimately linked to encouragement for physical activity. The importance of reassurance has been noted in recent literature which established that reassuring people with NSLBP to engage in exercise, as part of PE, encourages autonomic agency and pro-active recovery (Holopainen et al., 2018). As highlighted in another study, a focus on reassurance as part of PE may also have further implication for healthcare costs (Traeger et al., 2015). However, despite current and existing findings highlighting reassurance-focused PE, literature lacks guidance on

implementation methods. Therefore, further research that explores the use of reassurance in PE is required.

4.1 Limitations

This study aimed to produce phenomenological, interpretive knowledge and new insights into PE experiences, by means of detailed exploration of subjective accounts related to physiotherapy management of NSLBP. Therefore, the current study, as an example of a context-limited study, provides knowledge which has applicability to context-similar situations only. More specifically, participants in this study worked solely within private practice in the UK. Understanding PE experiences within the NHS, in addition to privately-based experiences, would provide further insight into PE for NSLBP. People living with NSLBP potentially may have more frequent, and longer duration, physiotherapy appointments when seen in the private sector in comparison to the NHS. Furthermore, participant demographic variation e.g. with regard to gender, level of clinical experience and postgraduate training may present disparate findings whilst contributing to depth and richness of future research data as well as understanding the phenomenon. Finally, the primary researcher had professional PE experience with people with NSLBP; potentially creating a researcher bias. However, a reflexive diary was maintained, and a shared consensus was pursued within the research team, to help acknowledgement of pre-conceptions throughout the process.

4.2 Implications for Practice

It is the claim of this study that a more clarified understanding of physiotherapists' PE experiences related to physiotherapy management of NSLBP, could serve the physiotherapy community and practice in many valuable ways. Owing to the phenomenological approach, the aim was not to present generalisable findings; rather, the authors hope to encourage critical reflection of practice. Significant implications were identified on the basis of the presented evidence and identified key meaning structures in this study. Firstly, all participants highlighted the significance of assessment in understanding NSLBP. However, a qualitatively significant difference was noted between addressing the sense of assessment in seeking the physiotherapists' understanding of pain, and in seeking the understanding of those

who are in pain; the former addressing the significance of the therapist and the latter addressing the significance of the 'patient'. Perhaps, in practice, adopting a person-centred approach to evidence-based pain management, which considers the meaning of both should be equally addressed.

Secondly, explaining the complex nature of NSLBP was experienced as a key element of PE. However, as evidenced in the data, this process varied between participants. There is a qualitatively significant difference between addressing the complex nature of pain to aid 'patient' understanding (non-blaming approach) and 'blame' (blaming approach). The former suggests a positively related role for the person in pain, and the importance of understanding the inter-related nature of pain. In contrast, the latter infers 'blame' on the 'patient' in a more negatively related sense (being responsible for the existence of their pain). This again may have further ethical implications; therefore, clinicians must be mindful in their approach to explaining pain. Incorporating ethical considerations, however, may be useful to facilitate a PE practice more attuned to a 'non-blaming' approach than catastrophising and negative beliefs.

Individualisation in PE was more or less explicitly addressed by all participants in this study. Yet the sense and relatedness of individualisation varied between participants. The variation may have significant implications to PE practice. Thus, physiotherapists should be mindful of how they understand and apply 'individualisation' in their practice, as it may serve as a route to encouraging 'patient' engagement and adherence to self-management.

Finally, 'patient' reassurance was highlighted meaningful in PE, positively related with therapeutic outcomes, therapeutic relationships, and adopting emotive and/or practical perspectives. This resonates with current research and guidelines advocating reassurance techniques as well as research highlighting emotionally-reassuring physiotherapist behaviours. Therefore, physiotherapists could work to reassure individuals with NSLBP through PE that is both practically based and emotive.

Current findings have highlighted potential research development areas regarding PE for NSLBP which could explore:

- How physiotherapists help individuals to understand the meaning of their own pain.
- Physiotherapists' perceptions and experiences of managing psychosocial aspects of NSLBP.
- Exploring physiotherapists' perceived barriers to providing PE for NSLBP and how the profession can overcome these.
- The variation of PE for NSLBP within different physiotherapy settings.

5. CONCLUSION

This phenomenological study explored the physiotherapists' lived experience of providing PE, to people living with NSLBP. All six participants of this study indicated the experienced significance of subjective assessment, in understanding the nature of the NSLBP for each person in pain, and/or facilitating the person themselves to understand the mechanisms of their pain. The participants addressed the relatedness of the assessment outcomes and their explanations of the nature of NSLBP to those in pain. Such explanations were linked to individualisation and were meaningfully supported through the therapeutic relationship, and building of rapport. Finally, the significance of 'patient' reassurance in PE, was highlighted and linked with encouragement of physical activity. Participants also described challenges in PE, related to physiotherapeutic management of people with chronic NSLBP, and their beliefs of pain. It is hoped that this study may serve to prompt critical reflection of practice to support future experiences of PE in the context of NSLBP. This may include physiotherapists considering a shared understanding of NSLBP education, addressing the significance of physiotherapy assessment within a non-blaming, individualised, emotive and practical approach.

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Appendicies

Appendix 1

Example of Data Analysis and Formation of Emergent Themes Interview Transcript (Rachel)

Key:
Italic text refers to conceptual comments.
Underlined text refers to descriptive comments.

Meaning unit	Exploratory Comment	Emergent Themes
INT: Can you put into words your experience of providing pain education with patients with non-specific low back pain. Just take your time. Rachel: Ok. INT: So just generally. Rachel: Where do I start? Give me some pointers where to start like as in? INT: So just talk through your general experience of um,	Rachel is being asked to talk and go through their general experience of providing pain education in the context of NSLBP. Rachel is unaware of where to start could this imply her potential lack of use of the intervention? Or confusion of what the interviewer was referring to as pain education?	Assumption of physiotherapist's potential lack of understanding of pain education
Ok, I would say um, so having to explain to people INT: mm Rachel: That they have got non-specific lower back pain. And then getting that across in an understandable terminology. Because when you say it's non-specific they want a structure. INT: mm	For Rachel pain education (begins with?) providing an explanation for the patient of their (diagnosis or the cause) of NSLBP and what it means in (layman) terms, that they can understand. Making an assumption of all people with similar condition (NSLBP) wanting a structure (of their diagnosis or cause). Is she stereotyping all people with this condition behaving in a similar way (Using the term "they"). According to Rachel her responsibility is to give a structure to the patient. By saying *"so having to explain"* reflects almost having an obligation, chore or responsibility. Is Rachel reluctant to provide pain education?	Physiotherapist's responsibility or chore to provide pain education? Pain education as providing explanation [in understandable terminology] of their condition Pain education as providing structure of their condition
Rachel: And then you say 'well there might not be a structure.' And they're like 'aw, ok.'	Rachel is addressing that she may not be able to highlight the structure which she thinks the patient thinks is causing NSLBP?	Pain education as improving patient understanding of the diagnosis of NSLBP

	Rachel alludes that the patient may not be satisfied or surprised that it may not be a structure? What is this structure she is referring to? What is this structure meaning to her? Does the participant have a lack of understanding of NSLBP?	
And if they're not familiar with the back also, so then you have to go through the anatomy, possible sources of pain, um and then kind of you know possibly where their pain could be coming from, maybe multiple areas and they find that quite hard.	Rachel talks through how she may explain what is causing NSLBP. Rachel infers that patients (if not being familiar with the anatomy of the back, or the possible sources of pain) may find the explanation of NSLBP (as suggested by Rachel 'potentially coming from multiple areas') difficult. Rachel *refers to the patients as 'they' again.* So, (is Rachel suggesting that) if they were familiar with the back you wouldn't go through anatomy? Rachel states that "you have to go through the anatomy" again reflects that this could be perceived as an obligation? Is Rachel perhaps reluctant or willing to provide education? The participant continues to describe that she may explain the pain could be coming from multiple areas inferring that this could be purely a structural problem?	Pain education as providing explanation of the possible cause/s of pain Pain education consisting of back anatomy Patients having difficulty understanding condition [and pain education] Assumption of physiotherapist focusing on mechanical problem? [which may reflect physiotherapist's mechanical beliefs of NSLBP]
I think cus a lot of people, you know they want a diagnosis, they want a structure.	Rachel states that patients desire a diagnosis and infers that participants desire a structural explanation to their NSLBP. (How does she know this? Is this being assumed?) Is referring *to 'a lot of people'* stereotyping patients living with NSLBP? Is Rachel inferring that NSLBP is not a diagnosis?	Pain education as providing a diagnosis Pain education as providing a 'structure' Assumption of patients require structural explanation for diagnosis
And then they go away, and they google it, and if they don't get that information, they feel like mm, don't really know what I'm talking about you know, they don't think you know	Rachel assumes/suggests that (after being seen by a physiotherapist) patients may be lacking information they wanted from the therapist and therefore seek further information and still may not understand what has been said.	Assumption that patients may seek further/additional information regarding NSLBP Assumption of patients possibly lacking understanding following explanation of diagnosis

