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New-graduate physiotherapists' experiences of patient education practice in the management of persistent low back pain

An interpretative phenomenological analysis

Dissertação de Mestrado em Fisioterapia

Relatório de Projeto de Investigação

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Relatório do Projeto de Investigação apresentado para cumprimento dos requisitos necessários à obtenção do grau de Mestre em Fisioterapia, área de especialização em Fisioterapia em Condições Músculo-Esqueléticas realizada sob a orientação científica da Professora Doutora Carmen Caeiro e coorientação da Professora Doutora Roma Forbes

Declaro que este Relatório de Projeto de Investigação é o resultado da minha investigação pessoal e independente. O seu conteúdo é original e todas as fontes consultadas estão devidamente mencionadas no texto, nas notas e na bibliografia.

A candidata,

____

Andreia dos Santos Pombares

Setúbal, ... de .... de ....

Declaro que este Relatório de Projeto de Investigação se encontra em condições de ser apresentado a provas públicas.

A orientadora,

____

Professora Doutora Carmen Caeiro

Setúbal, ... de .... de ....

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RESUMO

Experiência dos fisioterapeutas recém-licenciados na integração de educação enquanto modalidade terapêutica no tratamento de indivíduos com lombalgia persistente- Uma análise fenomenológica interpretativa

Andreia Pombares, Roma Forbes e Carmen Caeiro

Introdução: A educação ao utente é reconhecida como uma peça chave na intervenção da fisioterapia em indivíduos com dor lombar persistente não específica. A literatura sugere que os fisioterapeutas enfrentam desafios na implementação de estratégias de educação ao utente, particularmente na incorporação de fatores cognitivos, psicológicos e sociais na intervenção. Os fisioterapeutas recém-licenciados reportam não sentir preparação suficiente para a utilização de algumas estratégias educativas, no entanto, a sua experiência é ainda pouco explorada.

Objetivo: O objetivo deste estudo foi compreender a experiência vivida dos fisioterapeutas recém-licenciados na utilização de educação ao utente na gestão da dor lombar persistente não-específica.

Metodologia: Foi realizada uma análise fenomenológica interpretativa para explorar as experiências de seis fisioterapeutas recém-licenciados, recrutados de forma intencional a partir dos graduados de uma escola de saúde. Foram realizadas entrevistas individuais semiestruturadas, gravadas em áudio e transcritas na íntegra. Foram utilizadas como estratégias para contribuir para o rigor e qualidade a triangulação dos investigadores, member check, audit trail e diário reflexivo.

Resultados: 6 fisioterapeutas recém-licenciados participaram neste estudo. Durante a análise, foram identificados três temas: (1) Manter o utente no centro da educação é desafiante; (2) Colocar-se no lugar do utente- perspetivas dos fisioterapeutas sobre os encontros clínicos; (3) Falta de preparação para a educação de utentes com dor lombar persistente não-específica.

Conclusão: Os participantes identificaram a intervenção educativa com utentes com dor lombar persistente não-específica como uma experiência desafiante, para a qual poderão não ter tido a preparação necessária na formação base. Pouca experiência clínica, dificuldades na comunicação efetiva, pressão do local de trabalho e gerir a recetividade dos utentes à educação foram consideradas como barreiras que afetam as suas experiências.

Palavras-Chave: Dor lombar persistente não específica, educação ao utente, fisioterapeutas recém-licenciados

ABSTRACT

New-graduate physiotherapists' experiences of patient education practice in the management of persistent low back pain- An interpretative phenomenological analysis

Andreia Pombares, Roma Forbes e Carmen Caeiro

Introduction: Patient education has been recognized as a key element in the physiotherapy intervention of patients with NSPLBP. The evidence seems to indicate challenges that physiotherapists have in implementing patient centered education, particularly incorporating cognitive, psychological, and social factors. New graduate physiotherapists report being under prepared for the use of some aspects of patient education practice, however the experiences of new graduate physiotherapists have been largely unexplored.

Objective: The aim of this study was to understand the new-graduate physiotherapists' experiences of patient education practice in the management of NSPLBP.

Methodology: An interpretative phenomenological analysis was employed to explore the experiences of six new-graduate physiotherapists, who were recruited purposefully from one health school. Semi-structured one-to-one interviews were carried out, audio-recorded and transcribed verbatim. Several strategies were used to contribute for rigor and quality, namely investigator triangulation, member check, audit trail and reflexive diary.

Results: Three themes were generated as interrelated parts of an extended account focused on the participants' meaning making of their experiences: (1) Keeping the patient in the center of education is challenging; (2) Stepping into the patient's shoes: physiotherapists perspectives of clinical encounters; (3) Lack of preparedness for patient education of patients with NSPLBP.

Conclusion: Participants perceived patient education with patients with NSPLBP as a challenging experience, for which they may not have had the necessary preparation in their undergraduate education. Lack of experience, difficulty in effective communication, the pressure from work context and dealing with the receptiveness of patients were considered barriers that affect their experience.

Key words: Non-specific persistent low back pain, patient education, new graduate physiotherapists

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ABBREVIATION LIST

LBP - Low back pain

PLBP - Persistent low back pain

NSPLBP - Non-specific persistent low back pain

IPA - Interpretative phenomenological analysis

CE-IPS - Comissão de Ética do Instituto Politécnico de Setúbal

1. Introduction

1.1. Definition, etiology, and impact of non-specific persistent low back pain

According to Global Burden of Disease, Low Back Pain (LBP) is the leading cause of years lived with disability and the most prevalent rheumatic and musculoskeletal condition in the world (GBD, 2020, 2023; Wu et al., 2020). By 2050, a 36,4% increase in total number of cases of LBP is expected globally (GDB, 2023). LBP is defined as pain in the area on the posterior aspect of the body from the lower margin of the twelfth ribs to the lower gluteal folds with or without pain referred into one or both lower limbs that lasts for at least one day (Hoy et al., 2014). When persisting for more than 3 months, it is defined as chronic or persistent low back pain (PLBP) with an estimated prevalence between 5.0% and 10.0% worldwide, equivalent to about 577 million individuals (Andrews et al., 2018; Cohen et al., 2021; Hoy et al., 2014; Meucci et al., 2015). Because pain is a multivalent, dynamic, and an ambiguous phenomenon, with linkage with social and economic determinants, there is ample justification to consider PLBP as a public health priority (Goldberg & McGee, 2011).

The most common form of PLBP is non-specific persistent low back pain (NSPLBP). This term is used when the pathoanatomical cause of the pain cannot be reliably determined (Maher et al., 2017). That is, from a bio-psychosocial perspective, it is not possible to attribute pain to a purely structural cause, as in cases of specific low back pain (cancer, cauda equina compromise, fracture, infection or inflammatory diseases).

Persistent Pain is responsible for high treatment costs, sick leave, and individual suffering, being one of the main reasons for people to seek health care services, leading to a high economic impact (Meucci et al., 2015). In the United States (USA), persistent pain costs between 560 and 635 billion annually, which represents a higher cost than heart disease, cancer, and diabetes (Andrews et al., 2018). In Europe, approximately 1.5-3.0% of the annual gross domestic product (GDB) is spent on persistent pain conditions. In Portugal, it is estimated that the indirect costs of persistent pain are €738.85 million, of which €280.95 million are due to absenteeism generated by short-term disability and €458.90 million due to reduced employment due to early retirement and other forms of non-participation in the labor market (Gouveia & Augusto, 2011).

As a leading cause of disability, NSPLBP has a significant impact on several aspects of individuals' lives. It affects their family responsibilities, interferes with the ability to work, maintain social requirements, and undertake recreational activities (Antunes et al., 2021; Cohen et al., 2021; Phillips, 2009). It also has an impact on interpersonal relationships, self-esteem, sleep quality,

and anxiety and/or depression (Cohen et al., 2021). The experience of NSPLBP is, therefore, influenced by the interaction of multiple factors, including genetic, psychological, social, biophysical, as well as comorbidities and lifestyles (Hutting et al., 2019; Lewis & O'Sullivan, 2018).

Since about 90% of PLBP cases cannot be related to a specific cause, being classified as NSPLBP, it is common for individuals to seek a clear or credible explanation for their symptoms (Caneiro et al., 2020; Newton et al., 2013). Living with NSPLBP is a disruptive experience and individuals are challenged to manage the impact of it in their daily lives (Caeiro et al., 2021). As such, to the individual living with NSPLBP, the main concerns seem to be the need to seek diagnosis, treatment, and cure as well as reassurance of the absence of pathological abnormality (Newton et al., 2013). With their pain out of sight from the world, it is perhaps harder for others to emotionally connect with their daily experience of pain. Individuals subsequently may suffer not only from the pain itself but also the isolation caused by the hidden nature of pain (Newton et al., 2013).

Individuals with NSPLBP have concerns about regaining previous levels of health, physical and emotional stability, engaging in meaningful activities, meeting social expectations and obligations, as well as wanting to be believed in their suffering (Maher et al., 2017). Even though individuals with NSPLBP experience a wide range of physical limitations, research have shown that there is a lack of correlations between structural damage of the spine and disability levels (van Hecke et al., 2013). In addition, there seems to be a greater influence of comorbidities and psychosocial factors on pain than biomechanical factors in the transition from acute to persistent pain (Domenech et al., 2011).

Apart from the socio-demographic factors associated with persistent pain (female gender, older age, lower socio-economic status, geographical, cultural background and employment status and occupational factors), there are some modifiable factors for NSPBLP that seem to be relevant (Karran et al., 2020; van Hecke et al, 2013). Currently, there are some studies showing the influence of obesity, decreased sleep quality, smoking, anxiety, and depression on the persistence of LBP, in particular its importance in the transition from acute to NSPLBP (Pinheiro et. al., 2015; Shiri et al., 2010). In addition, other important modifiable factors to the persistency of LBP are physical inactivity, fear avoidance behaviors and lack of knowledge about the condition, as limited knowledge of NSPLBP may led individuals to develop their own belief system to justify their experience of NSPLBP whilst searching to make sense of it in their lives (Caeiro et al. 2021). This is of great importance, because individuals' beliefs about pain shape their attitudes and behaviors about how to manage their pain (Nijs et al. 2020). At the present,

it is known that what one believes and does about their musculoskeletal pain can predict how long the pain will last and how disabled they will be by it. Given that these beliefs are modifiable, they are considered an important target for the prevention and treatment of pain-related disability (Caneiro et al., 2020).

1.2. The role of patient education in the intervention of patients with NSPLBP

Patient education has been defined by Bartlett (1985, p. 323-324) as "a planned learning experience using a combination of methods such as teaching, counseling, and behavior modification techniques which influence patients' knowledge and health behavior". It has been included in clinical recommendations as one of the first lines of conservative treatment for individuals with NSPLBP, along with exercise and manual therapy (Foster et al., 2018; NICE, 2020; Oliveira et al., 2018). In the musculoskeletal context, particularly in NSPLBP, there has been growing interest in specific educational strategies such as cognitive behavioral therapy, graded exposure, graded activity, reassurance, health literacy, self-management, and pain science education, which are increasingly recognized within clinical guidelines (Barbari et al., 2020; Chou et al., 2017). Despite the recommendations from previous studies and clinical guidelines, there are conflicting findings regarding the effectiveness of patient education in individuals with NSPLBP. Wood & Hendrick (2019) aiming to evaluate the effectiveness of pain neuroscience education in individuals with NSPLBP, found that it improved disability in the short-term (95% CI 3.37, 4.52, *p* <0.00001, <12 weeks), but failed to show evidence on the long-term (95% CI -0.67, 5.02, *p*=0,13, > 12 months). Barbari et al. (2020) in a systematic review aiming to investigate the effectiveness of communicative and educative strategies in patients with NSPLBP, concluded that pain science education, graded exposure and multimodal interventions were the most effective for behavior modification and compliance with exercise with benefits in the long-term (6 months). Self-management, graded activity and coaching provided benefits only in the short-term or no benefits. Southerst et al. (2023) in systematic review aiming to evaluate benefits and harms of education/advice for NSPLBP in adults to inform a World Health Organization (WHO) standard clinical guideline concluded, based on very low certainty evidence, that education/advice in adults with NSPLBP was associated with improvements in pain, function, health-related quality of life and psychological outcomes compared to no intervention or usual care.

Nevertheless, patient education has the possibility to change the way the individual experiences illness, aiming at improving, maintaining, or learning to cope with a condition, usually a chronic one (Van den Borne, 1998). Patient education has evolved over time from a unidirectional

communication strategy where the patient was a passive receiver of information to a patient-centered approach, where a therapeutic alliance is established and the patient plays an active role in the intervention (Hoving et al., 2010). Patient centered care has been recommended as the cornerstone for best care of musculoskeletal pain, although it is often undervalued, under-recognized, undertrained and considered less important than technical skills and knowledge (Lin et al., 2020). A patient-centered approach to education includes using teaching strategies to meet individuals' educational needs and preferences (Forbes et al., 2018), which may have positive effects on patient motivation, retention of information, health outcomes and treatment adherence (Hyrkas & Wiggins, 2014).

Within the last decade, the understanding of NSPLBP has evolved considerably, moving from a purely structuralist approach to multimodal approaches that understand the complexity of this condition (Nijs et al., 2020). As such, in NSPLBP intervention, the focus should not be on "curing" the condition, but rather on providing strategies for effective patient self-management (Lewis & O'Sullivan, 2018). Self-management is defined as the ability to manage one's own symptoms, physical and psychosocial consequences, as well as lifestyle changes associated with living with a chronic condition (Hutting, et al., 2019). To this end, an effective therapeutic alliance must be created, as a patient-centered practice approach that focuses on self-management of the condition and a healthy lifestyle can restore and/or maintain function, improve long-term participation, and provide a plan for managing persistent pain (Hutting, et al., 2019; Lewis & O'Sullivan, 2018; Lin et al., 2020).

A person's representation of their condition is dynamic, meaning it changes according to new information and experiences. In individuals who have developed persistent pain and significant pain-associated limitations, there is often a change in self-identity, associated with loss of self-worth, demoralization and the emergence of a constellation of beliefs indicative of a marked change in self-identity since the development of their NSPLBP (Main et al., 2010). Beliefs related to the identity, cause, consequence, controllability, and timeline of musculoskeletal pain influence problem solving behavior and emotional responses (Caneiro et al., 2020). Fear of movement, catastrophizing, hypervigilance, self-compassion, and acceptance are often key determinants of certain lifestyles such as sedentary or avoidant behavior in individuals with NSPLBP, which can lead to the intensification and/ or maintenance of symptoms (Nijs et al., 2020). Individuals with NSPLBP experience greater difficulty in engaging in general positive health behaviors than those without pain. Therefore, providing information to individuals with NSPLBP about the important role of lifestyle factors may be perceived as an inconvenient, but necessary truth (Maher et al., 2017).

Although recommended in literature, many patients do not receive any education for their NSPLBP by their healthcare providers (Cohen et al., 2021; Maher et al., 2017). Identifying and addressing any misconceptions the individual might have, either by providing the opportunity to ask questions or by probing questions is important, because misconceptions about NSPLBP are common and can adversely affect outcomes (Maher et al., 2017; Newton et al., 2013). Without adequate information and advice from healthcare professionals, some patients with NSPLBP do not know what they should and should not do, often avoiding activities out of fear of causing harm. Addressing these pain cognitions and beliefs is, therefore, often a prerequisite for making a behavioral lifestyle change in individuals with NSPLBP (Nijs et al., 2020).

1.3. The role of the physiotherapist in NSPLBP patient education

Patient education is widely recognized as an integral component of effective patient care across healthcare settings and physiotherapists are well-positioned to plan and provide individualized education (Cooper et al., 2009; Ross & Haidet, 2011). Despite the literature that supports the importance of an intervention focusing on active strategies and self-management of NSPLBP, the evidence seems to indicate challenges that physiotherapists have in implementing patient centered education particularly incorporating cognitive, psychological, and social factors (Forbes & Ingram, 2019; van den Heuvel et al., 2021). Facilitating behavior change through advice and education has been a major challenge for clinicians. Research shows that there is a disconnection between what physiotherapists perceive to be clinically helpful health advice and patients' own beliefs towards managing NSPLBP (Sanders et al., 2013).

Research has suggested that physiotherapists may routinely incorporate treatments that are not recommended or have no scientific evidence (Zadro et al., 2020). One explanation may be that physiotherapists with a poor understanding of evidence-based practice might be misled into providing treatments with weak supporting evidence (Zadro et al. 2020). Another explanation may be related to the physiotherapists' own beliefs and attitudes about persistent pain, which seem to influence the type of care provided (Caneiro et al., 2020; Chabane et al., 2018). This is of most importance, as positive pain attitudes and beliefs may be strengthened if individuals find that they share the same attitudes and beliefs with health care providers (Ostelo et al., 2003).