what you're talking about.	Rachel assumes/suggests that this lack of information from the physiotherapist can lead to the patient thinking the physiotherapist did not really know what she was talking about. Participants use of google may indicate that no advice was provided where to look for further information? Participant repeats that patients may not know what she is talking about. Is this because this is something that concerns/worries/frustrates her?	Assumption of lack of information leading to patients having doubts Assumption that physiotherapist feels obligated to explain to patient about their structural cause of pain
Um, so yeah, so a lot of that kind of getting that diagnosis across and then educating the patient on the back and why it's non-specific and why an x-ray or an MRI might not give them an indication of what structure is wrong with their back or as it's nothing it may be the way they move, um their lifestyle issues, muscle tightness, muscle weakness and is an accumulation of things that's just loading the back. That's generally how I would put it across.	Participant describes that she provides an explanation of the diagnosis prior to educating the patient further regarding the back and why it may be non-specific. She highlights that the way a patient moves, their lifestyle or mechanical issues (tightness/weakness) may be causing their NSLBP. She infers that such issues may be "loading the back" which may contribute to pain. This appears to represent mechanical contributing factors to pain. Does Rachel have potential mechanical beliefs about NSLBP which may influence mechanical based pain education regarding the patients diagnosis? She uses the language *"it's nothing"* what does she mean by this? She states how she "generally" conveys this information. Is this lack of individualisation? The participant refers to this as 'putting it across'. Is this implying that it isn't much of a conversation, more of a didactic approach?	Pain education as an explanation of NSLBP. Assumption of Rachel possessing mechanical beliefs causing NSLBP [which may influence subsequent pain education] Pain education as explaining the mechanical factors which may be causing the patient's pain Is pain education didactic? Pain education not individualised
So I would just go through anatomy, um what I found in the objective, so weather there is a um you know they've got a stiff back, if they've got muscle weakness, muscle tightness. And then I'll say all of those things can be a possible source of	Participant summarises that she initiates the conversation with *"going through"* anatomy and describing the objective findings (potential weakness/ tightness). The objective assessment seems important for Rachel to inform her of the patients diagnosis so she can inform the patients of this. She then states that all of this may be a potential source of pain. Repeated	Pain education as 'going through' (back?) anatomy Pain education as explaining the relationship between objective assessment and NSLBP Pain education as explaining the [mechanical factors as a potential] source of pain

pain and then effects how you move.	reference to patient as 'they' stereotypical? Participant outlines that mechanical issues may affect the way a patient moves but does not elaborate how reduced moving may impact patient.	
Then you then stretching structures that haven't been stretched um, that can cause you pain. It can be the way that you're sitting, your lifestyle issues, it's just all loading those structures and it's not conducive to you know good biomechanics and getting rid of back pain basically.	Participant provides further explanation how stretching structures which haven't been stretched can cause pain. Participant states how lifestyle factors and sitting is not conducive to biomechanics and reducing pain. Is participant inferring that "*good biomechanics"* would result in reduced pain? By using the terminology "getting rid of back pain" is the participant inferring that back pain can be cured completely? This appears to reflect a mechanical view of NSLBP. What is Rachel referring to by structure?	Pain education as explaining the relationship between biomechanics and pain Pain education as highlighting the structures causing pain Assumption of physiotherapists mechanical beliefs regarding NSLBP influencing pain education
So yeah for me it's all about education I would say. And hopefully that they, you know by explaining that hopefully in the right terms, in layman's terms that they get you what you're talking about. They don't go away and go 'I don't know what she's talking about.'	Participant highlights that education is important to her and that she hopes patients understand what she is talking about. Participant says "hopefully in the right terms" which suggests that occasionally this may not occur and there are possible consequences for not using the 'right' terms. She repeats "*They don't go away and go 'I don't know what she's talking about".* Is this a concern for her? Does she use "*Layman's*" terms to improve their understanding?	(pain?) Education is important (pain) Education as explanation Pain education as Improving patient understanding of their condition. Using layman's terms during (pain?) education.
INT: Yeah definitely. And what did you mean by Layman's terms? Rachel: So Layman's terms that they don't understand, they understand the terminology that I might use like a disc or facet joint. So I'll just say the joints in your back. So something that's easy for them to understand	The participant elaborates what she meant by *Layman's terms*. The participant explains that Layman's terms are utilised as they're easy for patients to understand. "Disc, facet, joints" are all structural, participant appears to refer to structures repetitively.	Use of Layman's terms [during pain education] are easier to understand.

And then I may use, um I know, I might sort of take a scenario of everyday life. So like um, I don't know, your car, you know you need to oil a few little parts of your car when they get a bit rusty, just like that with your back when your joints get a little bit like that. So I'll just kinda relate it to an everyday activity. INT: mm. Rachel: Something, they're interested in. So if they're interested in cars, and they know that they're tinkering around with the cars and things are getting a bit rusty, I'll just say that's like your back basically. INT: Yeah.	Participant provides example of analogy which relates to everyday life. Participant attempts to make analogy person centred and compare something which interests the patient. Participant uses metaphor and compares joints of back to *rusty car parts*. This metaphor refers to structural problem again ('*rusty*'). This analogy reflects a simplistic approach to NSLBP. IS Rachel using this analogy to describe how interventions may help with NSLBP? I.e if the car is rusty is she using this to inform the patient that they would remove the rust from their car?	Pain education as using analogies to explain symptoms/condition/issue? Individualised analogy Assumption of physiotherapist's mechanical beliefs regarding NSLBP Assumption of physiotherapist's simplistic approach to NSLBP
Rachel: Um, so yeah just kind of relate it to something that they may understand. Weather that's their hobby or their job or something like that. And they tend, tend to get it. Generally, the car is a good one. Like the servicing of a car you know. INT: mm.	Participant reiterates that she relates explanation to something a patient would understand. She states that participants *'tend'* to get it. This may imply that not all patients understand.	Relating (pain?) education to everyday life to enhance understanding. Not all patients understand pain education?
Rachel: I'll just say you know, there are all of these things that you haven't been looking after, um and you would do that for your car wouldn't you? You know change the oil, and change the break pads.	Participant continues to compare looking after the car and not looking after themselves. It seems as though an element of blame is placed on participant (*"you haven't been looking after).* She almost belittles patient by saying "you would do that for your car". Suggests its simple. As Rachel is implying that the patient *has not been looking after these 'things'* does this reflect the mechanical focus of NSLBP? Is Rachel comparing change the oil and break pads to interventions which may	Pain education as using analogies to explain symptoms/condition/issue? Assumption of physiotherapist mechanical approach to NSLBP management Assumption that pain education highlights patient is to blame for pain

	help with NSLBP? Is Rachel using education to explain how interventions can help with NSLBP?	
And you're doing nothing, you're not stretching you're not strengthening, you're not moving, you're not servicing your body. And that all adds up to kind of pain and you know whatever structure I think potentially is at fault.	Participant infers that pain is contributed by *doing nothing, not stretching, moving.* Repeats metaphoric language by comparing car to body ("servicing your body"). She then states that structure may be at *"fault"*. This implies that structure can contribute to pain. The analogy does not particularly reflect a biopsychosocial explanation to pain, it focuses on structural issues. Enforcing patient to blame and their actions of not stretching, strengthening or moving may have contributed to pain. Does Rachel have biomedical and/or strict mechanical views for NSLBP? Emphasis appears to be on structures.	Assumption that pain education highlights patient is to blame for pain Pain education as highlighting the structural/mechanical factors contributing to pain
INT: Definitely. Yeah, thank you very much. Now can you go through a concrete situation where you have provided pain education, with one patient with non-specific low back pain. Rachel: A particular patient yeah? INT: Yeah, try to talk through your own actions in that situation as concretely and in as much detail as possible. Just take your time there is no rush. Rachel: Um, let me think about a patient. Um, aw ok, I've got a guy I had in today. INT: Ok.	Interviewer asking patient to talk through a concrete situation of providing pain education in context of managing NSLBP. Participant highlights she will talk about a patient she had seen that day.	
Rachel: Um, he is, it's non-specific in the sense he is just kind of getting achy in his muscles so and achy in his joints. It's not like you know he's got wear and tear, he's	Patient explains why the patient has non-specific pain by excluding other issues. Does not elaborate why patients pain is NSLBP. "*Wear and tear"and "Disc"* is structural language which conveys the structural emphasis this participant	Assumption of physiotherapist's lack of understanding of NSLBP

not a disc problem, it's not neurological, it's nothing like that.	may place on NSLBP. This may suggest the physiotherapist's lack of understanding of NSLBP?	
It's just loading of the back um, so he's kind of a dad of two, um, just always had back pain.	Participant states that it is just loading the back which may be causing NSLBP. States that patient has *just always had pain.* The term "just" seems as though there is nothing else which may be contributing to the pain. Or does "just" loading imply that it is something simple to manage? What does Rachel mean by loading of the back?	Physiotherapist belief that mechanical factors are causing NSLBP
Better when he's moving, so if he sits a lot, he gets a bit of back pain, just like here and it goes there, I do some stretches that eases it, and then it's coming and going but it's kind of stopping him from I guess doing the sports that he wants to do.	Participant highlights that patient's pain reduces when he is moving and worse when he sits a lot. The pain seems to come and go but it's preventing the patient from participating in sports he wants to do. Movement improves back pain	Movement improves pain NSLBP can be intermittent NSLBP impacts participation in sports
And he's just a bit fed up of just having a niggle basically	Participant highlights that patient is *"fed up"* of having *"niggle."* Is NSLBP simply a "niggle?"	Assumption that NSLBP is frustrating for patient.
So um, I've done an assessment on him, I've explained to him what I think the problem is, as in it's probably coming from you know, just cus you're sitting loads, long periods of time, he's got a sit down job, your back, you're just loading those discs, you're loading your joints, you're loading the tendons. You know and your muscles, and you're getting glute pain and it's getting tight. So, explaining what structures can be at fault.	For Rachel it seems that the consultation is initiated by an assessment followed by an explanation of what the participant feels the problem is. It seems the participant is alluding to the cause of NSLBP most probably being a structural issue. This is indicated by the following language *"it's probably coming from you know, just cus you're sitting loads, long periods of time, he's got a sit down job, your back, you're just loading those discs, you're loading your joints, you're loading the tendons."* Participant repeats that she explains what structures are at fault inferring that structures can be *wrong* and may cause NSLBP. Pain associated with lifestyle and mechanical factors *("you're sitting loads/sit down job")* It seems that Rachel emphasises on highlighting	Pain education as providing an explanation of the mechanical causes of pain Pain education as explaining the structures *which can be at fault* as a cause of NSLBP Assumption of the physiotherapist's mechanical focus of NSLBP Importance of assessment to establish cause of pain to inform subsequent pain education

	that mechanical factors may be a cause of NSLBP	
And then we looked at um, you know as there wasn't any particular structure, we looked at how he moved. Um, cus he was finding that certain things he couldn't do. Like squats would load his back a little bit too much and he didn't really understand why. INT: mm.	Participant was unable to identify structure problem so looked at how patient moved. (As this may have contributed to NSLBP?) Further emphasis on mechanical faults contributing to NSLBP. Is this the participants or patients beliefs '*that squats would load the back too much?'* Rachel describes that patient did not understand why his back was being loaded too much which infers that the patient's knowledge is lacking regarding this issue. Seems that again there is opportunity for participant to educate.	Importance of assessment to inform cause of pain to educate patient about NSLBP cause Mechanical factors contributing to NSLBP Assumption that patients lack understanding of why pain is occurring, highlighting opportunity for education
So, um we did some movement control test, um looking at the lumbar spine, and how it moved. INT: mm. Rachel: Um, and he was like more of an anterior tilt, so he was just kind of arching his back quite a lot which is loading his lower back. INT: mm	As a further assessment Rachel completed a movement control test which involved seeing how the lumbar spine moved. She infers that the anterior tilted position of the patients back increased the loading of his back. Is she implying that this increased in loading could contribute to NSLBP? Again mechanical emphasis on contribution to *loading* (and pain?) Does Rachel have underling biomedical mechanical beliefs regarding the causes and presentations of NSLBP? Do such beliefs influence how pain education is provided?	Movement assessment for NSLBP to inform pain contributing factors Pelvic position (posture) relating to increased 'load' (pain?) Physiotherapists mechanical beliefs regarding NSLBP
Umm, and then so from there kinda taught him neutral spine, um what muscles potentially control that pelvis, back into that posterior tilt.	Rachel explains that she taught the patient 'neutral spine' and went through which muscles control can help return to posterior tilt. More anatomical based education. Is Rachel inferring that mechanical changes (posterior tilting) can help NSLBP? Rachel uses language such as *'kinda'* does this suggest that there wasn't much focus/emphasis/efforts placed on this section?	Pain education as explaining lower back muscular anatomy (to improve posture).
Um, and then we looked at gym exercises, because he wants to get back to the gym. So we	Rachel explains that the used gym exercises as an assessment as the patient wanted to get back to the gym. Rachel states that they did	Significance of movement assessment for NSLBP to inform pain contributing factors [to inform pain education?]

looked at squatting umm, deadlifts and lunges. With all that kind of glute activation and neutral spine.	exercises such as squatting deadlifts and lunges with *"all that kind of glute activation and neutral spine."* Patient wanted to get back to gym so utilising assessment based on patients desires (Not sure this is reflected in whole text). The use of 'kind of glute activation and neutral spine' may imply a lack of understanding and categorising many potential exercises under one name. Rachel does not specify her actions which may indicate her lack of interest in the topic.	Emphasis on neutral spine and posture to help with NSLBP
Um, and then so we did a gym session today with squatting cus he thought 'aw I won't be able, I can't do squats because it hurts my back.' INT: mm..	Rachel highlights that they did gym session which included squatting as the patient presented with negative beliefs regarding squatting that it may hurt his back. Rachel challenging patient beliefs. Rachel seems to be encouraging exercise with patients with NSLBP. Was this 'treatment' utilised because Rachel thought is was best for patient? No reference to shared decision making here.	Exercise for NSLBP Assumption that physiotherapist assist to overcome pain related fear Physiotherapist deciding rehab independently
Rachel: Then I videoed him as well, looked um, showed him how he was moving and he could see that his back wasn't in a good position when he was squatting. And that gave him that kind of feedback, he could see it, so when he could see it he was like 'aw ok, I can see what's happening now.' INT: mm	Rachel states that she used video recorded the patient when he was squatting to provide the patient with feedback of his position. She indicates that the participant could understand what was happening to his back after seeing the video. Rachel continues to emphasise movement and mechanics during an assessment.	Pain education as highlighting poor movement which may be causing pain Movement assessment for NSLBP Video assessment to highlight movements which may be contributing to pain [to inform patient of pain contributing factors?]
Rachel: That helped then with the exercises because I would give him certain exercises that would control his lumbar spine so he wouldn't arch his back. And that,	Rachel provides patient with exercise to help control lumbar spine. (This is not advocated in literature when provided in isolation). Why would providing feedback 'help with the exercises?' (?'Buy in') It seems Rachel is providing patient exercise to help	Providing [lumbar spine stability/[postural] exercise for patient with NSLBP Video feedback to facilitate pain education through highlighting