Research has shown that patient education practices may differ between experienced and novice physiotherapists. Experienced physiotherapists have been found to place higher importance on establishing a helping alliance, understanding individuals' perceptions of their condition, and only sharing information with a focus on patient participation (Forbes, et al, 2018). According to

the authors, experienced physiotherapists report more frequent use of approaches to address patient concerns, teach correct posture or movement, teach self-management strategies, explore patient perceptions, and teach problem-solving strategies. In addition, experienced physiotherapists give more importance than novice physiotherapists to the information about the patient's condition or diagnosis, exploring patient's ideas and perceptions, and advice on problem solving strategies (Forbes et al., 2018).

As for new graduate physiotherapists, research shows that the transition from student to professional in the clinical practice is a demanding challenge (Stoikov et al., 2020). It is suggested that new graduates may be more aware of behavioral change strategies and the importance of an active intervention, although they report high uncertainty about how to manage their patients' persistent pain (Forbes & Ingram, 2019; van den Heuvel et al., 2021). Novice physiotherapists tend to place less importance on patient education than other clinical skills, and often fail to engage in educational approaches that promote patient responsibility (Forbes et al., 2018; Wainwright et al., 2011). It seems that the same is happening to the Portuguese new graduate physiotherapists. While they seem to possess high self-efficacy and perceived preparedness for most aspects of patient education, they perceive more barriers to patient education practice including individuals' lack of openness to receive education, poor attitudes towards physiotherapy, previous experiences and personal characteristics and challenges when delivering education in complex situations (Santos et al., 2022). According to the same authors, there were also barriers from the physiotherapists themselves, particularly associated with their knowledge and communication skills. Research conducted by Lin et al. (2020) adds to the body of evidence indicating a deficiency in effective communication skills among physiotherapists. This skill set is particularly crucial in the context of discussing sensitive topics such as psychological, social, and lifestyle issues with patients. Moreover, it emphasizes the importance of physiotherapists being able to convey health-related information in a manner that is both comprehensible and non-alarming to individuals, as well as their role in guiding them towards positive behavioral change.

For the new graduate, the initial years of practice are times for the continued development of professional identity, knowledge base, clinical reasoning, and decision-making skills (Hayard et al., 2013). This seems to be related to the gap between theory (research) and practice, that is, the perceived inconsistencies between the theory learned in an academic context and what happens in clinical practice (Roskell et al., 1998). These characteristics make new graduates a special population, with characteristics and needs specific to the transition phase they are facing.

1.4. Transition from student to new graduate

The transition from student to professional can be challenging, as it is a nonlinear journey in which there is a relative contrast between the relationships, roles, responsibilities, knowledge, and performance expectations required within the academic environment with those required in the professional practice setting (Duchscher & Windey, 2018). In this period, new graduated transition from a university environment with a focus on their individual learning to one where the primary focus is the responsibility of providing patient care (Stoikov et al., 2020). This transition has been defined by Duchscher (2009) as the transition shock, which emerged as the experience of moving from the known role of a student to the relatively less familiar role of professional practice. Upon entering the workforce, new graduate physiotherapists often experience anxiety, stress, and feelings of being overwhelmed and unprepared for various aspects of practice (Atkinson & McElroy, 2016). Traditionally, education is still mainly about teaching new knowledge and less about reflecting on student's current knowledge and reframing those thoughts may impact the transition to practice (Leysen et al., 2021).

New graduate physiotherapists have reported that the lack of exposure to realistic and full workloads as a student made the transition from student to new graduate more challenging (Stoikov et al., 2020). Claydon & Paul-Taylor (2017) found an apparent dichotomy between what was learnt in university and what was learnt in clinical setting, demonstrating a theory-practice gap. Despite finding a good understanding of person-centered care from education, translating their knowledge into practice becomes both a challenge and a struggle. Even without experience, new graduate physiotherapists are, for the most part, required to practice autonomously, even though entry-level programs and pre-professional training may not provide the requisite skills to feel confident and prepared for practice (Forbes & Ingram, 2019; Stoikov et sl., 2020). This is specifically relevant to patient education practice, as a lack of preparedness may arise from insufficient preparation during the entry-level program, which may not prepare graduates for all skills and attributes that are required for effective patient education practice (Forbes et al., 2018).

Understanding the experience of new graduate physiotherapists in managing patients with NSPLBP is an important step in understanding how they can be better prepared for this area of practice. When entering the workforce in Portugal, new graduates are expected to perform in the same way as more experienced physiotherapists, even if they do not have the same level of skills. In the Portuguese context, it was found that physiotherapists, particularly those that are novice, understand the importance of using patient education, however, they do not perceive that they have the necessary skills to use this approach (Balluchi et al., 2021). According to the

same authors, only a small percentage of participants included in their study (36.6%) reported including education on >81% of sessions. To this can be added the fact that, in Portugal, the identity and value system of the physiotherapy profession appears to be strongly influenced by a traditional biomedical view of health and illness (Cruz et al., 2012). This dominant culture embodied in physiotherapy in Portugal influences the way clinicians' practice, reason and develop expertise. It also shapes the focus of reasoning, and how this develops through models of professional practice (Cruz, et al., 2012). The experience of older colleagues can influence the way new physiotherapists work. On the other hand, research has documented the potential influence of professional education programs on the instruction of professionals (Hayward et al., 2013). Educators have an opportunity and a responsibility to guide the development of students' professional identities. To do this, they need a clear understanding of the continued process of professional role formation experienced during the early years of practice. Such knowledge can assist faculty in the design of effective pedagogical strategies for enhancing student training in a physiotherapy degree program (Hayward, et al, 2013). Including new graduate physiotherapists in educational research may help them realize their potential as part of a community of practice, creating a connection between what is intended in the academic curriculum and required in the real clinic practice (Barradell et al., 2018).

This study aims to explore the new-graduate physiotherapists' experiences of patient education practice in the management of NSPLBP. It aims to contribute with new knowledge regarding the experiences of new-graduated physiotherapists and the challenges faced in clinical practice. This knowledge may offer insights into the physiotherapists' undergraduate training for patient education and contribute to the improvement of patient education practice with patients with NSPLBP.

2. Methodology

2.1. Study context

The present study was carried out in Portugal. Currently, there are 22 institutions providing undergraduate physiotherapy courses. The undergraduate education is the responsibility of higher education institutions, authorized by the government. Each program has a four-year length, and the flexibility to establish the graduate profile, the pedagogical approaches and the time spent to teach each subject.

To enter professional practice, Portuguese physiotherapists must register in the Order of Physiotherapists/Physiotherapy Board (Ordem dos Fisioterapeutas). Upon completing this process, physiotherapists can start working autonomously. There is no need for accompaniment or supervision by a more experienced physiotherapist at the beginning of clinical practice (Vital et al., 2020).

This study was focused on new graduate from Health School of the Polytechnic Institute of Setubal, one of the 22 institutions that provide the undergraduate physiotherapy courses. The aim of focusing on one of the institutions is due to the differences in physiotherapy programs, thus allowing for a more homogeneous sample, which is necessary for an IPA study (Smith et al., 2022).

2.2. Study aims and design

This study aimed to explore the new-graduate physiotherapists' experiences of patient education practice in the management of NSPLBP. More specifically, it aimed to understand how patient education was integrated into their rehabilitation plans and which aspects represented the greatest challenges. It also aimed to understand the role of the undergraduate degree in preparing new graduates to practice patient education in the management of NSPLBP.

Qualitative research is considered useful to understand, analyze, and interpret meaning, perspectives, and experiences, focusing on the “how” and “why” of the phenomenon under investigation (Klem et al., 2021a). It does not aim to produce generalized truths, but rather an in-depth understanding of social context by learning about the circumstances, experiences, perspectives, and stories of the individuals (Ng et al., 2019; VanderKaay et al., 2016). In the context of healthcare, qualitative research may offer insights into aspects of clinical practice not yet investigated and enable researchers to study how clinicians translate knowledge into

practice (Klem et al., 2021a; Klem et al., 2021b). An Interpretative Phenomenological Analysis (IPA) was considered the methodological approach that best suits this study's aims.

2.2.1. Interpretative Phenomenological Analysis (IPA)

IPA is a philosophical approach to the study of experience that provides a rich source of ideas about how to examine and comprehend lived experience (Smith et al., 2022). It is an established qualitative method of inquiry concerned with the detailed exploration of personal lived experience of a specified phenomenon, examined on its own terms and with a focus on participants' meaning making (Smith, et al., 2022). IPA explicitly recognizes the utility of subjective experience as scientific data (Bush, et al., 2016), therefore, it aims to understand the essence of a social phenomenon from the perspective of those who experienced it, examining how an individual attributes meaning to a given experience (Ng et al., 2019; Smith et al., 2022). It is dedicated to gleaning individuals' direct experiences through encouraging respondents to tell their own story in their own words. IPA is not ‘simply descriptive'; the researcher is required to present an interpretive account of what it means for respondents to have such experiences, within their context (Noon, 2018). Thus, it is particularly suitable for explore the uniqueness of a person's experiences, how experiences are made meaningful and how these meanings manifest themselves within the context of the person both as an individual and in their many cultural roles. Therefore, a phenomenological researcher is interested in describing a person’s experience in the way he or she experiences it, and not from some theoretical standpoint (Bevan, 2014). As such, the levels of insight and depth that IPA can offer, can be developed through the researchers' consideration of the different levels of experiential significance in the data and the way it can shift towards existential concerns (Nizza et al., 2021). The key theoretical perspectives of IPA are phenomenology, hermeneutics, and idiography (Smith, et al., 2022):

- **Phenomenology** is a philosophical approach to the study of experience that provides a rich source of ideas about how to examine and comprehend lived experience (Smith, et al., 2022). Researchers using phenomenological methods aim to uncover the meaning of an individual's experience of a specified phenomenon through focusing on a concrete experiential account grounded in everyday life (Cassidy, et al., 2011). In IPA, there is an attempt to understand individual's relationships to the world, focusing on a particular event, relationship or process in that person's world when doing so which is also shaped by society, culture, and history (Cassidy et al., 2011; Smith, et al., 2022).

- **Hermeneutics** is the theory of interpretation. It seeks to uncover the meaning and central structures, or essences, of the participant's lived experience with a phenomenon and the contextual forces that shape it (Bynum & Varpio, 2018). According to the same authors, the purpose of hermeneutics is to develop 'plausible insights that bring more direct contact with the world' in which the individual lives and learns. The quality of an IPA is increased when the analysis explicitly engages with the experiential and existential significance of what participants are reporting and pays particular attention to their meaning-making around them (Nizza et al., 2021). Therefore, the researcher must be aware of the influence of the individual's background and account on the individual's experience of being (Neubauer et al, 2019). Tappan (1997, p. 651), quoted by Larkin et al. (2006), said "hermeneutic approaches view the knower and the known as fundamentally interrelated, and thus assume that any interpretation necessarily involves an essential circularity of understanding a hermeneutic circle". The hermeneutic circle is concerned with the dynamic relationship between the part and the whole: to understand any given part, one must look to the whole; to understand the whole, one must look at the part (Smith et al, 2022). This means a dual interpretation takes place; the participant makes sense of a phenomenon in their own terms by explaining and interpreting their own experience, and further elaborations may be offered in response to further questions. The researcher then explains and interprets the meaning of the participant's account during the analysis and writing (Cassidy et al. 2011). IPA researchers understand that all questioning and interpretation carries assumptions based on prior experience that govern the extent of what can be disclosed. Consequently, the phenomenon can never disclose itself in its entirety, and interpretative work is required to understand the meaning of the (partial) disclosure (Cassidy et al. 2011; Høffding & Martiny, 2016). For IPA researchers, this means that what is captured of another's experience using IPA will always be indicative and provisional rather than absolute and definitive because the researchers themselves, however hard they try, cannot completely escape the contextual basis of their own experience (Larkin et al., 2006).

- **Idiography** is concerned with the particular. IPA commits to the particular in the sense of detail and therefore, to the dept of analysis and to understanding the particular experiential phenomena have been understood from the perspective of particular people, in a particular context (Smith et al, 2022). Consistent with the idiographic approach, small samples are commonly advocated for IPA studies to better understand the particular in each participant (Smith et al, 2022). According to the same authors,

patterns emerged in the data from which an overarching theme can be constructed but each participant's experiences are grounded in their particular circumstances and perceptions. This facility for highlighting unique perspectives as well as shared experiences is one of the cornerstones of IPA (Smith et al, 2022).

This study's protocol was submitted to the Ethics Commission for Research from Setúbal Polytechnic Institute (CE- IPS), which verified all inherent ethical aspects. The study was approved under code CE-IPS – PI nº 33A / 2023 (Annex 1).

2.3. Participants

2.3.1. Inclusion and exclusion criteria

The participants for this study were new graduate physiotherapists with up to 2 years of professional experience (Atkinson & McElroy, 2016; Forbes & Ingram, 2019; Te et al., 2020), who had completed their studies at the Health School of the Polytechnic Institute of Setubal. They had to be working in Portugal mainly in musculoskeletal settings (> 50% caseload) and have experience with patients with NSPLBP (at least one patient with NSPLBP).

Physiotherapists working abroad were excluded.

In IPA the inclusion of a purposive and fairly homogeneous sample is recommended (Smith et al., 2022). As IPA focuses on the individual experience of each participant and the detailed analysis of that experience, it has been suggested that samples may include between 5 and 10 participants. Recommendations for researchers who are starting out in this methodology range from 3 to 5 participants, as data analysis is very time-consuming (Smith et al, 2022). Smaller sample sizes inevitably raise questions concerning representativeness of the findings. In IPA research, fewer participants examined at a greater depth is always preferable to a broader, simply descriptive analysis of many individuals (Noon, 2018). IPA ought to be considered in terms of theoretical transferability rather than empirical generalizability. This does not mean that IPA is opposed to general claims; moreover, through the gradual accumulation of similar studies, more general claims can be made (Noon, 2018). The objective upon IPA should not be to uncover what occurs in all settings, but rather the perceptions and understandings of a particular group within their setting (Smith et al., 2022).

2.3.2. Recruitment strategies

The potential participants were contacted and invited to participate via e-mail, according to the following recruitment strategies:

- After contact from the lead investigator, an email was sent to physiotherapists who had graduated in 2021 and 2022, by the coordinator of the physiotherapy undergraduate course from the Health School of the Polytechnic Institute of Setubal. This e-mail included the invitation and attached the study explanatory letter (appendix A).
- One representative from each year who did not meet the inclusion criteria was contacted to pass on the information directly on the social networks of each of the respective class.

Graduates were informed that if they had interested in obtaining further information and possibly taking part in the study, they should contact the lead investigator directly (via the e-mail address provided in the explanatory letter). They were also informed that any questions would be clarified via e-mail, or via meeting using the colibri-zoom platform, if necessary. When interest in participating was confirmed, an informed consent form was sent (appendix B). The form was developed using the Microsoft Forms Platform. The link for completion was only sent to participants who had expressed interest in participating in the study, after reading the explanatory letter and contacting the lead investigator. After completing the form, a copy was sent via email by the lead investigator, to remain in each participant possession.

2.4. Data collection

Data was collected using one-on-one interviews (Klem et al, 2022c; Smith, et al., 2022). The interviews were carried out via chat rooms (colibri-zoom), scheduled according to the availability of participants, and conducted by the lead investigator. The interviews were based on a semi-structured schedule using a set of open questions. The researcher and participants were given the freedom to bring up new topics for discussion if deemed relevant, that allow participants to explore and reflect on their experiences (Ng et al., 2019; Smith, 2011). Open questions are those that provide broad parameters within which interviewees can formulate answers in their own words concerning topics specified by the interviewer. These descriptions can be further explored when the interviewer follows up on what has already been said by asking further open-ended follow up questions, or 'probes' that incorporate the interviewee's words (Roulston, 2010). The interview schedule can be found in the appendix C.

The interviews were audio recorded, for later transcription and data analysis. A pseudonym has been assigned to guarantee the participant's anonymity. Data was stored in a password protected folder on the personal computer of the lead investigator. After 5 years upon the end of this study, all data collected will be destroyed.

In order to promote the quality of data collection, a skills training was carried out prior to the beginning of the study itself. Seven interviews were conducted using the colibri-zoom platform and the interview schedule was pre-tested. These interviews were carried out with physiotherapists who worked in musculoskeletal settings and had experience with patients with NSPLBP. From these, three interviews were carried out with physiotherapists who had also experience in qualitative research. A reflexive diary was developed during the training, with the aim of preparing the lead investigator for data collection, by understanding her strengths and points for improvement, as well as obtaining feedback from the research team. The reflexive diary can be found in the appendix D.