because he could see it, that helped him.	with arching of back, is this to help with NSLBP?	potential contributing factors to NSLBP
And then, he's gone away and done his exercises and actually he's a lot better this week, he still gets a bit of an achy back but he knows what it is, he knows what brings it on, how to change it, how to manage it and he's starting to go back to the gym.	The patient seems to have responded well and is getting 'a lot better'. The patient still gets an achy back but knows how to manage it and is starting to go back to the gym. For Rachel it seems that if the patient still has a slightly achy back, *its okay because the patient knows how to manage it*. Is Rachel recognising that its important for patient to be able to manage pain independently? Although the literature highlights that emphasis on mechanical factors is not helpful for patients with NSLBP, can it be helpful for some people? Rachel describes how the patient knows what his pain is and how to change it and how to manage it. But it seems he hasn't been informed of the complexities and details of NSLBP? Could this help with being able to manage it?	Patient *'knows'* how to change and manage pain. Pain education to inform patient of diagnosis and how to manage it
INT: Brilliant. Fantastic. That sounds like quite a good situation there. Rachel: mm. Well a lot of them I would say is it's like that because when it's non-specific you're thinking, ok what, in this clinic specifically, we look at why they're getting it. INT: mm..	Interviewer rounding off question to prepare for next question. Rachel begins to summarise her answers by saying that her and the staff in the clinic seek the cause of NSLBP. Is this to inform subsequent pain education regarding the cause of NSLBP? She refers to how her previous conversations relate to "a lot of them". Is she stereotyping patients with NSLBP?	Similar approach to a lot of patients with NSLBP. Physiotherapist seek cause for NSLBP [to inform patient of this as part of pain education?]
Rachel: Ok, so you kind of just have to ask them loads of questions about their lifestyle. INT: mm Rachel: Umm, in most people it's just cus they're just sitting and not moving a lot. INT: mm.	Rachel highlights the necessity to ask lifestyle questions. She then again infers that NSLPB is caused by '*sitting and not moving a lot.'* "Kind of" may imply potential doubt, is it not done whole heartedly? The language 'just have to' portrays something as being easy and basic? Or is asking lifestyle questions something Rachel feels obligated to do? Does Rachel explore a patient's beliefs which may impact NSLBP?	[Pain education] informed by exploring lifestyle

Rachel: So then, you try and kind of get to specifics as to why their loading their back basically and why they're getting that pain. And for me and for this clinic, it all comes down to how someone moves basically. INT: mm.	Rachel tries to establish why a patient is loading their back and why they're getting pain. She admits that for her and the clinic it comes down to the way someone moves (basically). Is there not anything else that it could be? Speaking on behalf of the clinic. It seems that *why the patient is loading the back* is more important to Rachel than the cause and contributing factors of NSLBP. Mechanical factors seems to be the most obvious and important reasons for causing pain according to Rachel. Why is Rachel so concerned about loading the back if it is a separate matter to why patients are getting their pain? Looking at the 'specifics' may imply that this is something which requires effort and attention to detail.	Importance of assessment to establish why a patient is loading their back [to inform patient of potential cause of pain?] Physiotherapist focusing on mechanical factors as a cause of NSLBP
Rachel: And then what is preventing that person from moving properly. So weather that's a strength issue, or um a flexibility issue, um you know muscle, brain connection type issue. And then you know ruling whatever out or weakness and then finding a treatment plan for them.	For Rachel it is important to highlight what is preventing the patient from moving properly examples are provided such as flexibility and muscle. Rachel states that she will provide a treatment plan based on these objective findings. What is preventing the person from moving properly is then addressed after pain. Is this really important for Rachel and or the patient? Would 'moving properly' reduce pain?	Treatment related to objective findings Mechanical 'issues' preventing person from moving properly Poor movement = pain?
INT: Can you tell me what you meant by a movement issue? Rachel: So for example, you know I would say to someone umm, 'you can walk.' They're like yeah. Like, I'll say to them like, they're like, 'well I'm getting knee pain but I'm, say I'm running.' Ok, so someone running. And they're like 'well, I think I'm running ok, but I'm	The interviewer asks Rachel to elaborate on what she meant by a movement issue. Rachel explains that someone an do an activity such as running, but not do it 'well.'	Pain education as highlighting 'poor movement' [as a contributing factor to NSLBP]

getting knee pain.' I'm like yeah but you're running, but you're not running well. INT: mm.		
Rachel: Ok. And they're like 'well what do you mean by that?' And I'll say well, you could have someone with say like a stroke. But one side of their body isn't working, but they're still walking. They're still moving but they're not moving well. They're having to compensate. And they're like ok. So I said like ok 'you're moving, your muscles are working, but they're not maybe working in the right way.' INT: mm.	Rachel implies that patients often are still confused following explanation of *'movement issue.'* She uses a metaphor of patient with a stroke and poor movement to compare and inform the patient how they may be moving but not moving in the right way. Is there *a right way to move?*	Using patient with stroke to educate *poor* movement Pain education as explaining the mechanical factors potentially contributing to NSLBP Pain education as highlighting poor movement [as a contributing factor to NSLBP]
Rachel: So you might sort of I don't know maybe if you've got weakness somewhere, your body is having to then compensate for that weakness. You're still allowed, you're still moving but it's not efficient. Then that's then what's loading that knee or that hip. INT: mm..	Rachel believes that if there is a weakness within the body, the body will compensate which may contribute to inefficient movement. For Rachel, it is this compensation which is contributing to the increased loading of structures. Why is *'loading'* structures such a problem for Rachel?	Pain education as explaining the relationship between mechanical factors contributing to increased loading and pain
Rachel: That's what, so we are looking, we'll do that specific test, to look at how someone moves.	Rachel implies that her and (staff at the clinic?) will do a specific test to see how someone moves.	Importance of a movement assessment for NSLBP [to inform pain contributing factors to NSLBP?]
Ok, so can you stand on one leg, bend your knee, can you stop your knee from coming inwards? And they're like no. Ok, so you're still standing on one leg, you're still bending your knee, but you're not doing it well. INT: Yeah.	Rachel provides an example of a single leg squat as a *movement assessment.* She states that if the patient's knee goes in that they're not doing it well and then summarises what was meant by a *movement issue.* It seems as though Rachel is negative in her way to make patients aware of movement by repeating the term "*you're not".*	(Pain?) Education as explaining the patent's poor movement Pain education as explaining the relationship between mechanical factors contributing to increased loading and pain

Rachel: So that's how, that's what I mean by that.	Rachel repeats how a patient not moving well may contribute to their pain. Rachel focuses on explaining to the patient that movement issues may be causing their pain.	
INT: Brilliant, thank you. And you also mentioned that sometimes, it may be like a muscle to brain issue. What did you mean by that?	Interviewer asking Rachel to clarify what was meant by a *"muscle to brain issue".*	
Rachel: So like um, so they might not have a weakness, but their brain is not connected to their body basically.	Rachel responds by highlighting that there might not always be a weakness but implies that there may be a separation between brain and muscle. The repeated term 'basically' (Is it as simple as that?).	Brain and body separation [to inform contributing factor to NSLBP?]
So they think they're doing something. So I'll say 'right stand on one leg, put your foot facing forward.' But they'll put their foot facing out. Because that's normal for them, so their brain has got, you know that connection, that's normal.	Rachel provides an example of asking a patient to stand one leg with foot facing forward but patient may complete task with foot facing out. For Rachel this occurs because it's normal for them and their brain has that connection.	Brain and body separation
Or for them to sit slumped, aw that's normal posture. I'll say well no you're meant to sit like that. 'Aw well that feels odd.' I'll say yeah because your body is not used to that. INT: Yeah.	Rachel uses another example with posture and infers how a patient's posture may not be right and they're supposed to *"sit like that."* She states that this may feel odd for patients. Is posture being addressed because it could contribute to NSLBP? Mechanical thinking for NSLBP.	Pain education as explaining how posture may be cause of pain
Rachel: So that kind of, you know brain muscle connection is kind of that wiring is out yeah, cus it's not normal for you to sit like that so we're going to do some exercises that teaches you to sit like that and we're going to keep drilling that exercise so that becomes a normal behaviour. INT: Yeah.	Rachel states that exercises will be completed to address this wiring issue. Language almost infers poor understanding of this "muscle to brain connection" (repeated "kind of" and "you know") There seems to be an increased effort to improve posture as if it is so important to sit in a certain way. ?No shared decision making; "we're going to do"	Pain education as explaining how exercises may help with posture and NSLBP Pain education as explaining [brain muscle connection] as a contributing factor to pain