2.5. Transcription, translation and management of data

All the transcriptions were made by the lead investigator, by listening to the audio recordings of each participant. This was an important step, as it allowed to start "immersing" into the individual experience of each participant.

Translations of the selected excerpts from the interviews were carried out by the lead investigator and checked by a certified bilingual translator. The accuracy was then reviewed by the research team.

MAXQDA 2022 software was used to help manage and organize the data. The MAXQDA 2022 was helpful as it enabled the researcher to manage a large amount of data and quickly retrieve extracts of each participant's interview. However, it did not have an impact in the interpretative activity of the researcher.

2.6. Data analysis

Short vignettes were developed to contextualize each participant. Vignettes were useful in placing the participants' contexts in the analysis, outlining details such as work context or post-graduate training on NSPLBP or patient education. In coherence with the methodological approach selected, this strategy aimed to allow readers to situate participants as individual “parts” of the text and then relate them to the “whole” (Smith et al., 2022).

According to Smith et al. (2022), data analysis in IPA is an interactive and fluid process of engagement with the transcript, evolving flexible thinking, processes of reduction, expansion, revision, creativity, and innovation. The analytical process is multi-directional and accommodate a constant shift between different analytic processes (Smith et al, 2022). In IPA there is a dynamic movement between the parts and the whole. This means that for interpretation to occur, it is necessary to move between the part and the whole of the hermeneutic circle, where a small section of the text is examined in its own right, but also in the context of the whole transcript (Smith et al, 2022). In this study, data analysis followed the orientations by Smith et al (2022) and included the following steps:

- **Step 1: reading and re-reading**

  This step involved immersing oneself in the original data. This stage of the process required reading and re-reading the data collected, and it was conducted to ensure that the participant became the focus of analysis. This also facilitated an appreciation of the location of richer and more detailed sections or contradictions and paradoxes within the transcript (Smith et al. 2022).

- **Step 2: exploratory noting**

  This step was focused on exploratory noting and involved the examination of semantic content and language used on an exploratory level. In this process, the researcher also began to identify specific ways by which the participant talked, understood and thought about the issue explored. Throughout this process, the researcher aimed to produce a comprehensive and detailed set of notes and comments on the data. The process started with descriptive comments, focused on describing the content, and moved to linguistic comments, concerned with the specific use of language, and to conceptual comments, focused on engaging on a more interrogative and conceptual level (Smith et al, 2022).

- **Step 3: constructing experiential statements**

  This step included the construction of experiential statements. It was an important stage for consolidation of the researcher's thoughts. In constructing experiential statements, the task of managing the data changed as the researcher simultaneously attempted to reduce the volume of detail while maintaining complexity, in terms of articulating the most important features of exploratory notes. This process involved breaking up the narrative flow of the interview, which represents one of the manifestations of the hermeneutic circle (Smith et al, 2022).

- **Step 4: searching for connections across experiential statements**

  This step integrated the development of a charting that mapped how the researcher considered the statements fit together. The aim was to look for means of drawing together the experiential statements and produce a structure that allows to point the most interesting and important aspects of the participant account (Smith et al, 2022).

- **Step 5: naming the personal experiential themes (PET)**

  This step consisted in naming the personal experiential themes (PET), consolidating and organizing them, where the themes found begin to be grouped together. The PETs were personal to each participant, related directly to the participant's experiences or their experience of sense-making. The PETs represented the analytic entities present within the transcript as a whole (Smith et al, 2022).

- **Step 6: continuing the individual analysis of other cases and repeating the process**

  The sixth step involved continuing the individual analysis of other cases (other participants' interview transcripts) and repeating the process. Respecting the idiographic nature of IPA, it was important to analyze the next case on its own terms, to do justice to its own individuality. This means that it was important to be cautious about simply reproducing ideas from the analysis of the previous case while working on the next one. Nevertheless, it was important to take into account that the researcher was inevitably influenced by what has already been found, respecting the hermeneutic circle (Smith et al, 2022).

- **Step 7: working with personal experiential themes to develop group experiential themes across cases**

  The last step aimed to look for patterns of similarity and differences across the PETs generated, creating a set of group experiential themes (GET). Here, it was important to highlight the shared and unique features of the experience across participants, exploring points of convergence and divergence between them (Smith et al, 2022).

Systematic feedback from the supervisory team on data analysis was integrated into the analytic process. It aimed to support the lead investigator and prompt the depth of interpretation and reflection. Specific examples of how this feedback was integrated are provided in the audit trail (Appendix E).

2.7. Strategies for ensuring rigor and quality

Specific strategies were implemented to ensure trustworthiness, namely the reflexive diary, the researcher triangulation, the member check and the audit trail.

The reflexive diary was developed with the purpose of helping the leading researcher become aware of her own biases, beliefs, and prejudices about the phenomenon under investigation, as these may impact the results obtained (Johnson, Adkins & Chauvin, 2020) (appendix D and appendix F).

In this study, the researcher triangulation was carried out initially by two researchers since the data collected was in Portuguese. Nevertheless, the third researcher's perspective and feedback were also considered to arrive at the results, since the process of analysis was carried out in English (Guion, 2002).

The member check procedure was conducted, aiming to allow participants to check the data analysis performed by the researchers and express their agreement/disagreement (Korstjens & Moser, 2018b). Two documents were sent to each participant: the transcript of his/ her own interview; and the preliminary themes and sub-themes generated from his/ her own interview.

Finally, an audit trail (appendix E) was elaborated, integrating the description of the different stages of data analysis, contributing to the transparency of the study (Korstjens & Moser, 2018b).

3. Results

This chapter was organized into two sections. The first includes information about the study's participants aiming to provide a context for the analysis. The second section explores the themes, subthemes and concepts generated by data analysis.

3.1. Participants

From the seven individuals interested in taking part in the study, one was excluded as they were working outside Portugal. Therefore, six participants were included, with an average age of 23 years (minimum: 22; maximum: 24). Both genders (50 per cent) and graduates from the class of 2021 and 2022 (50 per cent) were represented. After the interviews, 388 minutes of recordings were generated (average of 64 minutes, with a minimum of 46 minutes [Paulo] and a maximum of 76 minutes [Nuno]).

The following paragraphs contextualize the six participants. In coherence with the methodological approach, this strategy aims to help readers situate the participants as individual parts in the whole account produced:

João has been working since graduation in a hospital. João is an open and communicative person, who is very comfortable to expose his ideas, thoughts, and emotions. He seems to be thirsty for knowledge, investing in advanced training with the aim of becoming a better professional to provide a better response to his patients. The topic under study is something that interests him, as it is both an intervention that he considers indispensable and a difficulty he feels in his clinical practice. This difficulty was partly the reason that made him seek further advanced formation in the use of patient education, as well as improving knowledge to intervene with patients with NSPLBP.

Catarina has been working since graduation, firstly in conventional clinic and currently in private practice. She seems to be a reserved person and appears somewhat nervous about the situation of being interviewed and having her thoughts exposed. Nevertheless, Catarina shows that the topic under study is something that interests her and with which she struggles, since the perspective she demonstrates throughout the conversation seems to have already been the result of previous, in-depth reflections. For Catarina, the main challenges experienced in the educational intervention with patients with NSPLBP are related to the beliefs they have about their condition. She also struggles with the organization of her workplace, having little time to treat each patient.

Vanessa has been working since graduation in conventional practice. For Vanessa, her chaotic working environment makes it difficult to take an educational approach to her patients with NSPLBP, as she cannot spend time individually with each patient. In this sense, education must be assertive and precise, and more focused on teaching strategies and exercises that patients can do at home. In fact, this aspect seems to be central to her educational strategies, and throughout the interview she didn't address aspects more related to explaining pain to patients, demystifying beliefs or teaching about the condition. This may be related to the fact that she hasn't had any additional training, as well as the work context itself, which is quite constraining.

Mafalda has been working in different contexts since the beginning of her clinical practice and more recently she has focused on private practice. Mafalda has always worked with patients with NSPLBP, and patient education has been something she has prioritized from the very beginning. She is an open, outspoken person who is not shy about expressing her point of view. She is someone with an interest in the topic under study and with strong opinions, and reflections on it. Mafalda seems like she is not the type of person to settle down, but rather that she sought to learn more and be better within her profession. This is what led her to study for a master's degree, to deepen her knowledge of the profession. It was also an important step that allowed her to change her approach, particularly regarding educational strategies for patients with NSPLBP.

Nuno is currently working in a hospital. He is a calm, available person who is keen to contribute to the ongoing research and likes to ponder the answers he gives so that they are as complete as possible. It was only when he joined the hospital that he began to encounter patients with NSPLBP, and he considers that working with these patients brings specific challenges. Nuno is a believer in a healthy lifestyle, with a good diet and exercise, which are strategies he tries to pass on to his patients with NSPLBP as something that can help manage their symptoms. From his point of view, his role is that of a role model to make it easier for patients to change their habits.

Paulo has been working ever since graduation in the conventional setting. Paulo revealed himself to be a private person, thoughtful and succinct in his answers, with his quiet personality being mentioned by himself throughout the interview. He shows a tendency to silence and pauses to reflect before answering. He shows good self-awareness of his professional practice, his strengths, and weaknesses and what he feels he needs to improve. For Paulo, intervening with patients with NSPLBP is a challenge, and it's not a condition he particularly enjoys intervening in due to the complexity of the cases, the patients' beliefs, the need to manage

expectations and the fact that the pain has persisted for so long. Even so, he considers patient education to be a fundamental strategy, which he must invest in to improve his practice.

3.2. Analysis: emergent themes, sub-themes and concepts

Following an inductive process of data analysis, three themes were generated to help understand the new-graduate physiotherapists' experiences of patient education practice in the management of non-specific persistent low back pain: 1) Keeping the patient in the center of education is challenging; 2) Stepping into the patient shoes- physiotherapists perspectives of clinical encounters; 3) Lack of preparedness for patient education of patients with NSPLBP.

Given the idiographic nature of IPA, where the unique experience of each participant should be considered carefully, each theme was split into subthemes and concepts that provide detail and highlight the individual variations (Smith et al., 2022). Although all participants contributed to each theme, not all developed all the concepts. The labels aimed to reflect the participants' words as much as possible.

Findings are presented and contextualized combining the researchers' interpretations and the participants' accounts. Translated excerpts are presented to support the analysis. The participant's pseudonyms, interview number, page and line number are introduced after each excerpt.

Theme 1: Keeping the patient in the center of education is challenging

In this theme, the experiences of physiotherapists during their educational interventions with patients with NSPLBP were articulated. Throughout the interviews several challenges were identified, with participants having different perspectives on similar experiences. The adaptation of educational strategies to the individuality of the patient was explored, with particular emphasis on the challenges of addressing complexity, the selection of educational strategies and the difficulty of assessing the patients' educational needs. The relevance of the therapeutic relationship in patient education was also explored, with a particular emphasis on the importance of gaining the patient's trust to address their beliefs and understand their expectations. Lastly, the impact of the work context was explored, particularly the need for more time for education and the workplace demands. This theme was formed by three subthemes that are represented in the figure below. Each subtheme was underpinned in central concepts that are also represented below and discussed further.

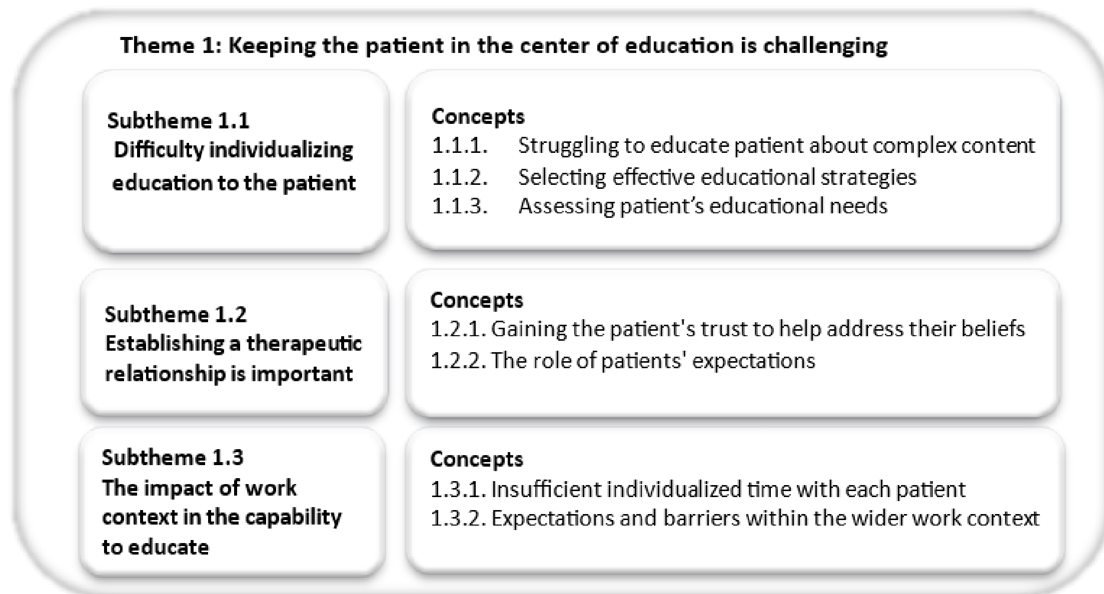

Figure 1: Overview of the sub-themes and concepts included in the first theme.

Subtheme 1.1: Difficulty individualizing education to the patient

The experience of adapting educational strategies to patients with NSPLBP seemed to be challenging for participants. They all seemed to have something in common: the perception that having more clinical experience would help them implement patient education strategies more effectively. This led to some comparisons and reflections on their own clinical practice, particularly when comparing the start of their working lives with the current moment. This lack of clinical experience suggests an impact on the capability to educate patients, particularly in explaining and teaching complex contents, making decisions about the selection of contents, and planning the educational sessions. Thus, three main concepts were identified in this sub-theme: struggling to educate patient about complex content; selecting effective educational strategies; assessing patient's educational needs.

Concept 1.1.1: Struggling to educate patient about complex content

Considering the intervention with patients with NSPLBP, some participants reported difficulty in explaining concepts related to pain, referring to their lack of professional experience as something that could influence it. João's words suggested that the physiotherapists need to treat these patients, even perceiving not having the skills to effectively do so. Mafalda expressed the

fear of not being able to answer patients when they questioned her about their pain or recovery. She also seemed to be afraid of not being taken seriously because of her young age.

" As physiotherapists, it's been very hard for us to deal with people with persistent lower back pain, especially if we do not have that much experience. We explain concepts like central sensitization, pain catastrophizing, and kinesiophobia, but it's very difficult. Very, very difficult for us. Um…, but we have to, we have to do it. One way or another, we have to do it." (João. I1. 11-12. 226-232).

"But what I felt, especially at the beginning, was a real fear of patients asking questions, and then there was also that typical situation of an undergraduate fearing the possibility of patients asking questions and having no ability to provide answers. And what should I do? Should I tell something, or should I make something up? (laughs). No, of course not, right? Should I tell them that I am going to study this, and then, the patient will be like "well, if she doesn't know, what is she supposed to do with me?" (...) Then, there is also – a lot of – um, "How old are you?" (…) So, there's always this fear - the fear of being judged by the patients for being new at this and not being good or experienced enough." (Mafalda. I4. 27-28. 565-572).

For Catarina, communication skills seemed to impact on the capability of sharing knowledge with patients. Her words seemed to indicate that without effective communication, even if she has the necessary knowledge, she won't be able to pass it on to the patient.

"In our opinion, at least, we probably still have insufficient experience in this part of communication, not in terms of knowledge, but in approaching and communicating with people while resorting to the use of language." (Catarina. I2. 20. 405-410)

As for Vanessa, the capability of sharing knowledge with patients is influenced by her work context, which did not seem to allow her to have enough time to talk to patients. She ended up reflecting that not once in her clinical practice she explained what NSPLBP is to a patient.

"... and I've probably never done it because... because, you know, I have never been questioned about what the pain, lower back pain, or persistent lower back pain is about, and I have never, never, really... never said look, you've got lower back pain, persistent lower back pain, which consists of this and that as a result of you doing this and that. I don't think I have ever had to say or yet, I have never said that because it is basically about coming, doing the treatment and getting out." (Vanessa. I3. 20. 397-403)

Concept 1.1.2: Selecting effective educational strategies

When it comes to making decisions about education strategies to use, João seemed to feel more comfortable presenting content or counselling patients about what they should or should not do regarding their pain. This may be related to his personality and previous experiences, where he

mentions that even in his classes, he felt very comfortable delivering presentations to his colleagues.