Rachel: So, it's like a habit basically.		
INT: Brilliant, and do you have any other examples where you have gone through and maybe provided some pain education with a patient with non-specific low back pain.	Interviewer is asking Rachel to talk through another example for further insight into the phenomenon.	
Rachel: What like in an assessment or? INT: Anything at all, um just an experience where you have been with a patient and yeah, we could talk through that entire situation if you want. So it might start from the assessment um and then to get more an understanding, we could try and talk through just like you did there, start to finish. Can you think of any cases? Rachel: So a different patient or? INT: Yeah.	Rachel replies with a question *"like an assessment?"* The interviewer replies and elaborates that the entire situation with a patient could be discussed. The interviewer also makes Rachel aware that this would be for another patient. It is almost as though she didn't understand or comprehend the question. The impression is she *doesn't understand what the interviewer means by 'providing pain education?'*	Assumption of physiotherapist's lack of understanding of pain education
Rachel: A different patient. Um, I'm just trying to think. I kind of pretty much do it the same way. INT: That's fine.	Rachel informs the interviewer that she *"pretty much does it the same way."* What does Rachel mean by *it?* Mechanical assessment and mechanical exercise?	Pain education appears to be similar with each patient
Rachel: With most patients. Depending, for me it always comes down to how someone moves. INT: Yeah.	Rachel states that it "*always comes down to how someone moves*." Is the term "most patients" indicating that Rachel stereotypes or generalises many patients with NSLBP? It seems that the patients focus is on *how someone moves.* Is pain education based on movement dysfunction? As Rachel feels that the way someone moves is what NSLBP 'comes down to' is this reflecting her lack of understanding of the complex nature of NSLBP?	Similar approach to other patients with NSLBP. Generalising patients with NSLBP. Physiotherapist focused on movement dysfunction as a cause of NSLBP [which is conveyed to the patient as a cause of pain] Assumption of physiotherapist lack of understanding of complexities of NSLBP

Rachel: Like so, if they come in and they're like, yeah you can have a massage but it's not going to change your back pain because you do x, y and z. INT: Yeah.	For Rachel it seems as though she will provide massage as the treatment desires it? But she acknowledges that this may not influence the pain because of the patient actions *("doing x, y and z")* Are the patients actions the only reason for NSLBP? Is this indicating blame to the patient? It seems as though Rachel is not addressing what else could be contributing to pain (biopsychosocial factors)	Manual therapy not helpful because of other contributing factors (mechanical?) Pain education as explaining patient's actions contributing to NSLBP Assumption of physiotherapist not addressing biopsychosocial factors of NSLBP Pain education as addressing other contributing factors (patient's actions)
Rachel: You know. And it's generally, yeah you don't sit well, you don't stand well, you don't run well or you know you don't do something well.	For Rachel it seems that "generally" NSLBP is because of mechanical factors such as not standing or sitting well. Repeated "don't" negative terminology, is this reflecting how she approaches communication with patients with NSLBP?	Pain education as explaining the mechanical factors contributing (causing) NSLBP? Generalising patients with NSLBP
Then it's finding out that reason. So I always kind of approach it like that. I mean the reasons might be different for each person. INT: Yeah.	Rachel admits that she will always approach NSLBP in a similar way seeing to find out the contributing factors for NSLBP. (Largely mechanical?)	Importance of assessment to establish reason for pain contributing factors Similar approach to NSLBP management for each patient
Rachel: Yeah, I would say it's the same. I would handle it the same way.	Rachel confirms that she would approach each patient in the "same" way. Is handling referring to a problem which Rachel needs to overcome? Is this terminology referring to a task which she would have had to have full control over?	Pain education similar for each patient Taking control over the patient encounter with NSLBP
INT: Yeah, that's absolutely fine. Um, and although you may handle it the same way, can we still talk through a situation, just so I can get an understanding about. Rachel: Ok. Just trying to think who we have got. Um. INT: That's ok, take your time.	The interviewer asks if Rachel wouldn't mind talking through a situation even though *Rachel may handle it in the same way.*	

Rachel: Yeah he's another one, but I would have handled that the same. INT: Ok that's fine. Rachel: Is that alright? INT: Yeah, yeah. So if we can just talk through that experience, just talk through your actions in as much detail as possible.	Rachel thinks of another patient to discuss and states that she would have "handled" it the same. Again, is this terminology referring to a task which she would have had to have full control over? Seems as though if Rachel is *handling* the case, the patient may have not been very involved in the decision making?	Pain education as being handled Taking control over the patient encounter with NSLBP Same approach to each patient with NSLBP
Rachel: So, um he's had low back pain since like 41. INT: Ok. Rachel: He had low back pain for ten years. INT: Wow, ok.	Rachel begins to describe the patient and states that the patient is 41 and has had chronic low back pain for 10 years.	
Rachel: Um and football used to aggravate his back. Um, and then he just gets a bit stiff in his lower back. INT: mm.	Rachel outlines that football aggravated the patient's back previously and now he "just gets a bit stiff in his lower back." Sporting activities contributing to NSLBP.	Sporting activities contributing to NSLBP Mechanical problems (stiffness)
Rachel: Um, but no, he's had no injury to his back at all. It's just kind of, yeah, you know time.	Patient had not sustained an injury to the back.	NSLBP not necessarily related to injury
Um, generally things that aggravate it are kind of like sitting, anything that uses his back. Walking a long time, gardening, sort of bending activities.	Rachel lists the activities which now aggravate his back which include sitting, prolonged walking, gardening and bending. Seems that all activities would aggravate the NSLBP? ("anything that uses the back")	Movement aggravating back Mechanical factors aggravating NSLBP
Um, in assessment, yeah he moved quite well in his back. Um, little bit tight, and it was just kind of glute pain really. Nothing real specific.	Rachel assessed movement. Found *tightness* and *glute pain.* Does *"Just kind of"* imply that it is nothing too serious?	Use of assessments to explore movement as a potential cause for NSLBP [to inform pain education regarding the cause of NSLBP]
There wasn't you know, no neurological problems, he had general kind of good strength. Um, good range of movement and just didn't move very well basically.	During explanation of the assessment it seems that neurological problems in addition to mechanical factors were considered including strength, range of movement and movement. Contradiction to previous comment that "patient moved well?"	Use of assessments to explore movement as a potential cause for NSLBP [to inform pain education regarding the cause of NSLBP] Physiotherapist focused on movement dysfunction as a cause of NSLBP

So, he wanted to get back to the gym. He was another squat person, couldn't squat.	Patient wanted to get back to the gym. Rachel states that the patient couldn't squat, Is this because of a technical issue or pain?	
Um, he would squat and his pelvis, like lumbar pelvic control, just like yeah, just didn't know, he didn't know where it was. It was like flexing his back and then he was arching his back,	Rachel explains that when the patient squatted, he had reduced lumbar pelvic control. Use of squat as an assessment. Focus on mechanical dysfunction?	Assessment (squatting) to inform contributing pain factors [largely mechanical]
um, so I obviously did some soft tissue stuff,	Rachel implies that *"soft tissue stuff"* is something which is always done? Why is this always done? Is it an obligation? Does Rachel believe there are specific benefits?	"Soft tissue" treatment essential? [in addition to pain education?]
explained that there wasn't really anything wrong with his back, he could have a scan and it wouldn't probably show anything, hes only 40. INT: mm..	Rachel reassured the patient that *"there wasn't really anything wrong with the back."* Explained that the scan wouldn't show anything but no explanation of source of symptoms?	Pain education as [explaining diagnosis] reassuring patient nothing wrong with back Pain education as highlighting negative correlation between imaging and pain
Rachel: Umm, you know might have some age related degenerative changes, but it probably wouldn't pick up that, and it was just normal, normal lumbar spine. INT: mm Rachel: Umm, and that he was just literately, loading structures in his back because he wasn't moving very well.	Rachel explains implies that *age related degenerative change*s may be a normal presentation. This seems to be reassuring the patient. Rachel explains that NSLBP in this case was *literately* due to increased *loading of structures* because the patient *was not moving very well.* Structures are being loaded due to poor quality movement. There seems to be a focus on mechanical issues and a large focus on movement quality. The terminology *"just literately"* almost indicates that this is solely down to the poor movement for Rachel.	Pain education as highlighting increased mechanical factors causing pain Pain education as reassuring patient about diagnosis
So, then I explained, what movement was, filmed him doing certain things that would cause	Rachel explained what movement was and then video recorded the patient completing things which would cause pain and then Rachel	Pain education as highlighting poor movement which may be contributing to pain?

his back pain and then pointed out what was wrong.	*pointed out what was wrong.* For Rachel it seems that an improvement in movement would result in improved pain. Use of video to facilitate mechanical assessment.	
And then corrected his technique, so I would show him and then I would get him moving.	Rachel corrected the patient's technique but provided a demonstration first? Focus on improving movement technique.	Improving movement technique to assist with pain
I might have done a few different exercises to explain to him what normal lumbar-pelvic control was. I would have chosen a few exercises that may have been challenging for him.	Rachel *might* have gone through some exercises which would have been challenging toe the patient to *explain what normal lumbar pelvic control was.* Rachel's explanations have been focused on movement and mechanics of the back. Why did Rachel chose *challenging* exercises? Does the use of core stability exercises reflect the physiotherapists mechanical focus of NSLBP and lack of understanding or contemporary evidence?	[Pain education as] teaching patient about normal lumbar-pelvic control [to assist with pain?] Assumption of physiotherapists lack of knowledge of contemporary evidence
Umm, that challenged say if he was arching his back or flexing, I would have chosen an exercise that made him do that and then he would had to of um control that and stop that from happening. INT: mm..	Rachel elaborates that the exercises would have made the patient arch his back for example to facilitate control of that position (however Rachel talking in rhetoric's "would have"). Focus on stability of lower back	Focus on stability of lower back
Rachel: Umm, INT: Can you remember what that exercise was and what you did?	Interviewer asks Rachel if she can remember what the exercise was.	
Rachel: What would I have done for him? Um, so he, so one of the tests that I would have looked at for him would have been lying on his back, um, we would have used the PBU. INT: Yeah.	Rachel indicates that another assessment would have been the use of the PBU (pressure bio-feedback unit). Assessment of core stability. Rachel is continuing to explore the mechanical factors which may be contributing to NSLBP.	Core stability assessment for NSLBP [to explore the mechanical factors which may be contributing to NSLBP]
Rachel: Um and then he would have, you have to bring both legs up, keeping your pelvis at neutral which is 40 on the	Rachel explains what was required of the assessment with the PBU. Rachel explained the movement 'errors' the patient was doing during the assessment.	Focus on mechanical dysfunction

PBU. Um, so what he did is when he brought his legs up, he flexed his back, when he dropped his legs he arched his back. INT: Ok.		
INT: Ok. Rachel: So I said to him, right 'think about your pelvis as like a bucket, if you bring it forward, you tip out the water, if you bring it back you fill it up.' INT: Yeah.	Rachel used an analogy to make it easier for the patient to understand. Focus on bodies mechanics (pelvis).	Use of analogy to assist with core stability [to help reduce pain?]
Rachel: I said keep it at neutral, make sure that water doesn't fill, um, spill out or I sometimes use like a spirit level and I'm like keep that little bubble in the middle. INT: Yeah, nice.	Rachel explains how she continues to use an analogy of a bucket with water or a spirit level to assist with the exercise. Analogy to facilitate understanding	Analogy to facilitate understanding
Rachel: Keep that PBU at 40, um so lots of visual ques as well.	Rachel utilises the PBU to provide visual feedback for the patient.	Visual feedback of exercise
Um, and then explain to him about what muscles to kind of activate, got them sort of activated and I said keep that it at 40.	Rachel continues to focus on mechanics and explains to the patient what muscles to focus on activating. Rachel uses terms such as "kind of" and "sort of". Does this indicate a potential lack of understanding or belief in what she is doing? Anatomy explanation.	[Pain education as] explaining about activation of muscles to help with posture Lack of understanding/belief in treatment?
And then it was literately drop a leg, bring it back up, drop the other leg, bring it back up, keeping at 40. INT: Brilliant.	Rachel explains the exercise in more detail.	
Rachel: So then he had to kind of understand, like keeping something still whilst moving something else. Um, so he is not moving through his back.	Rachel explains that the focus was to keep the back still when completing other movement. "kind of" – full understanding not required? Is this not encouraging immobility of the back which may influence NSLBP?	Pain education as improving understanding of lower back stability

Um, and another one I would have done, would have been a bridge exercise. So you lift up, um then you just straighten one leg, put the leg down, straighten the other leg and then if the pelvis, like the bottom drops, I'll say 'don't let your bottom drop, squeeze your glutes.' INT: Mm..	Rachel elaborates on the bridging exercise, <u>focus on the pelvis and glute activation during this exercise</u>	Focus on pelvis and glute activation
Rachel: And if they're like I don't really know what you mean I was like put your hands on you know your hips and see whether they drop.	For Rachel it seems as though patients may not understand the exercise. She then instructs the patient to place their hands on their hips to help feedback. <u>Focus on preventing hips from dropping – focus on pelvis.</u>	Use of pelvis stability exercise
Umm, so then he would have had to yeah, sort of feel you know what was happening through the lumbar spine.	Rachel implies that this would have helped to "feel" what was going on through the lumbar spine.	Focus on lumbar spine position
I would have got him sort of doing that, queuing quite a lot and then looking at those exercises that he struggled with.	Rachel summarises that she would have done the exercises, used queuing and would have looked at exercises that the patient struggles with. <u>Rachel is talking in rhetoric's again, can she not remember the experience or is not speaking the truth?</u>	
And then maybe then progressing it to a more standing up position. Um, yeah that's what I would have done for him.	Rachel would progress the exercises.	Exercise progression
INT: Brilliant. You mentioned that you explained to him what movement was. Can you elaborate a little bit on that please?	Interviewer asks Rachel to elaborate what was meant by *explaining what movement was.*	
Rachel: Ok, movement being that um, so when we move, we need to move in the right way. INT: mm..	*<u>For Rachel it seems its very important to move in the right way.</u>*	Pain education as highlighting importance of correct movement.

Rachel: So like, sometimes I use like car, like tracking on the car,	Rachel uses the car analogy to explain movement.	Pain education as using (car) analogy to highlight correct movement
So I'll say like if your tracking is out so if you go over a curb and you just tap that wheel and the wheel kinda changes you know kind of moves around. And then you're driving around for a period of time and then your tyre starts to wear on one side or your brake pads are starting to go. Your tracking is out.	Comparing the patient's moving to misaligned tracking of the car. Indicating imbalances?	Pain education as using (car) analogy to explain correct movement
So same with the body so if you're like, every time you move, through your back, say they go and pick something up and you're moving just through your back and not from your hips and your knees where you should be moving then you're loading the back. INT: mm..	Rachel states that the patient should not move through the back when they pick something up and states that the movement should come from the hips and knees or the patient is loading their back. This understanding seems to contradict literature and in fact Rachel is encouraging reduced movement and increased awareness of back. Is this because Rachel is concerned about the back? Does she not feel the back is as strong as it is? Does Rachel have negative health beliefs?	Pain education as explaining about movement to prevent *loading* [cause of NSLBP?] Assumption of physiotherapists lack of understanding of contemporary evidence Assumption of physiotherapist negative beliefs about the back
Rachel: So your movement, that's not good quality movement.	Further explains to the patient that, that is not good movement. Negative in communication (repetition of "not")	Pain education as highlighting poor quality movement [as a potential cause or contributing factor to NSLBP]
INT: I like that analogy. Rachel: Yeah, so I would say, yeah. It works well with the guys because they understand the car.	Rachel likes to use analogies which she thinks participants will understand.	Analogies to improve understanding of NSLBP
So yeah, we're looking at quality movement, so we can all move but how well do we move? And what does that, you know poor movement mean to the body. INT: mm..	Rachel repeats that she looks at quality of movement and implies that poor movement may have implications to the body.	Pain education as explaining how poor movement may contribute to NSLBP?

Rachel: Basically we start loading our joints, or our tendons or our muscles and that's why we get pain.	She elaborates that poor movement may result in *increased loading of joints, tendons or muscles* and that is the reason for pain. <u>For Rachel it seems that NSLBP seems to be predominantly caused by a movement issue and anatomical structures become painful because of this. Biomedical approach</u>	Pain education as highlighting poor movement results in increased loading as a cause of pain
INT: Brilliant. Rachel: Rather than just being, we've talked, kind of talked a bit technical you know. 'your lumbar spine doesn't flex.' Or 'anterior or posterior tilt.' They don't get that. INT: Yeah.	Rachel acknowledges that patients may not understand physiotherapy jargon. Modification of language to improve understanding?	Modification of language to improve understanding? [during pain education]
Rachel: So if you think about something that they do every day or relates to their job, then they tend to understand it a little bit.	When explaining and using analogy Rachel attempts to make it relate to the patient.	Modification of language to improve understanding
INT: Yeah like driving the car. Rachel: Yeah like driving the car, not hitting the curb.	Interviewer summaries previous comments by highlighting the car analogy as an example.	
INT: And with that patient there, did you talk to him about his pain at all? Rachel: His pain? INT: Yeah.	Interviewers asks Rachel if she spoke about the patient pain much as thus far it seems much of the conversation and explanations were regarding mechanical/movement issues and subsequent exercises to address this.	
Rachel: Yeah um so, in the first session we talk about pain in terms of like he was getting quite stiff in his back.	Pain was discussed directly related to stiffness. <u>Narrowed discussion of pain directly related to stiffness</u>	Pain communication focus on source of symptoms
And I said it wasn't necessarily you know any particular structure it's probably you know jointy and muscles getting tight as well.	It seems that Rachel does may have had some suspicion that the pain was more complex than she was describing and seems unsure of exactly why patient was getting pain. However she implies that it was probably due to structural issues such as tight muscles. The	Pain education as not focused on structure? Pain education explaining that tight muscles are a cause of pain