"...the educational strategies I feel most comfortable to use, um, is undoubtedly counselling on what should and shouldn't be done, um.... And I think that, in general, we're formatted for exposition, to explain what should or shouldn't be done. The truth is that due to the psychosocial characteristics of these people, it is not always possible to do so, um… I think it's a bit normal, especially for those who do not possess much experience. I think it's normal for us to feel more comfortable simply standing by the person and explaining what we're supposed to say or what the pieces of evidence tell us…" (João. I1. 16. 323-333)

On the other hand, Nuno mentioned that when it comes to educating, he doesn't seem to make a conscious choice about the strategy he should use, ended up doing something more spontaneous, whatever seems appropriate at the time. Paulo seemed to use the same approach, sharing his experience where education comes naturally.

"... I don't really make any choices. I think it's natural. To be frank, when referring to education strategies, I'm not really thinking about counselling or education. I simply try to educate the person per se. I don't even think about the strategies I'm going to use." (Nuno. I5. 30-31.618-622).

"... I'd say that I do not approach it in the right amount. So to say, I provide some loose hints and not, not…, not in a purely educational conversation (…) It is not about just a few hints that I provide throughout the session, ok? It's not. No, it's not something that, well, let's suppose that has not been planned. It's not something that I do plan, like "look, for this session I'm going to broach this concept, for this session I'm going to broach that concept". It is not like that, no.... It's not about a planned education. It's something more natural." (Paulo. I6. 4. 62-70)

As for Mafalda, she seemed to try to understand the patient's needs to adapt her education to them. This approach may be related to how comfortable she was with communicating with people, as well as with the new knowledge she acquired during her master's degree.

"And now, I feel at ease. I feel that educational communication has changed so much, allowing me to understand the patient, explore whether the patients are able or not to proceed with the treatment, if they feel comfortable to do so, understand what is best for them, either making a video, a drawing, provide instructions in writing, in… or by audio. In other words, I try to explore the best and most comfortable way possible to implement the educational strategies in their life." (Mafalda. I4. 26. 528-536)

Concept 1.1.3: Assessing patient's educational needs

When asked about the assessment of patients' educational needs, some of the participants, and Mafalda in particular, seemed to be surprised, as they consider this not to be a common procedure to their clinical practice.

"... I don't usually evaluate beforehand, or if... No, maybe not. Afterwards, I always try to understand if… (…) To understand if the patient, if it made sense to the patient, if it didn't, if they understood why I was doing it, but always afterwards, maybe I've never evaluated before whether the patient needed any education or not. You always assume that the patient will need it, don't you? Because there's a pattern." (Mafalda. I4. 43. 893-901)

Mafalda mentioned her perceived pattern in patients with NSPLBP, that seemed to lead her to conclude that all these patients need education about their pain, without assessing if that is the case. Despite this, there seemed to be an attempt to collect some data on the patient's lifestyle and beliefs, to try to identify and plan which contents to include, as mentioned by Paulo and Nuno.

"I try to understand through..., through what people tell me during the subjective exam, I can understand some, some assertions, some concerns, some difficulties and from that point, I can understand what is needed to be explained or what do they need to know more in educational terms. I don't do it in a formal way." (Paulo. I6. 18. 365-369)

"... I don't think I have that habit. So, so..., man, I don't think so, maybe it's there, but it's hidden in the unconscious. No, I don't think I stop to think about that person possibly needing a bit more, I think it's more..., about me getting to know more about the person, and just understanding [their needs]. And maybe as soon as I get there, I proceed to the intervention. So, I don't have a lot of time, well, maybe, I do proceed to the evaluation through subjective examination, but no, I don't think it's a constant evaluation, maybe, I just don't spend much time outlining that…" (Nuno. I5. 34. 693-700)

Catarina also reflected on the potential impact of not conducting an adequate assessment of the patient's needs on the effectiveness of the intervention. She used phrases as "informal", "quite misleading" and "very confusing" to emphasize her perception of "failing" in the assessment of patients' needs and motivation to improve.

"Unfortunately, no... I mean, a careful assessment of a…, of an ideal [solution], no absolutely no. It's all a bit…, it's all a bit informal, quite misleading and, and very confusing, extremely, and it often ends up… We often do fail people in this regard. And I think that's an important thing to change." (Catarina. I2. 28-29, 574-579)

Subtheme 1.2: Establishing a therapeutic relationship is important

When talking about educational strategies and NSPLBP, the participants ended up exploring the patients' beliefs and expectations. Although in concept 1.1.3 the participants consider that they do not objectively assess the educational needs of their patients, in this sub-theme it is possible to see that they do, even though they may not realize it. In their perspective, this is something that can have a strong impact on the patients' acceptance of the strategies that are proposed, as well as the direction that the sessions will take. In this sense, the participants seemed to consider that gaining the patient's trust is a fundamental component of the intervention so that they can address the patient's beliefs and demystify them, as well as manage their expectations in relation to NSPLBP. This subtheme was organized into two concepts: gaining the patient's trust to help address their beliefs and the role of patient's expectations.

Concept 1.2.1: Gaining the patient's trust to help address their beliefs

According to this study's participants, the patient's trust seemed to be an essential step in building a good therapeutic relationship, which was perceived as fundamental for patient education. For Catarina, being a young professional with little experience seemed to make this even more important. As for Nuno, interestingly, he referred to the therapeutic relationship he establishes with the patient as a form of partnership that he calls “friendship”, where the patient realizes that the physiotherapist is looking out for them, increasing their trust.

"Often, when we're young, there is a difference between the, the knowledge shared by an older therapist, who is usually considered to be more experienced, and we, the younger ones, we have to go easy on what we have to go through, because, in first place, we have to establish that relationship of trust, because there's no point in me educating someone and trying to make them understand when it's not going to be assimilated." (Catarina. I2. 8. 149-156)

"But other times we build a good therapeutic relationship based slightly on trust and friendship, as the person often associates us with someone who intends their welfare and to do the best for them. And when we have that, at least I always try to convey that idea, I always want the best for the person, and I want to see the person well. And that gives the person confidence, and I think, that's probably the first step for them to really, for our education strategies to be effective." (Nuno. I5. 16-17. 324-331)

João also attached great importance to gaining the patient's trust, because this seemed to help him deconstructing some of the patient's beliefs about their pain. This seemed to indicate that centering patient education on the patient's beliefs was an important component of patient education to him.

"... that we have to gain the patient's trust first, um... we have to give them some space, um, and we have to try to understand why the person has those, those expectations, and the reasons they mention concerning the pain they feel, um... I think this is extremely important, because then, taking what has been provided to us, taking that information, taking those expectations, those beliefs, we can try to gradually deconstruct them over time." (João. I1. 10. 195- 203).

Paulo also seemed to consider patients' fears and anxiety associated with their condition. The prevalence of pain, the information passed on by other health professionals and the nocebo associated with the condition seemed to put a lot of pressure on the shoulders of physiotherapists, who must demystify and answer the patients' major questions.

"... I think patients are very focused on what the imaging has concluded, and they think that there's a severe damage to their spine because of all those words the patients read without understanding and, therefore, they get overly concerned. I think it's also up to us to simplify these issues and demystify some of the questions they ask." (Paulo. I6. 2. 34-38)

Concept 1.2.2: The role of patients' expectations

According to this study's participants, it seemed to be common to have contact with patients suffering from NSPLBP that come to physiotherapy with very low expectations. They considered that this might be explained by the suffering patients had been carrying around for so long, which seemed to decrease their receptiveness to education strategies as they don't understand their value. For Nuno and João, it seemed to be important to address these expectations to demonstrate the effective work that education can do.

"... the fact that people come with low expectations means that, that um, all my education strategies end up being ineffective because the person doesn't have, um… No, do not need concrete results to be able to believe in what I'm saying. In other words, maybe the main difficulty I experience is to show real benefits or particular results." (Nuno. I5. 12. 241-246)

"... I think, it's extremely important for the person to be able to manage their condition autonomously and, and I think it's important for us to show them that without these educational components, the person won't be able to do this... Of course, it's always very difficult for us to do so and, and, and it is always so hard to say this to a person who has been struggling and having so many biases already, already inherent to their personality. However, I think that patients with chronic pain - with chronic lower back pain - are usually experiencing low levels of receptiveness." (João. I1. 44. 896-903)

According to the Nuno e João's experiences, patients suffering from NSPLBP seemed to have low expectations regarding physiotherapy. On the other hand, Paulo emphasized that the patients

he has worked with expect rapid improvements. In this sense, Paulo shared his struggle to manage what he considered to be patients' unrealistic expectations.

“It's a challenge because they... they've felt this pain for so long, but they expect to get, they expect to recover in a short time. Um, and it's a challenge for me to explain that... that this is something that has to be kept going, and it has to become a habit to be maintained, and it's not something that's going to be resolved with a particular number of sessions. And... and that there will be moments when they're going to feel pain again and explaining this issue… These are tough cases for me." (Paulo. I6. 21. 414-420)

Subtheme 1.3: The impact of work context in the capability to educate

For the participants, the demands of the workplace appeared to be a factor that impacts on patient education. Although all of them considered patient education to be a fundamental intervention, the lack of time to individualize it to each patient was perceived as a problem. Having several patients per hour means that they must prioritize which patients they are going to spend the most time with, what issues to discuss or even change the intervention itself. In addition, the demands of the work context, co-workers and patients also seemed to be perceived as barriers to the integration of education into treatment. This subtheme integrated two concepts: insufficient individualized time with each patient and expectations and barriers within the wider work context.

Concept 1.3.1: Insufficient individualized time with each patient

Some of this study's participants reported working in workplaces that were perceived as demotivating and stressful due to the large number of patients they must treat per hour, which seemed to lead them to question their own clinical practice. João used the expression "here I am" in a defeatist way, when referring to his workplace, as if he had no choice but to accept it. Vanessa also showed a certain exasperation in her voice when talking about the difficult conditions of her workplace.

"It usually varies between three and four patients depending on the time of day and the day of the week. Because many patients don't have that kind of availability and..., well, depending on the day of the week, sometimes I have another four, four patients per hour... It's challenging, it's very challenging, but yet..., here I am." (João. I1. 6. 106- 111)

“...it's very tiring. Oh, and it's very busy. I practically don't have time to drink a cup of water, grab something to eat, or go to the bathroom, in other words, there’s no room for technical breaks, so to speak, um... I

mean, of course I can have some breaks, but due to my sense of responsibility, and not wanting to keep the patient waiting and put the clinic under too much affluence, I choose not to take those breaks. Only when I have to." (Vanessa. I3. 5. 86-91)

Considering the challenges in managing time, some participants reported individual initiatives to deal with this. For example, Nuno came up with a solution, which was to give the patients his telephone number so that, calmly and away from his workplace, he could provide some educational strategies. João was planning to form groups of patients with NSPLBP to delivery education in group.

"... sometimes I've had to, um, provide the person with my contact details so that we could plan things out a posteriori. It did happen a few times. Oh, I once had to talk to a patient on the phone about what changes we could make and how we could manage to implement them." (Nuno. I5. 32. 645-652).

"…considering that I have 3 or 4 patients per hour, trying to schedule the people with persistent low back pain at the same time, because then if, in the, in the early stages if I can do that, I can schedule group educational sessions. And so, I can have two or three people at the same time and I'm seeing all three people at the same time without that stress of having one person waiting" (João. I1. 35. 714-720)

On the other hand, Mafalda reflected on the importance of the one-to-one time she has with patients in private practice, where she can answer any questions they may have at any time, as she is always present.

"... that time is, it's his and it's useful, he has time, and he has space to ask questions about education, to ask if he can do this or if he can't, that's it, (…) I think… that… really the work context is very important for education, without a doubt" (Mafalda. I4. 32-33. 668-674)

Concept 1.3.2: Expectations and barriers within the wider work context

For some of the participants, the team they work with also seemed to impact on the delivery of patient education, as colleagues who do not perceive its relevance tend to criticize those who perform it. João emphasized this idea and reported to perceive pressured to carry out more hands-on treatment.

"... another aspect can also be related to the social pressure that sometimes exists within the workplace itself, in other words, the pressure imposed by co-workers who don't agree on what should be done. Um, and occasional pressure imposed by the management who says that, um..., the treatment should be done that way, as you have to put your hands on (...). There is this pressure therefore, imposed by the management and by the co-workers who show their disagreement and put, put some pressure on the person to stop adopting these, these behaviors." (João I1. 33-34. 681-691)

In some contexts, the lack of physiotherapist's autonomy to make decisions about treatment was also perceived as a problem in delivering patient education. Mafalda demonstrated the frustration she and her fellow graduates felt in their first jobs, where the physiotherapists were expected to follow a medical prescription.

"…I worked with colleagues who had just graduated, and we shared the same, the same experiences and that made us feel frustrated and trapped, (…) that made us feel slightly frustrated and eventually got to the point where we felt a bit sad, and surrounded by that, that same old-fashioned idea of the doctor being in charge." (Mafalda. I4. 27-28. 564-572)

The organization and procedures adopted in some workplaces were also identified as barriers for delivering patient education. For example, Paulo reported that at his job, patients could be seen by a different physiotherapist each day, which means that the contents he approaches are not necessarily followed up by his colleagues.

"I don't know how to explain it well, but..., for example, sometimes it was indifferent to people being with one or another therapist because they were doing the same thing. I don't know, if it wouldn't provide, well, provide me with the encouragement to want to do something differently. It's that context that doesn't, doesn't encourage me to want to explore this area of education, honestly (...) I think it made me feel like... just another one, just one more. Like, I don't know, like I was on an assembly line where it doesn't matter what skills you have, you're just going to do it and that's that." (Paulo. I6. 10. 185-196)

In addition, the privacy afforded by these working environments also seemed to impact on the educational approach, as Nuno mentioned. This lack of privacy could lead the patients restricting themselves from talking about some more intimate topics and restrain the physiotherapist from having an educational intervention.

"… in my working context, as I said, there's a room, there's a room with boxes, and it is divided up by curtains. If I want to discuss particular educational strategies with the person, they don't always feel comfortable doing so because there are other people who might listen. So, I think that's a barrier..." (Nuno. I5. 35. 707-712)

Theme 2: Stepping into the patient shoes- physiotherapists perspectives of clinical encounters

This theme explored how the participants interpreted the way patients look at educational interventions, as this seemed to impact on how patient education is implemented during the rehabilitation process. In this sense, the participants' perceptions of patients' receptiveness and expectations regarding to educational interventions were explored. This theme was formed by two subthemes that are represented in the figure below.

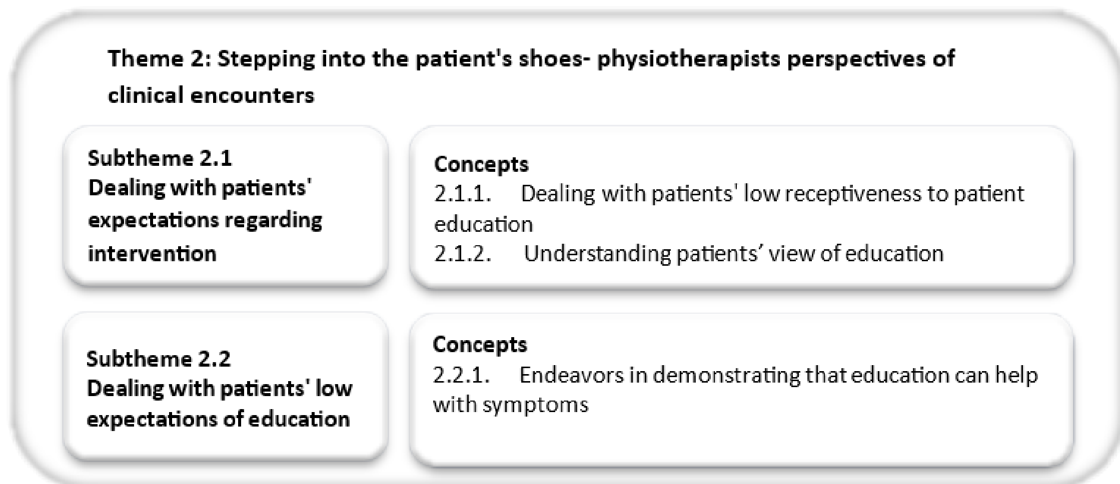

Figure 2: Overview of the sub-themes and concepts included in the second theme.

Subtheme 2.1: Dealing with patients' expectations regarding intervention

In this subtheme, the participants' experience managing patients' expectations of patient education intervention will be explored. Participants report the difficulty of intervening with patients with persistent low back pain, mainly in knowing how to deal with their low receptivity to educational strategies, as well as understanding their point of view regarding education, in order to try to better integrate these aspects into the intervention. Thus, two concepts emerged in this sub-theme: dealing with patients' low receptiveness to patient education and understanding patients' views of education.