	term jointy does not provide detail of the problem and its almost as though she is unable to explain further. Poor understanding of complexities of pain? Rachel focus of pain is related to source of symptoms which are most often anatomical structures.	? Lack of understanding of pain complexity
So just kind of look at sources of pain um and then every session you kind of go 'how's your pain?' INT: mm..	The pain discussion seems to be limited by asking how the pain is and checking the sources of symptoms. (Structures) Little emphasis on pain education more focus on movement and structures.	Pain education as highlighting sources of pain
Rachel: Um, and they'll go 'aw yeah, feel a bit better today.' Or 'I get my pain here.' And you know just talk about pain not necessarily being a bad thing, sometimes it can be a que that you have over done it.	Rachel indicates she reassures the patient that pain is not *necessarily* a bad thing. And infers that it can just be because someone has overdone it which would suggest there is a reaction to activity? Pain related to activity	Pain education as reassurance that pain isn't bad
Or like I'll say to them, you know if you're doing the squats did you get pain that time? And he'll go no, and I'll say it's because you know you've been moving a lot better.	Rachel repeats that pain may have reduced due to better movement.	Pain education as highlighting correlation between good movement and pain
Or he'll say well I got pain when I did this. So I might then go and think about checking that exercise again. Checking that they're doing that the right way, um and then seeing weather they got pain from that.	Rachel is keen to assess specific activities causing the patient pain. It seems the focus is exploring the aggravating factors of pain and how to modify them through improving technique.	Pain education as highlighting correlation between good movement and pain Importance of assessment to explore contributing pain factors [movement dysfunction]
And you know, pain isn't always a bad thing I'll say to them. It's a warning sign that maybe you're not doing something right in that case.	Again, Rachel reassures patient that pain is not always bad however directly relates back to quality of a movement/task.	Pain education reassuring patients' that pain is not always bad Pain education as explaining pain is due to poor technique
INT: Nice, brilliant. Rachel: Ok.	Interviewer thanks Rachel for input	

INT: Um and then just finally, do you have one more example you can think of? Rachel: Even though I say the same stuff?	Interviewer asks if Rachel has another example and Rachel is demonstrating she thinks she's *saying the same stuff*. Similar/generic approach to NSLBP?	Similar/generic approach to NSLBP?
INT: Yeah, its surprising how different it is when you really look at it in detail. Just take your time there is no rush. Rachel: I've had a lot of sporty knees in. mmm I've had lots of necks in recently.	Interviewers explains how there are differences when the data is looked at in detail. Rachel thinks of another case to discuss.	Similar approach to pain education for each patient (with NSLBP?)
I had one guy, he wasn't really non-specific, he was like getting in and out of the tanks. It was more of a facet joint problem because he was extending his back.	Rachel thinks of a patient however unsure if it's appropriate as the patient had a "facet problem." Poor understanding of NSLBP as facet issue would still be NSLBP. Another clear structural issue (facet problem).	Assumption of physiotherapist's poor understanding of NSLBP
INT: That's ok. Rachel: Is that alright? INT: Yeah, yeah. On x-ray you might not necessarily see..	Interviewer reassures Rachel that the case would be appropriate to discuss.	
Rachel: Yeah. Um, so youngish guy. So at work, they've got to um, they do the wings basically. They have to get inside the wing and then do all the nuts and bolts. Um, and there's a perquisite so it's like a big, like a circle, like that so before they get the job they've got to fit in the circle ok. INT: Wow.	Rachel explains what the patient does for work.	
Rachel: Cus that's the side of the wing when they get in. And they have to get in at all different angles. Um and they're in there for quite a good period of time. So this guy had to get in sort of like, he was getting like that and going under like this. And he wasn't a	Rachel further demonstrates some of the positions the patient has to get in at work. <u>Is she already thinking that these movements are causing pain?</u>	Movements causing pain.

small guy, he wasn't fat but he was quite a chunky rugby type guy. INT: Yeah.		
Rachel: He obviously fitted through the circle but it was the way he was getting in.	Rachel states that it was the way the patient was getting into the circle which was causing the issue.	Physiotherapist beliefs that movement is causing pain
And he was just getting really sort of bad sort of um lower back pain, right and left depending on which side he was getting or which leg was going in.	It seems as though Rachel has a mechanical way of thinking highlighting that a certain side would hurt during the task. This seems very specific and maybe not something the patient would have highlighted?	Physiotherapist beliefs that movements is causing pain
Um, so he was like aw you know 'what's wrong with my back?' And I was like you know prodding and pressing some glute trigger points, a little bit of joint pain um, it's kind of a multitude of things that would cause his pain.	Rachel explains that she was doing a 'hands on' assessment. Unable to specify structure think there may be a number of things causing pain	Pain education as explaining [mechanical] cause of pain
Um, so I just said look 'its more to do with, you could be irritating the facet joints, and obviously muscles you're just pinching.'	Rachel specifies that the patient could be irritating facet joints. Again this is structural issue. And states that muscles are "obviously" pinching. Terminology like 'just' is used, does this infer that this is a pattern that is always seen?	Pain education as explaining [mechanical] cause of NSLBP
And he was already in like a, an anterior tilt anyway. So he was going even further as he was stepping backwards in.	Again Rachel explains that the patient was already in *"an anterior tilt."* Is Rachel automatically drawn to the cause of pain because of posture.	Postural/mechanical position causing pain Anterior tilt = pain
Um, so I sort of said its more to do with what you are doing.	Rachel Relates it to patient's activity – blame on patient?	Pain education as highlighting lifestyle (mechanical factors) causing pain
We narrowed it down, like what was causing his pain, and he was like I was getting in and out of the tank.	Rachel stated that it was the activity of getting in and out of the tank causing pain. It seems as though this was collaboratively identified ("*we* narrowed it down".)	Pain education as highlighting lifestyle (mechanical factors) causing pain

Umm, but he was quite concerned because his pain wasn't settling and he was like 'do I need an x-ray? Do I need a scan?'	Patient expresses concern for pain and considers if he requires imaging?	Patient considering use of imaging
I was like no because there was no real you know no red flags or anything like that, he was fit and healthy. And I was like it's how you're getting in and out of the tank basically. INT: mm..	Rachel assured patient that imaging not required and linked pain back to an activity.	Pain education as reassuring patient that imaging not always required Pain education as highlighting lifestyle (mechanical factors) causing pain
Rachel: Um, so we did like the movement control test, so and I explained to him, you know this is looking at how you move through your pelvis. Every time you get into the tank you're arching your back. INT: mm..	Rachel utilised the 'movement control test again' and explained to the patient that he is arching his back every time he enters the tank. Rachel has clear relationship between movement/posture as an issue. It is portrayed as a basic issue.	Movement control assessment to inform contributing pain factors [to inform subsequent pain education]
Rachel: And he was like what does that mean? So we did the test, the PBU, and that was quite good cus he could see the pressure, and he could see when he was in arching his back.	Rachel used the PBU to provide the patient with visual feedback. Patient unaware what Rachel meant regarding the arching of back	Patient lacks understanding of problem Use of visual feedback during assessment to improve patient understanding of pain contributing factors
I was like you can put your hand underneath there and he was like aw ok. I was like when you flatten your back, you can't put a hand there. So you know, if you arch you've got a massive space in that back. He was like aw ok.	Rachel encourages patient to put hands underneath back to improve understanding of exercise. More focus on arching of back, is this an issue?	Focus on arching of back
So and his core, like his control was pretty poor really.	Patient had poor core control. Focus of assessment seems to be posture and core stability.	Poor core control contributing to NSLBP
Um, so then we did those tests explain what was happening with the back.	Use of tests to explain mechanics of back	Importance of assessment to explain movement based pain contributing factors