Concept 2.1.1: Dealing with patients' low receptiveness to patient education

This study's participants emphasized that some patient's receptiveness to education tended to be low due to factors related to their clinical condition or personal characteristics, such as the severity of symptoms. According to them, these variations in patient receptivity seemed to impact on the success of their intervention. Nuno and Mafalda's excerpts exemplify these ideas.

"... the most receptive people are generally those who have a greater severity or major disability associated with lower back pain. At least I think so. I'm not saying that it is, that it's proven or similar, but at least in my professional practice, I feel that people who have more disabling or more severe persistent lower back pain are more receptive to educational strategies than people who don't, um, and that their persistent lower back pain does not affect their, their, their daily living or daily activities." (Nuno. I5. 38. 777-785)

"…the severity and intensity of the pain, because I feel that if they don't feel any pain, they won't exercise and if they do, as I often say, um, even if you do not feel any pain anymore, you have to keep exercising, because by not feeling that twinge or that constant pain, they end up forgetting to do the exercises and consequently they give up or forget about their strategies. Then, they come back with resurgence, don't they?" (Mafalda. I4. 48. 992-999)

For Vanessa's, the age of the patient may influence their receptivity to active strategies, as in her clinical practice, the younger patients are, usually, the more likely to adhere to education.

"It has a lot to do with the age group and since I work mostly with younger people, I work with few people aged over sixty. I'd say they're very receptive, in fact, some of them even ask me what they can do at home. And that's it, okay, I'll be like, nice! I'm glad they want to manage it, um, so yes, I think it depends on the age group, since younger people are more receptive, and older people are more reluctant." (Vanessa. I3. 25-26. 508-515)

Catarina also contributed to the exploration of factors that might influence patients' receptiveness to patient education by emphasizing the role of patients' beliefs, expectations, and previous experiences in the context of rehabilitation. She reported resistance on the part of the patients to the integration of patient education and active strategies, which may be a contributing factor to the difficulty of approaching with these patients.

"... there is some resistance to people realizing that they are an active element in their condition. Um, it's difficult for people sometimes to realize that their, um, less healthy behaviors have an influence and when we try to make them..., try to make them give an opportunity for behavioral change, there something, you know, from my experience for what it's worth, slightly, slightly, there's a lot of resistance. So, I think there's a lot of, um, assertions on a person being extremely passive in that, in their condition, and that anything but active strategies are going to be the ones that will solve the problem." (Catarina. I2. 30. 600-609)

Concept 2.1.2: Understanding patients' view of education

In order to optimize the potential impact of patient education and, simultaneously, deal with patients' low receptiveness to them, this study's participants seemed to spend some time trying to understand the patients' views about this phenomenon. For Paulo and João, patients bring their own assumptions regarding the treatment that should be delivered, and this usually involves massage or manual therapy and not necessarily education about self-management of pain.

"... in my practice they..., they're a little skeptical about..., about me telling them about possible recovery, not a 100 % recovery, but about self-managing the condition through exercise, and they ask me how is it possible to become pain-free through exercise?" (Paulo. I6. 2-3. 39-43)

"... I feel that there is a lot of bias, the bias concerning, um, and in the case of chronic back pain we need massages, we need to take a hands-on approach, and, and, and, and the idea that patients take from this is that physiotherapy is all about hands-on approach, that the physiotherapy is a technique, which involves massages, a manual therapy..." (João I1. 42. 878-882)

On the other hand, Catarina seemed to consider that when previous assumptions are managed ("demystification of assertions") and education is delivered, it may promote patients' behavior change towards self-management of their condition.

"... The self-management is difficult to understand, so explaining it to someone else is… is even more complex. Um, but I think that from the moment people manage to understand that their behavior actually generates a change, I think they become more capable of..., of managing the condition, so there it is, the educational role once again, producing a, a, a giant impact, on the demystification of assertions." (Catarina. I2. 32. 651-657)

Subtheme 2.2: Dealing with patients' low expectations of education

Dealing with patients' low expectations regarding the effects of patient education seemed to be challenging for this study's participants, who emphasized their endeavors in demonstrating how some strategies might help managing symptoms and in addressing the impact of patients' previous experiences. This subtheme is underpinned by one concept: endeavors in demonstrating that education can help with symptoms.

Concept 2.2.1: Endeavors in demonstrating that education can help with symptoms

Some participants elaborated on their endeavors to demonstrate the relevance of their patient education practice to their patient. For example, João recalled a patient who considered his advice on how to deal with NSPLBP "unthinkable". Nevertheless, the patient decided to follow his advice because he had not seen any improvement in previous experiences. On the other hand, Nuno seemed to raise the idea that accepting advice, does not necessarily guarantee the effectiveness of the intervention.

"... I gave some advice on what the person could or couldn't do to self-manage their condition, and I remember hearing the: "that's almost unthinkable to me, I'm not questioning what you're telling me, but

that, that what you're telling to me about avoiding bed, going for walks, trying to get back to work as quickly as possible, is almost unthinkable" (…) and that's exactly what my patient told me, that "all my life I've been told one thing and now I'm being told another..., but during all this time I haven't seen any improvement, so I'm going to do what you're telling me." This is exactly what he told me. "I'm going to do what you're telling me, even though it's hard for me to understand, because I've been told something completely different all my life"." (João I1. 45. 920-945)

" So, perhaps sometimes they perceive the educational part as something insignificant. That's why I also say that people can often accept advice better, but not, not bring a change in attitude." (Nuno. I5. 40. 817-824)

João also emphasized the challenges in addressing the complexity of the recommendations for doing movement and exercise when patients complain about pain. His question in the end of following excerpt seem to indicate his struggle to deal with this.

"... I think that patients may disbelieve or be slightly skeptical of what self-management strategies for lower back pain consist of... because, I mean, if there's a person who says they feel pain when they move and we tell them that they have to move, without any prior explanation, they're going to look at us and wonder why should they do that if it hurts?" (João. I1. 49. 1012-1018)

For Catarina, it seemed challenging to demonstrate the importance of educational strategies to patients who already had many years of experience with physiotherapy, given their persistent pain condition. She seemed to feel that patients were trapped in a vicious cycle, used to care that is of little value, making it difficult to break that cycle.

"So you've been here for 20 years, how can you say you're feeling fine? (…) "Well, it helps me for a couple of weeks and then, I know I'll come back here, it's my routine, it's my social context, it's my daily life" [Catarina paraphrasing a patient]. This is something that's difficult to instill in people, so the part that they are an element and have to be an active element in their condition. "(Catarina. I2. 30-31. 615-620)

Theme 3: Lack of preparedness for patient education of patients with NSPLBP

This theme explored the lived experience of this study's participants in delivering patient education, with a particular focus on their insecurities, challenges, and perceived lack of preparedness to work with patients with NSPLBP. Participants seemed to perceive the approach to these patients as complex, which seemingly prompted insecurity, lack self-confidence and frustration when the expected results were not achieved. This context seemed to encourage the participants' reflections about their own clinical practice, raising self-questioning about their own knowledge and skills for delivering patient education. They also reflected about the

contribution of their degree in physiotherapy, as well as the importance of continuing professional development. This theme was formed by three subthemes that are represented in the figure below.

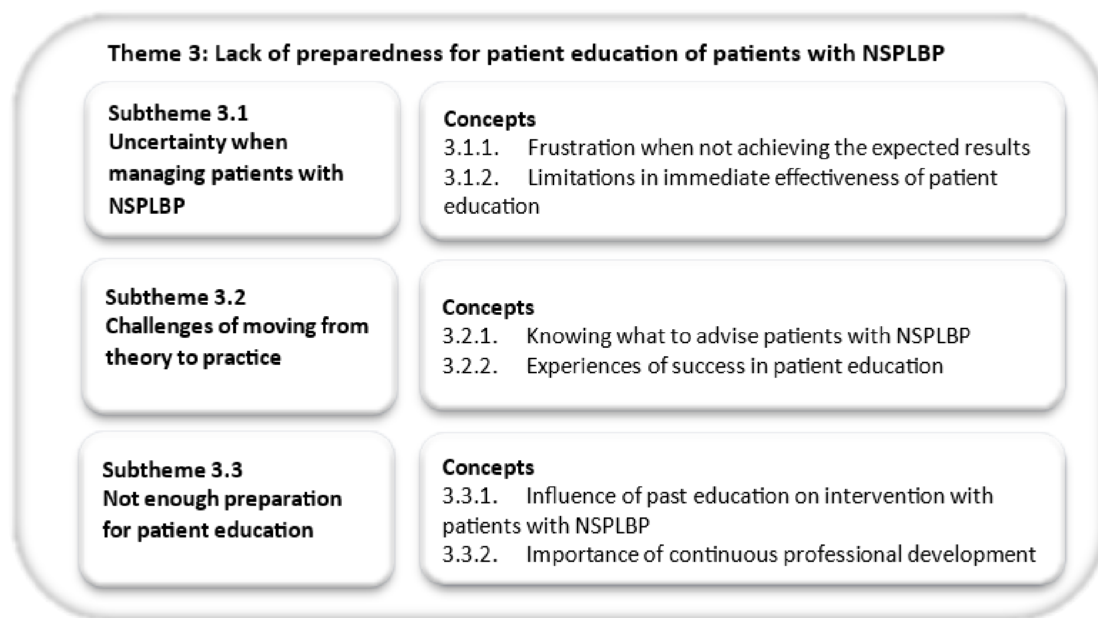

Figure 3: Overview of the sub-themes and concepts included in the third theme.

Subtheme 3.1: Uncertainty when managing patients with NSPLBP

Often, participants shared that their experiences in the workplace did not meet their expectations, as they were not aligned with what they had learned previously in their graduation. This seemed to cause feelings of uncertainty, frustration as well as fear of not being able to provide the best care regarding educational strategies. This subtheme was organized into two central concepts: frustration when not achieving the expected results and limitations in immediate effectiveness of patient education.

Concept 3.1.1: Frustration when not achieving the expected results

Not achieving the expected results with patients with NSPLBP, seemed to prompt participants' feelings of frustration. For example, Nuno expressed annoyance with the perception that not achieving the expected results may indicate someone is not a "good physiotherapist".

"As I said, it is a bit reductive, and incapacitating (laughs). Okay, it's annoying. Imagine, you know, it's, deep down you're working to continue to do the same. Right? In other words, you and we are physiotherapists, we like to know that people have relatively improved, in other words, I like to work on a

condition, see that the person was in a particular state and then, by the end of the course of sessions, this person is feeling much better or recovered or they no longer have any symptoms or they've returned to sports or professional practice. Um, deep down, that's what makes us feel like good physiotherapists." (Nuno. I5. 41. 837-845)

Addressing the impact of psychosocial aspects on patients experiences of NSPLBP seemed to be considered one of the biggest challenges perceived by this study's participants. Dealing with this seemed to be perceived as intimidating, leading participants to avoid talking about this with patients.

"And I confess that initially dealing with people with chronic pain was extremely challenging, it is still, it is still , but at that time it was..., it was a, it even could make one feel felt intimidated, I can., I confess this, I felt intimidated knowing that I was going to be dealing with someone with a problem that had lasted for many years, a, people with assertions and who have already, have already developed all these characteristics. I confess that sometimes it felt intimidating. I felt really intimidated..." (João. I1. 25. 510-518)

"...perhaps something I don't address much is the psychosocial component. For example, I don't talk about the family context they're in. I don't usually, I don't usually deal with personal problems or emotions. It's something I don't usually deal with, it's something I find more difficult to deal with." (Paulo. I6. 15. 302-307)

For Vanessa, it was difficult and frustrating to deal with the fact that the patient doesn't understand why she is advising certain strategies. Despite this, she strives to understand the patient's side of the story, as this is important for better adapting future strategies.

"... I basically accept it, because they're different mentalities (…) I'm not outraged, clearly, it's not that, but I am. ... it's acceptance and trying to put myself in the person's shoes, that it's legitimate not to understand, it's legitimate not to understand why they're doing it and why a person, even a very young person, is asking to do it and to move." (Vanessa. I3. 24. 483-491)

For Catarina, the challenges in addressing psychosocial factors seemed to serve as fuel for her desire to improve and motivation to continue doing more and better for her patients.

"… although it has been frustrating, it's not something that..., this may sound a bit strange, but it's not something that puts me off. Oh, it's not something that makes me give up, like [thinking] maybe this specific person is not worth trying. No, it is quite the opposite. It's something that..., that makes (…) trying to figure things out, and it is very difficult to try to figure out the flaws, and why didn't it work out with that person, what is it about that person that might not be working out, and then it forces you to try to figure it out, even if it's just about trying to talk to other co-workers." (Catarina. I2. 26. 526-534)

Concept 3.1.2: Limitations in immediate effectiveness of patient education

Seemingly, experiencing frustrating and challenging situations while working with patients with NSPLBP lead to physiotherapists feeling limitations in immediate effectiveness of intervention. In João's case, this led him to reflect on what he could do differently to improve his clinical practice. Discussing his experiences with peers seemed to be important for João, as it was for other participants.

"Well, at the time, I asked myself a lot of questions about what I'd done wrong. Um, because I try not to, I always try not to blame the patient. I always try to understand what I could have done differently. What did I do wrong, what could I have done differently, and how could I have acted differently? Oh, was it the way I spoke to the person, was it the information I provided to them? This was something that stayed with me, and that stayed in my head for a while. It was something that I discussed with some colleagues, um... I asked them if, if they had ever been in this situation, um, and they answered affirmatively. " (João. I1. 22-23. 458- 467)

Sharing their experiences with the leading researcher, seemed to have encouraged participants to reflect about the impact of their personal characteristics and skills on the effectiveness of the healthcare provided to patients with NSPLBP. For example, Paulo considered that his difficulty in dealing with patients' emotions might affect the effectiveness of his intervention. João also attributed the experience of losing a patient to his difficulty in delivering patient education.

"I don't feel comfortable talking about emotions with people. I think it's difficult for people to talk about it. I think, sometimes they need to talk but I don't feel comfortable. I don't know what to say. And sometimes it could be important to explore these aspects..., but this emotional part has never been my strong point." (Paulo. I6. 15-16. 309-313).

"… at the time it happened to me, so I lost that patient about three months after my graduation (sigh). Um, I remember, at the time, I felt extremely sad, I think it's normal, right? Um, and I also spoke to, I spoke to some colleagues I studied with, from the same class. And they told me the same thing about, um, patients with chronic pain, um, and many of them with lower back pain, that they also have lost and also experienced a lot of difficulties, um, in intervening at an educational and at a behavioural level, um... It's very difficult, it's really difficult, and it keeps getting difficult if we don't possess those grounds." (João.I1. 28. 574-584)

Subtheme 3.2: Challenges of moving from theory to practice

Although the participants mentioned their attempts to inform clinical practice with scientific evidence, they seemed to face challenges in the transition from theory to practice. Nevertheless,

they also report positive experiences in this context. This subtheme integrated two concepts: knowing what to advise patients with NSPLBP and experiences of success in patient education.

Concept 3.2.1: Knowing what to advise patients with NSPLBP

For this study's participants, although counseling is one of the most used strategies, knowing what to advise patients with NSPLBP seemed to be challenging, since each person's beliefs, individuality, expectations, and symptoms must be considered. For Mafalda, it was difficult to give advice to patients on how to deal with something she herself had never experienced.

"... sometimes I feel that I have a hard time giving any advice and understanding if that is the right thing for that person (…) Obviously, the literature is helpful and it helps me to…, to instigate this, to reach a consensus on what I'm going to do and that's what I can advise. However, sometimes I feel that in the educational terms, I feel that if I went through [those situations], maybe I would be able to help more, and together with the literature, I would be able to have more confidence in what I convey to the patient in terms of the educational contents". (Mafalda. I4. 23. 466-475)

Nuno also highlighted challenges in identifying the most relevant topics to address patient education, when he met his first patient with NSPLBP.

"... the first…, the first patient with lower back pain I had was almost a year after I graduated, but even so, I think it was interesting because I didn't have much idea of what I could advise, or what strategies I could try to apply to this person. For example, it's easy to say that you should lose weight, or I think the major difficulty I sometimes had was about the ways of approaching the subject." (Nuno. I5. 17-18. 347-356)

Something common among the participants was that, despite their perceived difficulty in giving advice, explaining certain concepts or communicating, they were certain that self-management of the condition should be a priority. Even when there wasn't enough time for the rest, teaching active strategies for managing pain daily is something Vanessa encouraged her patients to do. Paulo also gave an example of a patient with whom he managed to intervene with self-management strategies.

"... I end up giving very, very basic and quick muscle strengthening exercises, more for the lumbar muscles, two exercises, no more, and then maybe two stretches for the muscle chain that I strengthen. Ah, always the "stop for 5 minutes, while you're taking your coffee break try to do at least the stretches if you're in the office and if you're at home also the muscle strengthening ones". In other words, I have to raise awareness." (Vanessa. I3. 8. 157-164)

"... I gave her strategies so that she could manage the problem better (…) until she herself acquired some equipment and said that, ready, she was prepared to manage her condition at home, that she was already

much better, she only had, she only had some pain, a small pain she could perfectly manage at home." (Paulo. I6. 19-20. 390-397)

Concept 3.2.2: Experiences of success in patient education

Despite the challenges faced by this study's participants, they also reported examples of clinical cases in which the expected results were achieved. For example, Paulo described one of those examples, although he tended to be cautious as he was aware of the possibility of exacerbation.

"It makes me feel good because, um... I don't know, sometimes it's very difficult to get results in these, in these cases of persistent lower back pain because, particularly during the early stages when they start to exercise, and they actually do. Sometimes they can have some exacerbation and it becomes difficult to adhere to the treatment, and you always must want to, I mean, always... I don't know how to explain it, it can become difficult because, because of those same exacerbations, we have to find the right dosage for that person. And sometimes it takes a while..." (Paulo. I6. 20. 403-420)

Nuno emphasized a sense of "reward" when he managed to have an impact on the patient's life. This seemed to be perceived as the result of his capability to manage the therapeutic relationship and gain the patient's trust.

"Because sometimes it's through educational strategies, at least I speak for myself, I think, it is rewarding when we manage to change a person's life. I'm not just talking about the pain, but changing those, those habits. It's because people really do trust us, and it brings us pleasure and makes us feel really important." (Nuno. I6. 15. 291-297)

Seemingly, the participants considered reflection about clinical practice as relevant for the improvement of their performance. Mafalda and João excerpts exemplify this idea:

"But I try to understand what it is, what if there was something in my communication, doing a bit of retrospective work here, to understand what failed, what I could have changed, if there was something I did differently with that patient. I also could be having a bad day and not have communicated in such a correct way and try to change that afterwards." (Mafalda. I4. 43. 888-894)

"… there isn't a day when I don't think about it too, about, about, about how much, when we think about professional development, I think, we always think about our mistakes and we always try to evolve, to be better. Oh, I can't say that, and, and I hate to think that I am, that I am much better, I think, I think we have to be humble, but I do think I'm better and I think that the, the, the training, the experience I've had over time has also helped me a lot in this respect." (João I1. 24. 486- 494)

Subtheme 3.3: Not enough preparation for patient education

This sub-theme addressed the perceived influence that the undergraduate degree seemed to have on the participants' approaches to patient education with patients with NSPLBP, as well as the importance of continuing training so that knowledge remains up-to-date and based on the latest evidence. Two concepts underpinned this subtheme: Influence of past education on intervention with patients with NSPLBP and the importance of continuous professional development.

Concept 3.3.1: Influence of past education on intervention with patients with NSPLBP

The participants' opinions on the importance of the undergraduate degree in preparing them for professional life and educational intervention were unanimous in the sense that it was thanks to the undergraduate course that they realized the importance of this subject. For Nuno and Vanessa, the skills to communicate and establish a good therapeutic relationship, learnt from the undergraduate course, seemed to have a positive impact on patient education.

"... what I feel is that the course has influenced in having a better sense of putting ourselves in the person's position, through those strategies of active listening, non-verbal communication, all those communication strategies, um... first they make us understand if the person is available or not, so that we can try to implement our educational strategies." (Nuno. I5. 24. 480-485)

"... without a doubt, it was an, an, an approach that I had never, never thought of and that the undergraduate course did focus on it and that I realized, and that made sense to me and that I enabled me to apply both in Portugal and abroad and that actually, while speaking in comparison with Erasmus, I was able to see positive effects in terms of education." (Vanessa. I3. 16. 309-314)

Mafalda also mentioned the importance of her university degree in acquiring strategies for sharing information and presenting content to her patients.

"...it helped me a lot because it's much easier to make a digital flyer and send it to patients than to do it on paper, like writing a few things and saying, do this. Even for the patient, it's more attractive, it's more, it's more... it's like everything, right? And I took it from my undergraduate course. I wasn't the one who remembered to do it by recreation." (Mafalda. I4. 32. 648-653)

Nevertheless, participants seemed to consider that training about patient education, particularly focused on NSPBLB was "not enough", as Catarina expressed in the following excerpt. In this context, João emphasized the importance of integrating roleplays to patient education into the undergraduate course.

"... it influenced us in a certain, certain positive way. It wasn't something that was explored in-depth, but... um, from what we had the opportunity to experience and hear, I think the insight it gave us was about an extremely important component. But... I think that the implementation is slightly failing (...) at the time we had lessons on pain, but they weren't enough. I think that's the right word. They were not enough, and I think that could be improved." (Catarina. I2. 19. 345-372)

"... we talked about various educational strategies, um educational, in theory, different ways of being able to apply theoretical knowledge to the person, counselling, but there was no practical issue and I think it was important to have this practical issue, even, I'm not saying it's only on chronic pain, but this issue of role play, for example, of giving feedback, giving ideas on how we could turn around some complex situations, like this one, for example, where we're losing patients, which, which I think is fundamental so that in the future, the next physiotherapists don't feel so adrift or so left out in the real world, as it can sometimes happen. " (João. I1. 28. 564- 574)

Concept 3.3.2: Importance of continuous professional development

All participants seemed to agree on the importance of developing their competence for delivering patient education in the management of NSPLBP. The post-graduated study and self-study were identified as the most adopted strategies. This seemed to be a necessary complement to their intervention since they reported not being sufficiently prepared to intervene with these patients. Mafalda excerpt shows the importance of the master's degree to change her practice. João excerpt shows how he continues his search for ongoing professional development, taking courses in his area of interest.

"... by having had the curiosity and by having had…. the attitude of wanting to know more, that's why I also, that's why I also signed up for the training program, that's why I also signed up for the pain course because I think, I think it's, it's fundamental that we know how to act in all, in all fields and we know perfectly well, um, that when we're intervening with, with a patient, no, no... the patient is not a condition, right? Um... so, I think that's fundamental." (João. I1. 8. 148- 155)

"... I also joined the master's program (…) but by having contact with SPLIT, with the SPLIT project, during my master's degree course, made a huge change in my form of intervention, especially in lower back pain, because that's right, the SPLIT is really intended for lower back pain, right? I had a lot of the educational component concerning other conditions and concerning lower back pain too. However, I started to have other strategies and I was able to have another educational approach with the patients after he SPLIT." (Mafalda. I4. 5-6. 97-109)

Nuno, on the other hand, demonstrated to have a self-taught side, focusing on self-study as a strategy to improve his knowledge, by reading papers that enlighten him about patient education.

"... reading a bit more about it. Perhaps the literature I've been focusing on more now is about the intervention itself. I think that maybe I should read a bit more about educational strategies and maybe I sin a bit there too because I don't have the opportunity to sit down at the computer and read about it." (Nuno. I5. 37. 746-751)

4. Discussion

4.1. Overall discussion

This study is the first to explore new-graduate physiotherapists' experiences of patient education practice in the management of non-specific persistent low back pain. The findings indicate that although the participants understand the importance of patient-centered practice and patient education in their clinical practice with patients with NSPLBP, they face several challenges to its implementation. Some of these challenges are in line with previous research (Forbes & Ingram, 2019; Santos et al, 2022; Sanders et al., 2013; Stoikov et al, 2020). This section is organized according to the main themes generated from data analysis. Despite this, and bearing in mind the principles of IPA, the parts should not be dissociated from the whole, but rather help to understand it better (Smiths et al, 2022).

Although all the participants showed a willingness to review their transcripts and preliminary analysis, as part of "member checking" strategy presented in chapter 2, replies were only received from three participants, who approved the information.

Theme 1: Keeping the patient in the center of education is challenging

In this theme the new-graduate physiotherapists' experiences delivering education to patients with NSPLBP were explored. Adapting and personalizing educational strategies to patients with NSPLBP seemed to be challenging, as participants considered that they did not have the enough experience or knowledge to do it effectively. These findings are in line with previous research, which stated that when reflecting on their preparedness for practice patient education, new graduates strongly recognized a need for more practical experience (Forbes & Ingram, 2019). Participants perceived NSPLBP as a difficult condition to manage, given its symptomatic variability and the impact it has on patients' lives. Seemingly, the assessment of patients' educational needs was a common challenge faced by this study's participants. Despite being recognized as an essential dimension in a patient-centered approach to education, physiotherapy curricula are often less developed and structured in this area, compared to the assessment and management of the physical dimension of the patient's condition (Jones & Rivett, 2019; Santos et al, 2022). Additionally, the assessment of psychosocial dimensions, considering a biopsychosocial framework, was also perceived as an underdeveloped competence by this study's participants. Previous research has already demonstrated that physiotherapists reflect on insufficient training to effectively address psychosocial aspects of the NSPLBP experience with patients, despite recognizing its relevance and impact on chronicity

(Sanders et al., 2013). The same authors found that physiotherapists often claimed that these problems fell outside of their immediate scope of practice, which is not the case of participants of the present study, who consider these factors to be within their action. Despite these difficulties, physiotherapists acknowledged the importance of engaging in negotiations with patients about the full range of biopsychosocial obstacles to recovery, though they did not feel they possessed adequate skills or training to deal effectively with psychosocial obstacles specifically, as previous evidence has found (Sanders et al, 2013). This study's findings are in line with previous research, as the participants seemed to face challenges in managing patients' beliefs and expectations about their condition when delivering patient education. Nevertheless, this study suggests that the participants ended up assessing some of these components, although not in a structured way, without realizing it and possibly not integrating them into treatment. According to these participants, knowledge and skills for the development of a positive therapeutic relationship based on trust and the capability of understanding patients' expectations seemed to have major relevance. Physiotherapists undergraduate training has been predominantly focused on addressing patients' symptoms, with patients' beliefs being seldom identified or addressed (Main et al., 2010). The findings of this study suggests that greater attention should be paid to these aspects during the undergraduate program, so that when entering professional practice, physiotherapists feel better prepared to treat patients with NSPLBP.

The work context emerged as a central and critical aspect of patient education in the context of NSPLBP. Despite the participants' different workplaces, the challenges experienced seemed to be similar and exerted a powerful influence on novices, in their first years of practice. According to Black et al (2010) it has the potential to influence novices in either a positive or negative direction, depending on their perception of acceptance in the community and support for his or her development by coworkers. For this study's participants, having time to spend with the patient, to explore their beliefs, doubts, expectations, and knowledge about their condition seemed to have major relevance in the delivery of patient education. This turned out to be an additional and demotivating stress factor, as they could not give each patient the attention they needed. In line with previous research, new graduates need additional time to bridge the divide between what they knew and valued as good care, and their capacity to embody these values and skills in a new setting through practice (Wells et al., 2021). This study's participants considered that the working environment itself affect the educational approach they can take with patients. Lack of privacy, having to carry out practices they do not agree with and lack of support from more experienced colleagues were some of the factors identified. Previous

research carried out in Australia has found that working with others helped novice physiotherapists to create a comfortable working environment and assisted in further developing their skills (Davies et al., 2016). In the Portuguese context, new graduates may start their professional lives typically without a formal support or mentorship from senior physiotherapists, and they may be responsible for complex clinical conditions, such as NSPLBP (Santos et al, 2022). Research from other countries, such as Australia, has supported the need for a formal mentorship from experienced physiotherapists, as to help new graduates in gaining experiences and learning, and dealing with challenging situations (Davies et al, 2016; Forbes & Ingram, 2019; Stoikov et al, 2020).

Theme 2: Stepping into the patient's shoes- physiotherapists perspectives of clinical encounters

Understanding the patient's beliefs, perspectives and receptiveness to patient education emerged as an important topic for physiotherapists in this study. From their experience, patients seem to have a low receptivity to patient education, which may be related to their beliefs, and expectations regarding physiotherapy. Research indicates that patients' responses to NSPLBP are influenced by their beliefs about pain. These beliefs may be formed under the guidance of health care providers (HCPs), highlighting the significance of the HCPs' own perspectives on those of the patient (Sieben et al, 2009). Thus, patients' and the physiotherapist's beliefs can influence each other and may impact the intervention. Previous research has demonstrated that patients' goals do not necessarily match those of health professionals (Scheermesser et al., 2012). In Portugal, a study focused on the experience of patients with NSPLBP suggested that clinical encounters may not successfully address patients' search for meaning and control over their pain (Caeiro et al, 2022). Providing advice without fully understanding patients' beliefs could lead to poor ‘concordance’ or recovery from NSPLBP, as patients tend to respond negatively to clinical recommendations that do not sufficiently connect with their experiences (Sanders et al, 2013). Hence, understanding patients' perspectives regarding physiotherapy may help physiotherapists to better adapt their educational approach.

Previous research has suggested an apparent disconnection between what physiotherapists perceive to be clinically helpful health advice and patients' own beliefs towards managing back pain (Sanders et al., 2013). Participants within the current study felt that their patients were challenged with patient education, forming assumptions that patients have poor beliefs that education would help them with their condition. Regardless of language and culture, some

patients with persistent pain find it difficult to understand, accept and adopt the educational advice (Scheermesser et al, 2012). This study's findings suggested that when participants work with patients with NSPLBP, they had to deal with expectations from previous experiences in physiotherapy. These expectations seemed to shape how patients respond to the intervention and their receptiveness to educational strategies. These factors seemed to impact on the way physiotherapists viewed patients, and how far they were prepared to persist with those who perhaps were not making progress as expected or who were unwilling to follow clinical recommendations. Lack of progress was sometimes construed as refusal by the patient to follow the physiotherapist's clinical recommendations (Sanders et al., 2013). These responses may reflect a wider perception of NSPLBP as attracting largely negative stereotypes of sufferers, and which potentially detract from a person-orientated approach to management. Such views could lead to the marginalization of patients' concerns, with greater clinical attention invested in those who appear to want to follow clinical advice (Sanders et al., 2013).

Some practitioners, despite perceiving patient hesitation, believe that educating patients can facilitate their engagement in active strategies and self-management of their condition. This approach seems more effective with younger and physically active patients, who are naturally inclined towards movement. However, our study does not delve into the reasons for varying patient receptiveness to education, as it primarily examines physiotherapists' perspectives and experiences. Nonetheless, the findings underscore the importance for physiotherapists to acknowledge the potential underestimation of patient capabilities and to appreciate the unique insights patients possess regarding their needs, preferences, and life circumstances (Mudge et al., 2014).

Theme 3: Lack of preparedness for patient education of patients with NSPLBP

This theme focused on the lived experience of recently graduated physiotherapists and their challenges when delivering education to patients with NSPLBP. This study's findings suggested that the challenges faced by the participants originate from feelings of frustration and, fear of not providing the patient with the best possible treatment. The transition from student to new graduate has been proved challenging with changes in caseload volume, complexity, and autonomy alongside managing their own expectations, suggesting that new graduates can feel overwhelmed and ill prepared for their new role (Stoikov et al, 2020). These challenges were also identified in a previous study focused on the Portuguese novice physiotherapists and were related to a lack of training in the complex aspects of patient education (Santos et al, 2022).

Nevertheless, previous research carried out in Australia stated that new graduate strengths, such as “enthusiasm and readiness to learn” and “contemporary and research-informed knowledge”, may assist their learning and lead to practice benefits (Wells et al., 2021). In this study, the participants seemed to face challenges in applying academic knowledge in clinical practice.

The first two years of physiotherapy practice, regardless of setting, involve significant learning (Wells et al., 2021). New graduate physiotherapists report excessive stress at times associated with their new roles and their own performance expectations (Stoikov et al, 2020). The challenges experienced by this study's participants could be related to a lack of perceived readiness to deal with a complex condition like NSPLBP. A previous study with novice Portuguese physiotherapist highlighted that the development of their clinical reasoning was essentially structural and focused on diagnosing, which may suggest that novice physiotherapists do not have all the necessary skills to achieve patient-centered education practice (Santos et al, 2022). This may explain the participants' perceived needs in developing their competences to deliver patient education, particularly focused on making decisions about the most relevant contents, communicating with patients and addressing their beliefs and expectations. Even though Lin et al. (2020) stated that patient-centered care is often undervalued, under-recognized, undertrained and considered less important than technical skills/knowledge, participants in this study seemed to have a different perspective, showing concerns about their communication skills, which they consider to be underdeveloped.