And then we looked at doing it in a standing position because it was, he was taking the leg back and going into the tank.	Rachel attempts to make assessment more specific to patient's occupation.	Individualised assessment relevant for the patient
So um, I think I did an exercise where he was standing up against the wall, you need to just bring his feet about a foot length away from the wall, slide down, and then his back was arching. I was like can you put a hand behind your back he was like yeah, I was like alright well flatten your back, and I said, that's then your back's kind of in a neutral or it's not arching. He was like ok, I was like slide down the wall, keep your back flat against the wall. So we drilled that a few times.	Rachel explains the exercise in standing. Exercise is focused on the *arching* of the back.	Mechanical/postural focus
And then we did another exercise where he was standing up against the wall, standing there like that. Part of your back there. And then I was like right take the leg behind you, but don't arch your back.	Focus on arching of back is this because it causes pain	Mechanical/postural focus
Ok so, every time you step into the tank, you're going to move the leg but not the back.	Rachel commands patient to step into tank in a certain way. <u>It seems Rachel thinks that a simple change in mechanics would reduce NSLBP?</u>	Mechanical changes to improve NSLBP
Ok, so we used that as an exercise. Um and so a lot more of hip extension type exercises without moving the back for him.	Rachel transferred assessment in to exercise which helps with specificity. <u>Exercise to focus on not moving the back.</u>	Assessment informs treatment Exercise focus on mechanics
Um, and he was like aw I may not get into the tank that way. So then we looked, I think we still kept doing those type of exercises.	Patient stated he may not get into the tank how he was asked	Disagreement between patient and physiotherapist.

We did four-point kneeling, um where cus he was rotating and extending the back every time.	Explanation of another exercise.	
INT: Ok. Rachel: So we worked a lot on rotation and extension. INT: Yeah.		
Rachel: Um which to him was arching the back.		
Um and yeah his back pain got better.	Patients pain improved.	
He kind of reduced some of the hours that he was doing um, so I think that helped a little bit. And he said 'aw I'm just going to change how I get into the tank.'	The conversation is summarised by Rachel explaining that a slight reduction in hours of work and change in how patients gets in and out of tank resulted in reduction of pain. Rachel seems to present a simplistic view of assessment and treatment of NSLBP which is focused primarily on movement, anatomy and mechanical issues of the back.	Patient's pain improves Change in movement improved NSLBP Reduction of work hours contributing to improvement in NSLB.
INT: Brilliant, fantastic, thank you very much.		

Appendix 2

Figures 1 and 2 demonstrate the process of grouping the emergent themes with the superordinate themes listed above the emergent themes (the numbers in the pictures assisted the author with organisation during the process, they have no significant value to the analysis process). Figure 1 simply illustrates the process (one participant example) of grouping emergent themes to super-ordinate themes.

Figure 1. Grouping emergent themes into super-ordinate themes:

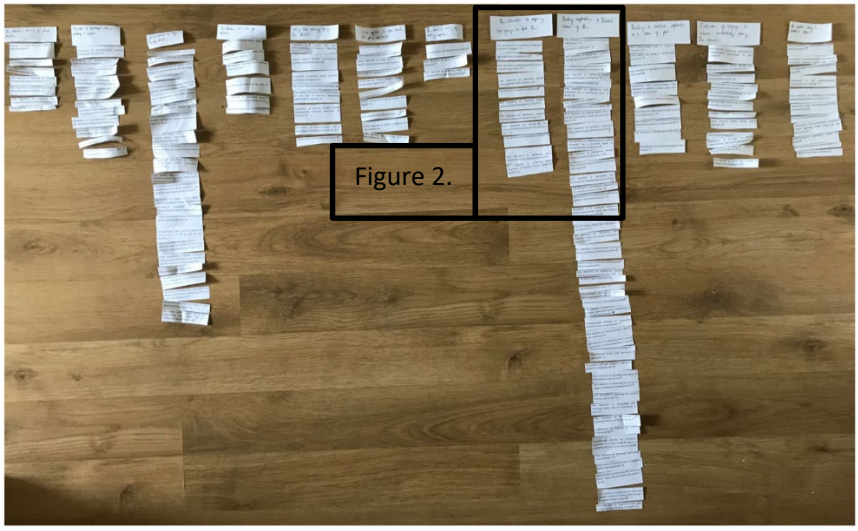
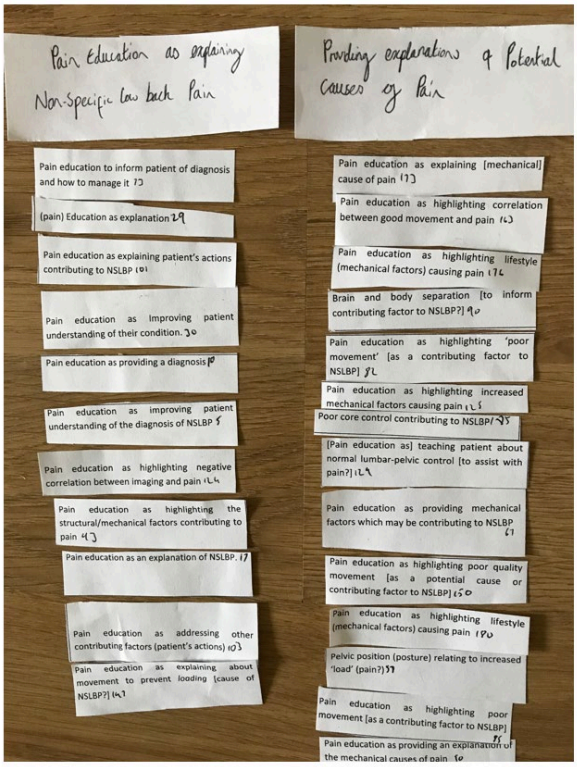


Figure 2. Excerpt from figure 1:



Appendix 3

Development of Master Themes from Super-Ordinate Themes (Across all 6 Interviews)

Master Themes	Super-ordinate Themes
Theme 1: Experienced significance of assessment in understanding NSLBP	Importance of subjective assessment in pain education (Linda)
	Assessment is significant to pain education (Paula)
	Assessment as key to pain education (Jessica)
	Assessment facilitates pain education (Sophie)
	Pain education facilitated by assessment (Bethan)
	Initial assessment as key in pain education (Rachel)
Theme 2: PE as explaining the nature of NSLBP	Explaining mechanical causes of NSLBP (Linda)
	Explaining non-mechanical causes to NSLBP (Linda)
	Pain education as explaining causes of pain (Paula)
	Explaining causes of pain (Jessica)
	Pain education as explaining pain (Jessica)
	Pain education explaining the difference between chronic and acute NSLBP (Sophie)
	Pain education to explain pain causes (Sophie)
	Pain education as explaining cause (Bethan)
	Pain education as anatomy explanation (Rachel)
	Pain education as explaining causes of pain (Rachel)
	Pain education as explaining NSLBP (Rachel)
	Structural explanations of NSLBP (Rachel)
Theme 3: Experienced challenges in providing PE	Difficulty providing pain education (Linda)
	Reduced effectiveness of pain education (Linda)
	Physiotherapists lack of understanding regarding pain education (Paula)
	Difficulty providing pain education (Paula)
	Pain education difficult to provide (Jessica)
	Pain education as lacking detail (Paula)
	NSLBP patients- can cause frustration for physiotherapist when working (Jessica)
	Patient difficulty understanding pain education (Sophie)
	Barriers to pain education (Bethan)
	Physiotherapists lack of NSLBP understanding (Rachel)

Theme 4: Individualisation as key to PE for NSLBP	CPD assisting pain education (Linda)
	Pain education varying between HCP's (Linda)
	Skills required for pain education (Paula)
	CPD assists Pain education (Paula)
	Individualising pain education (Paula)
	Pain education varying in different settings (Sophie)
	Individualising pain education (Sophie)
	Importance of communication skills for pain education (Sophie)
	Physiotherapist attributes and the therapeutic relationship as vital for pain education (Bethan)
	Modifying language to increase patient understanding of pain education (Rachel)
Theme 5: Reassurance as central to PE for people living with NSLBP	Pain education to reassure (Linda)
	Dispelling myths and negative beliefs (Paula)
	Pain education to empower patient (Paula)
	Pain education as reassuring patients (Jessica)
	Pain education with movement, reassures patients (Paula)
	Pain education changing patient beliefs (Sophie)
	Pain education to empower patient and encourage self-management (Sophie)
	Pain education offering encouragement and reassurance (Bethan)
	Pain education facilitating independence (Bethan)
	Pain education as reassuring (Rachel)