This study's findings also shed some light into the impact of undergraduate training in the new-graduate experiences of delivering patient education in the context of NSPLBP management. This study was conducted with physiotherapists from the Health School of the Polytechnic Institute of Setubal, where the physiotherapy degree has included patient-centered practice and patient education in its curriculum, to develop narrative and collaborative reasoning of future physiotherapists. As such, the students were presented with scientific and literary texts to critically analyze and challenge their therapeutic relationship with their patients. Support to a better understanding of patients' illness experiences was also provided, using the development and interpretation of illness narratives as a key strategy to help students transform their healthcare practice (Caeiro et al., 2014; Cruz et al, 2014). Although this study's participants considered the undergraduate degree to be an important basis for their practice, they perceive that it did not provide them with sufficient tools to provide patient education to patients with NSPLBP. This shows a recognition that managing patients with NSPLBP requires a wide set of skills that necessitate ongoing learning and training for those with limited clinical experience (Forbes & Ingram, 2019). Continuing education seemed to a priority to this study's participants,

which is in line with previous studies (Forbes et al., 2017; Wells et al., 2021). Some participants also emphasized their desire to use professional literature and other structured educational opportunities to advance their learning (Black et al, 2010). The richest sources of learning seemed to come from work experience itself and communications and interaction with coworkers, mentors, patients, and caregivers in everyday practice (Black et al, 2010). Postgraduate or master's degrees also appear as options for participants, as well as specific short-term courses to improve their skills.

4.2. Study limitations

Given the type of study carried out, some limitations must be taken into account. The number of participants included in the study can be seen as a limitation. However, the nature of the IPA study must be considered. The aim of IPA is to understand the essence of a social phenomenon from the perspective of those who experienced it, examining how an individual attributes meaning to a given experience (Ng et al., 2019). Consistent with the idiographic approach, small samples are commonly advocated for IPA studies to better understand the particular in each participant (Smith et al., 2022).

Considering that the aim of an IPA study is not to generalize the results, but to gain an in-depth understanding of a given phenomenon, this study's findings should be considered in terms of transferability (Smith et al., 2022). Bearing this in mind and to make the results easier to understand and use, a description of the study context has been provided, as well as the characteristics of participants. Smith et al (2022) suggested that if the research account is rich and transparent enough, and sufficiently related to current literature, the reader should be able to assess and evaluate transferability.

The method used to recruit the sample could also be considered a limitation of the study. Since those interested had to contact the lead investigator, this may have meant that only physiotherapists interested in the topic under study were recruited.

Finally, the inexperience of the lead investigator could also be a limitation of the study, especially in carrying out the interviews and analysis. This aspect was tried to be minimized by training in interviews with physiotherapists before the start of the study, as well as by the researcher triangulation and the development of an audit trail (appendix E and appendix F).

4.3. Future research

This study focused on the participants' lived experience of patient education practice in the management of NSPLBP. It may be important to observe recent graduates in the assessment and intervention of patients with NSPLBP, to understand how the barriers perceived may influence the outcomes of patient education practice.

Considering the apparent dichotomy of research into what seems to be the physiotherapist's and the patient's idea of the best intervention for NSPLBP, there is a need to conduct direct observations of physiotherapist-patient consultations to compare clinicians' and patients' accounts with actual practice.

Since recent graduates' report experiencing difficulties in navigating barriers to the implementation of patient education, future research should attempt to understand how undergraduate training can better prepare them for clinical practice.

5. Conclusion

This study sought to explore the new-graduate physiotherapists' experiences of patient education practice in the management of non-specific persistent low back pain. It aimed to take a further step towards understanding the educational intervention carried out by recent graduates, their difficulties, needs and preparation for patient education.

NSPLBP is the most prevalent musculoskeletal condition and patient education is recommended in conservative treatment. Although patient education is perceived as a fundamental component of the physiotherapist's ambit, new graduates raise the issue of not being sufficiently prepared to do it effectively. Lack of experience, difficulty in effective communication, the pressure from work context and dealing with the receptiveness of patients are considered barriers that affect their experience. The recent graduates of this study report a lack of knowledge and experience in the intervention of patients with NSPLBP and patient education strategies. This seems to indicate that additional training may be needed in the undergraduate program to address these needs.

The transition from student to physiotherapist can be a stressful process and these barriers lead to feelings of anxiety, insecurity, fear of making mistakes or not having the best interventional approach.

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Appendices

Appendix A. Study explanatory letter

Carta Explicativa do Estudo

Título do Estudo: *Experience of Portuguese New-Graduate Physiotherapists in the use of Patient Education with Patients with Persistent Low Back Pain - An Interpretive Phenomenological Analysis*

Título do Estudo: Experiência dos Fisioterapeutas Portugueses Recém-Licenciados na utilização de Educação ao Paciente na intervenção de utentes com Dor Lombar Persistente- Uma Análise Fenomenológica Interpretativa

Caro(a) Fisioterapeuta,

O meu nome é Andreia dos Santos Pombares, Fisioterapeuta e estudante do 2º ano do Mestrado em Fisioterapia– Condições Músculo-esqueléticas, lecionado em parceria pela Escola Superior de Saúde do Instituto Politécnico de Setúbal (ESS-IPS), a Nova Medical School/ Faculdade de Ciências Médicas (NMS/ FCM) e Escola Nacional de Saúde Pública da Universidade Nova de Lisboa (ENSP-UNL). De momento, encontro-me a conduzir um estudo intitulado "Experience of Portuguese New-Graduate Physiotherapists in the use of Patient Education with Patients with Persistent Low Back Pain - An Interpretive Phenomenological Analysis" desenvolvido no âmbito do projeto de investigação do curso de Mestrado em Fisioterapia– Condições Músculo-esqueléticas, lecionado em parceria pela Escola Superior de Saúde do Instituto Politécnico de Setúbal (ESS-IPS), a Nova Medical School/ Faculdade de Ciências Médicas (NMS/ FCM) e Escola Nacional de Saúde Pública da Universidade Nova de Lisboa (ENSP-UNL), que conta com a orientação da Professora Doutora Carmen Caeiro e coorientação da Professora Doutora Roma Forbes.

Gostaríamos de convidá-lo(a) a participar neste estudo. Antes de tomar qualquer decisão, é importante que compreenda as razões pelas quais este estudo está a ser conduzido e o nível de envolvimento que lhe é pedido. Por favor, utilize o tempo que necessitar para ler a informação que se segue. Poderá falar com outras pessoas sobre este estudo, se o desejar.

Se algum aspeto não for claro ou se desejar mais informação por favor não hesite em colocar-nos as suas questões. Utilize o tempo que necessitar para decidir se deseja ou não participar neste estudo.

Parte 1 | O propósito do estudo e o nível de envolvimento que lhe é pedido

Qual é o propósito deste estudo?

O propósito do estudo é explorar a experiência na utilização de educação ao paciente na intervenção de utentes com dor lombar persistente. Mais especificamente, pretende-se compreender a experiência da transição de estudante para Fisioterapeuta nos primeiros dois anos de trabalho, com enfoque principal na experiência da utilização de estratégias de educação na intervenção com utentes com dor lombar persistente.

Por que fui convidado(a)?

Foi convidada(o) para participar neste estudo por ser um(a) Fisioterapeuta recém-licenciado(a) (≤ 2 anos de prática profissional), que concluiu a sua licenciatura na Escola Superior de Saúde do Instituto Politécnico de Setúbal, que trabalhe quer no setor público ou privado, maioritariamente em condições Músculo-Esqueléticas, nomeadamente com utentes com dor lombar persistente.

Tenho mesmo de participar?

A decisão de participar é sua. Iremos descrever-lhe o estudo ao longo desta ficha informativa. Terá o tempo que necessitar para a ler e colocar questões. Apenas serão incluídas as pessoas que derem o seu consentimento informado. É livre de desistir do estudo a qualquer momento, sem que tenha que o justificar, podendo contactar a investigadora principal através do e-mail disponibilizado no final deste documento, informando da desistência da participação. No caso de já ter integrado o estudo e realizado a entrevista, poderá de igual modo desistir de participar no estudo, sendo os dados recolhidos imediatamente destruídos.

O que acontece se aceitar participar?

Após a assinatura do consentimento informado será convidado(a) a realizar uma entrevista individual, em formato online, na plataforma Zoom. A entrevista tem duração mínima prevista de 45 minutos e máxima de 90 minutos. Durante a entrevista, serão explorados aspetos da sua formação académica e formação contínua, assim como da sua prática clínica, particularmente na intervenção com utentes com dor lombar persistente. A entrevista será gravada em formato

de áudio, para possibilitar a transcrição e posterior análise dos dados recolhidos durante a mesma.

Quais são as possíveis vantagens em participar?

A sua participação neste estudo irá ajudar-nos na avaliação e análise da experiência vivida pelos fisioterapeutas recém-licenciados Portugueses na sua prática clínica com utentes com dor lombar persistente, nomeadamente facilitadores e barreiras para a mesma. Não lhe podemos prometer que este estudo a(o) ajude de alguma forma. Contudo, podemos garantir-lhe que a informação que retiramos dele irá permitir uma reflexão acerca das dificuldades e facilidades sentidas pelos fisioterapeutas portugueses recém-licenciados, que poderão contribuir para refletir sobre os programas curriculares do curso de Licenciatura em Fisioterapia em Portugal, principalmente no que diz respeito ao desenvolvimento de competências para a intervenção com utentes com dor lombar persistente.

Quais são as possíveis desvantagens em participar?

Os procedimentos descritos para a realização deste estudo não apresentam riscos associados, pelo que, não são esperadas quaisquer implicações negativas para as pessoas que participarem neste estudo.

E se houver algum problema?

Se desejar obter informação adicional sobre qualquer aspeto deste estudo, poderá contactar a investigadora responsável, Andreia dos Santos Pombares, através do endereço 210512015@estudantes.ips.pt, ou a orientadora científica do estudo, a Professora Doutora Carmen Caeiro, através do endereço carmen.caeiro@ess.ips.pt.

Se desejar fazer uma reclamação poderá contactar a Comissão de Ética do Instituto Politécnico de Setúbal, através do endereço comissao.etica@ips.pt.

A minha participação neste estudo será confidencial e anónima?

Sim. Toda a informação recolhida sobre si será mantida em estrita confidencialidade e será mencionada de forma codificada e anónima. Será utilizado um sistema de codificação da sua identidade, que permitirá que o estudo funcione em anonimato, através da atribuição de um nome fictício. Os dados recolhidos serão armazenados numa pasta protegida com password, no computador pessoal da investigadora principal.

O que irá acontecer às informações que eu der sobre mim?

A informação que transmitir durante a entrevista será gravada em formato áudio e transcrita com o intuito de ser analisada posteriormente, sendo atribuído de imediato um pseudónimo para garantir o seu anonimato. As gravações e transcrições serão preservadas por um período máximo de cinco anos após o término do estudo.

O que irá acontecer com os resultados deste estudo?

Os resultados do estudo serão apresentados em contexto de apresentação do Trabalho de Projeto do Mestrado em Fisioterapia - Condições Músculo-Esqueléticas, nunca sendo os participantes identificados de forma individual.

Os resultados serão utilizados exclusivamente para fins de investigação e poderão ser publicados em revistas científicas. Não será mencionada a sua verdadeira identidade em qualquer circunstância.

Obrigado pela sua atenção,

Andreia dos Santos Pombares

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Appendix B. Consent form

Declaração de Consentimento Informado

Título do Projeto: *Experience of Portuguese New-Graduate Physiotherapists in the use of Patient Education with Patients with Persistent Low Back Pain - An Interpretive Phenomenological Analysis*

Título do Projeto (em português): Experiência dos Fisioterapeutas Portugueses Recém-Licenciados na utilização de Educação ao Paciente na intervenção de utentes com Dor Lombar Persistente- Uma Análise Fenomenológica Interpretativa

Investigador Principal/Responsável pelo Projeto: Fisioterapeuta Andreia Pombares

Orientadores Científicos: Professora Doutora Carmen Caeiro e Professora Doutora Roma Forbes

Este estudo enquadra-se na Unidade Curricular de Trabalho de Projeto do 2º ano do Mestrado em Fisioterapia em Condições Músculo-Esqueléticas lecionado em parceria pela Escola Superior de Saúde do Instituto Politécnico de Setúbal (ESS-IPS), pela NOVA Medical School/ Faculdade de Ciências Médicas (NMS/FCM) e pela Escola Nacional de Saúde Pública da Universidade Nova de Lisboa (ENSP-UNL).

Li e compreendi a ficha informativa. Foram-me explicados o objetivo e procedimentos envolvidos no estudo. As minhas questões foram esclarecidas de forma satisfatória.

Compreendi que a minha participação é voluntária e que sou livre de abandonar o estudo em qualquer momento, sem qualquer consequência, prejuízo e sem necessidade de justificação, podendo, se assim o entender, enviar um e-mail à investigadora responsável.

Sei que a informação referente à minha identificação pessoal será mantida anónima e confidencial, sendo armazenada em local seguro e apenas manuseada pelos investigadores deste estudo e utilizada para fins de investigação.

Declaro que aceito participar no estudo sobre a experiência dos Fisioterapeutas Portugueses Recém-Licenciados na utilização de Educação ao Paciente na intervenção de utentes com Dor Lombar Persistente.

☐ Clique, por favor, neste espaço para confirmar o seu consentimento informado

Nome do Participante:____

Nome do Investigador: Pré-preenchido____

Data: ___/ ___/ ___

Appendix C. Semi-structured interview schedule

1. Boas-vindas e agradecer a disponibilidade;
2. Apresentação da investigadora responsável pela entrevista;
3. Reforço dos aspetos mencionados na carta explicativa do estudo e consentimento informado;
4. Enquadramento sobre dor lombar persistente e definição de educação no contexto deste estudo

Objetivos e questões

Objetivo: Caracterizar e compreender o contexto do local de trabalho.

- Pode descrever-me o seu contexto de trabalho atual?

Objetivo: Compreender a experiência do participante no âmbito da intervenção com utentes com dor lombar persistente.

- Considerando o enfoque deste estudo ao nível da educação ao utente, pode descrever-me a sua experiência na avaliação e intervenção com utentes com dor lombar persistente?

Objetivo: Compreender a experiência do participante na utilização de estratégias educativas e se as mesmas fazem parte da sua realidade clínica.

- Gostava de explorar de forma aprofundada a sua experiência na utilização desta modalidade de intervenção. Poderá descrever-me um caso específico onde utilizou estratégias educacionais?
  - Pode descrever-me as estratégias de educação que normalmente utiliza na intervenção de utentes com dor lombar persistente?
  - Pode dar-me alguns exemplos de dificuldades que sente na utilização de estratégias educativas?
  - Pode dar-me alguns exemplos de aspetos relacionados com a educação ao utente onde sinta maior facilidade?
  - Fale-me sobre os desafios que sentiu no início da prática clínica, na utilização de estratégias de educação com utentes com dor lombar persistente.
  - Na sua perspetiva, o contexto em que ocorrem as sessões de Fisioterapia pode funcionar como facilitador ou barreira para a utilização de uma abordagem educativa (pedir exemplos)?

    - Pode descrever-me onde aprendeu estratégias de educação ao utente? Que tipo de suporte necessita para melhorar?
    - Pode dizer-me de que forma a sua formação base influenciou o modo como utiliza estratégias educativas em utentes com dor lombar persistente?
- Na sua perspetiva, a natureza multifatorial da dor lombar persistente tem influência na abordagem educativa?
    - Quais são os fatores presentes na dor lombar persistente que sente mais dificuldade em abordar com os utentes? E quais os que sente mais facilidade?
    - Acha que a natureza da dor lombar persistente e incapacitante tem impacto na forma como conduz a educação? De que forma?
    - Pode dar-me alguns exemplos sobre como explica o conceito de dor persistente aos seus utentes?
- A educação é uma estratégia de intervenção que "surge de forma espontânea" ou implica alguma forma de planeamento da sua parte? Se sim, de que forma ...?
    - Pode explicar-me como é feita a tomada de decisão de que estratégias educativas incluir na intervenção?
    - Quando o tempo com o utente é limitado, como decide a que aspetos dar prioridade na educação ao utente?
    - Pode explicar-me se na sua prática clínica tem por hábito avaliar as necessidades educativas dos utentes? Se sim, como o faz?
- Na sua experiência, qual considera ser a recetividade dos utentes com à inclusão de estratégias educativas?
    - Pode descrever-me como os utentes com dor lombar persistente utilizam a informação providenciada em contexto clínico?
    - Pode dar-me exemplos de como pensa que os utentes percecionam estratégias para autogestão da condição?

Questões para aprofundar conteúdos

- Disse-me… poderia explorar mais detalhadamente?
- Há pouco falou-me de… porque considera isto importante?
- Poderia dar-me alguns exemplos?
- Existe mais alguma coisa importante sobre a qual não falámos?

Appendix D. Reflexive diary

Some excerpts from the skills training and interview reflections from the reflective diary.

Treino de Competências	
Apreciação Geral	**Estratégias de Melhoria**
1ª Entrevista (15/03/2023)	
De modo geral, considero que alguns aspetos correram melhor do que o que estava à espera, enquanto outros se apresentaram mais desafiantes. Sendo a 1ª entrevista de treino encontrava-me um pouco nervosa com a situação, o que pode ter condicionado a minha prestação (apesar de conhecer a colega com quem realizei a entrevista). Considero como aspetos positivos que consegui demonstrar uma escuta ativa durante a entrevista, fazendo relação de aspetos mencionados pela colega com questões posteriores. Consegui, também resumir no fim da entrevista os principais aspetos assinalados. Senti dificuldade em "largar" o guião, mantendo-o sempre debaixo de olho. Por vezes senti que a colega não respondia diretamente à questão colocada, o que poderá estar relacionado com a forma como está foi formulada.	- Estudar melhor o guião e familiarizar-me mais com o mesmo, para que não sinta necessidade de o consultar com tanta frequência; - Ter mais atenção na formulação das questões, de modo a não induzir a resposta a algumas delas; - Ter em consideração com os *delays* da internet e possíveis quebras de transmissão que podem acontecer ao realizar entrevistas em formato online; - Respeitar o silêncio do entrevistado e dar alguns segundos, para dar a possibilidade à organização do raciocínio;

Uma vez que realizei a entrevista numa conta zoom gratuita, não me recordei que ao fim de 40 min a sessão terminava, o que também foi uma falha para o natural encadeamento da entrevista.	- Utilizar a conta escolar para ter acesso à plataforma Zoom e poder realizar entrevistas sem a limitação de tempo da conta gratuita.
7ª Entrevista (10/04/2023)	
Considero que esta última entrevista correu bastante bem. Por lapso, esqueci-me do guião da entrevista, pelo que aproveitei a oportunidade para perceber se já o tinha bem integrado e se conseguia na mesma demonstrar uma escuta ativa e adaptar as questões ao que foi mencionado, objetivo que considero cumprido com sucesso. Esta entrevista teve a particularidade de ser com um colega com bastante experiência em estudos qualitativos e realização de entrevistas, o que permitiu ter um feedback muito construtivo. O colega deu como feedback construtivo o facto de ter sentido que as questões se focaram um pouco mais na experiência de estudante vs fisioterapeuta e um pouco menos nas questões de dor lombar persistente e estratégias de educação, o que me fez levantar a hipótese de alterar um pouco o guião.	- Verificar se faz sentido readaptar algumas questões do guião para especificar mais alguns aspetos da prática profissional na intervenção com dor lombar persistente e nas estratégias de educação.

Entrevistas	
Apreciação Global	**Estratégias de Melhoria**
1ª Entrevista (23/05/2023)	

<table>
<tr><td>Comecei a entrevista um pouco ansiosa, uma vez que a última tinha sido realizada há mais de um mês e, também, pelo facto de o guião ter sido reestruturado e estar bastante distinto do utilizado nas entrevistas de treino, facto que me preocupava. No entanto, considero que a entrevista acabou por correr bastante bem, com uma boa cadência, sendo possível explorar todos os aspetos necessários. O facto de ser visível que o colega tinha muito interesse na temática em estudo facilitou a condução da entrevista, uma vez que se alongava bastante nas reflexões de cada questão, o que foi positivo. Por outro lado, senti um pouco de dificuldade em desfocar deste novo guião, pois queria garantir que todas as questões seriam respondidas, fazendo algumas que até já tinham sido respondidas anteriormente.</td><td>- Estudar melhor o guião e familiarizar-me mais com o mesmo, para que não sinta necessidade de o consultar com tanta frequência;
- Focar mais no que o entrevistado está a dizer, de modo a conseguir reformular questões utilizando palavras dele, ou até saltando questões que já ficaram respondidas.</td></tr>
<tr><td colspan="2">2ª Entrevista (05/06/2023)</td></tr>
<tr><td>Nesta entrevista senti-me mais confiante, uma vez que já tinha tido a experiência anterior. O facto de ter realizado a transcrição completa da 1ª entrevista foi uma mais-valia para compreender melhor o que estar à espera com as questões colocadas, bengalas linguísticas utilizadas por mim e como melhorar na colocação das probe questions. Foi conhecimento que sinto ter conseguido transferir para a segunda entrevista. Foi também mais necessário fazê-lo, uma vez que a colega era mais contida e reservada, pelo que necessitei de ser mais interventiva na minha abordagem. Como tive experiência de colegas mais reservados durante o treino de competências, foi algo que não me afligiu propriamente e sinto que consegui contornar a situação com sucesso. Por outro lado, foi mais difícil distanciar-me da entrevista anterior e tentar que esta não influenciasse a condução da entrevista atual.</td><td>- Continuar a familiarizar-me com o guião, para não repetir questões que, apesar de não terem sido questionadas diretamente, foram respondidas pelo entrevistado em momentos anteriores;
- Sentir-me mais à vontade quando o entrevistado é uma pessoa mais reservada, e ter flexibilidade para conseguir explorar melhor cada tema.
- Apesar da natural influência das entrevistas anteriores, tentar que isso não condicione as entrevistas seguintes.</td></tr>
</table>

Appendix E. Audit trail

Audit Trail

This audit trail provides a description of the procedures included during the analysis process. The following procedures were carried out for each interview:

1. After the transcription, the transcript was read several times to immerse oneself in the data, through reading, re-reading and listening to the recordings;
2. After the readings, the interview data was introduced into a table in a word document with 4 columns: first column included the line numbers; second column included the original script; third column included the exploratory notes, which represented the second stage of data analysis; the fourth column included the experiential statements and represented the first part of the development of emergent themes.

LN	Transcrição	Notas Exploratórias	Experiential statements
272	(...)		
273	**I:** hum-hum. Gostaria de pegar nisso que disseste agora e pensando na		
274	tua experiência particular, que tiveste experiência em clínica		
275	convencionada como agora em clínica privada. **De que forma é na tua**		
276	**perspetiva, o contexto em que ocorrem as sessões pode influenciar?**		
277	**Ou seja, pode ser um facilitador ou uma barreira para a utilização de**		
278	**estratégias educativas?**		
279	**C:** Sim. Em contexto convencionado... bem. É o caos. É o caos. E não há	Catarina explores the early days when she worked in a conventional setting. The conventional setting is a chaos where time with the patient is very limited.	In a conventional clinic, time with the patient is limited (P. 14, L. 279-282)
280	avaliação. Portanto, não há a questão de poder utilizar instrumentos de,		
281	de medida, o conseguir conversar com a pessoa também é bastante		
282	limitado, a experiência que eu tive foi as pessoas numa hora, tinham		

Line	Transcript	Notes	Codes
283 284	uma hora de sessão, em que a componente principal era a eletroterapia e depois podiam fazer exercício ou não, as pessoas muitas das vezes nem		
285 286 287 288 289 290	sequer queriam fazer exercício, também já estavam na clínica há 20 anos e, para elas estava tudo bem em fazer só eletroterapia e muitas vezes eram esses os momentos em que conseguia falar com a pessoa. Porque na realidade eu tinha que estar ali, era mesmo, naquela meia hora era um para um. Então eu aí conseguia, conseguia tentar conversar, mas sempre muito, era sempre muito frustrante, porque não... não dá para	Catarina reflects on the work that could be done in a conventional clinic, in particular, the moments they had to talk to the person, which were during the electrotherapy treatment. It's frustrating trying to talk to people when one knows that time is limited to address the topics wanted, in the way one would like.	Time to address patient education is limited (P. 14-15, L. 285-291)
291 292 293 294 295 296 297	fazermos aquilo que gostamos e aquilo que é certo. Em contexto de clínica privada... houve melhorias nesse aspeto, mas mesmo assim... lá está, é difícil de assegurar qualidade quando temos bastantes pessoas por hora e mesmo os momentos de avaliação, pelas pessoas não são considerados momentos de avaliação, portanto, a pessoa está à espera de naquela primeira sessão às vezes nem sequer de conversar um bocadinho, nós tentarmos fazer uma análise daquilo que se passa,	Catarina feels improvements in the private clinic. However, she still has several patients per hour which makes intervention difficult, in addition to the fact that patients are often not expecting the assessment performed by the physiotherapist. Difficult to ensure quality of care when you have several patients per hour.	Several patients per hour does not ensure quality of work (P. 15, L. 291-297)
298 299	portanto, para elas, para justificar aquela primeira sessão que efetivamente faz parte do conjunto já do pacote que elas, que elas vão		
300 301 302 303 304	fazer, também não esperam, as pessoas não esperam preencher documentos avaliativos, não esperam conversar muito, portanto, mesmo a própria ideia de fisioterapia é, é bastante diferente, é difícil trabalhar... apesar de ter ido para melhor, não foi para o ideal, então às vezes é um bocadinho difícil. Mas sim, o contexto influencia	Catarina compares working in a conventional clinic with a private clinic and, although she considers that she has moved on to a better practice, in her opinion it is still not ideal. The context has a marked influence on the use of educational strategies.	Workplace context influences the use of educational strategies (P. 15, L. 300-306)

Fig. 1 – Excerpt from data analysis _ Catarina's interview

3. The content of the experiential statements was entered into an excel sheet for color coding, leading to the emergence of preliminary themes. The fifth column (from left to right) includes the final themes emerged in the interview as well as the experiential statements and related excerpts.

Experiential statements I (chronological order and group by colour)	Experiential statements II (organisation of groups by colour)	Experiential statements III (looking for connections and	Experiential statements IV (joining after collapse)	Experiential statements V
		collapsing emerging ideas)		
The work context limits what can be talked about with the	Work environment for education	Work environment for education	Work environment for education	Work environment for education
patient (P.3, L. 49-54)	The work context limits what can be talked about with the		Chaotic context influences how she gets her work done	Chaotic context influences how she gets her work done
Unhappy to have several patients per hour (P.4, L. 71-74)	patient (P.3, L. 49-54)		(P.4, L. 76-81)	(P.4, L. 76-81)
Chaotic context influences how she gets her work done	Unhappy to have several patients per hour (P.4, L. 71-74)		The work environment can negatively influence the interven-	The work environment can negatively influence the interven
(P.4, L. 76-81)	Chaotic context influences how she gets her work done	Chaotic context influences how she gets her work done	tion (P. 3, L. 49-54; 13-14, L. 263-268)	tion (P. 3, L. 49-54; P. 13-14, L. 263-268)
The assessment of factors influencing patients' symptoma-	(P.4, L. 76-81)	(P.4, L. 76-81)	The workplace environment can be stressful (P. 14, L. 270-272)	The workplace environment can be stressful (P. 14, L. 270-2
tology is a continuous process (P. 5, L. 86-94)	The work environment can negatively influence the interven-	The work environment can negatively influence the interven-	Several patients per hour does not ensure quality of work (P. 4,	Several patients per hour does not ensure quality of work (P
There is an instructed pattern of beliefs in patients (P.5,	tion (P. 13-14, L. 263-268)	tion (P. 3, L. 49-54; P. 13-14, L. 263-268)	L. 71-74; P. 14, L. 279-282;P. 15, L. 291-297)	L. 71-74; P. 14, L. 279-282;P. 15, L. 291-297)
L. 94-102)	The workplace environment can be stressful (P. 14, L. 270-272)	The workplace environment can be stressful (P. 14, L. 270-272)	Workplace context influences the use of educational strategies	Workplace context influences the use of educational strate
Patients seek structural cause for their pain (P. 6, L. 106-112)	In a conventional clinic, time with the patient is limited (P. 14,		(P. 15, L. 300-306)	(P. 15, L. 300-306)
Fear-avoidance behavior (P. 6, L. 114-116)	L. 279-282)			
Beliefs are transversal across age groups (P. 6, L. 117-122)	Several patients per hour does not ensure quality of work (P. 15,	Several patients per hour does not ensure quality of work (P. 4,	Feelings and difficulties of the Physiotherapist	Feelings and difficulties of the Physiotherapist
Beliefs of the older patients are passed on to the younger	L. 291-297)	L. 71-74; P. 14, L. 279-282;P. 15, L. 291-297)	Being direct and assertive in patient communication is	Being direct and assertive in patient communication is
ones (P. 7 L. 127-140)	Workplace context influences the use of educational strategies	Workplace context influences the use of educational strategies	difficult (P. 11, L. 218-225)	difficult (P. 11, L. 218-225)
Gaining the patient's trust is the first step to education (P. 8,	(P. 15, L. 300-306)	(P. 15, L. 300-306)	Adapting speech to patients is difficult (P. 12, L. 227-232; P.25,	Adapting speech to patients is difficult (P. 12, L. 227-232; P.
L. 149-156)			L. 512-515; P. 25-26, L. 522-530)	L. 512-515; P. 25-26, L. 522-530)
The words used should be careful (P. 8-9. L. 161-170)	Feelings and difficulties of the Physiotherapist	Feelings and difficulties of the Physiotherapist	Feeling lost about how to demystify patient beliefs (P. 13,	Feeling lost about how to demystify patient beliefs (P. 13,
Use of statistical data to gain patient trust (P. 9, L. 174-175;	Being direct and assertive in patient communication is	Being direct and assertive in patient communication is	L. 257-260)	L. 257-260)
179-180)	difficult (P. 11, L. 218-225)	difficult (P. 11, L. 218-225)	Clinical experience influences the ability to educate (P. 20, L. 414-	Clinical experience influences the ability to educate (P. 20,
Updating scientific knowledge helps to justify differences in	Adapting speech to patients is difficult (P. 12, L. 227-232)	Adapting speech to patients is difficult (P. 12, L. 227-232; P.25,	419)	419)
intervention (P. 10, L. 187-196)	Feeling lost about how to demystify patient beliefs (P. 13,	L. 512-515; P. 25-26, L. 522-530)	Establishing causal relationships in PLBP is difficult (P. 21, L. 438-	Establishing causal relationships in PLBP is difficult (P. 21,
Lack of causal relationship between structure and pain is	L. 257-260)	Feeling lost about how to demystify patient beliefs (P. 13,	440)	440)
surprising to patients (P.10, L. 197-201)	Clinical experience influences the ability to educate (P. 20, L. 414-	L. 257-260)	It is frustrating to fail an education strategy (P. 26, L. 535-543)	It is frustrating to fail an education strategy (P. 26, L. 535-5
Being direct and assertive in patient communication is	419)	Clinical experience influences the ability to educate (P. 20, L. 414-		Sharing with peers is important (P. 27, L. 553-561)
difficult (P. 11, L. 218-225)	Establishing causal relationships in PLBP is difficult (P. 21, L. 438-	419)	Evaluation of the patient and educational needs	Knowledge among physiotherapists should be homogeneou
Adapting speech to patients is difficult (P. 12, L. 227-232)	440)	Establishing causal relationships in PLBP is difficult (P. 21, L. 438-	The assessment of factors influencing patients' symptoma-	(P. 34, L. 690-697)
Inclusion of psychosocial factors in education strategies	Sometimes it is difficult to deliver a clear message (P. 25, L. 512-	440)	tology is a continuous process (P. 5, L. 86-94)	
(P. 12, L. 234-245)	515)		Greater criteria for assessing educational needs (P. 28-29,	Evaluation of the patient and educational needs
Undergraduate program needs to focus more on commu-	Adapting the discourse to the patient's beliefs is challenging		L. 583-588)	The assessment of factors influencing patients' symptoma-
nication strategies (P. 13, L. 250- 257)	(P. 25-26, L. 522-530)		Pay attention to the way in which knowledge is transmitted	tology is a continuous process (P. 5, L. 86-94)
Feeling lost about how to demystify patient beliefs (P. 13,	It is frustrating to fail an education strategy (P. 26, L. 535-543)	It is frustrating to fail an education strategy (P. 26, L. 535-543)	(P. 29, L. 597-602)	Greater criteria for assessing educational needs (P. 28-29,
L. 257-260)				L. 583-588)
The work environment can negatively influence the interven-	Evaluation of the patient and educational needs	Evaluation of the patient and educational needs	Patients' perspective of Education	Pay attention to the way in which knowledge is transmitted
tion (P. 13-14, L. 263-268)	The assessment of factors influencing patients' symptoma-	The assessment of factors influencing patients' symptoma-	There is an instructed pattern of beliefs in patients (P.5,	(P. 29, L. 597-602)
The workplace environment can be stressful (P. 14, L. 270-272)	tology is a continuous process (P. 5, L. 86-94)	tology is a continuous process (P. 5, L. 86-94)	L. 94-102)	

Fig. 2 – Excerpt from data analysis _ Catarina's interview

4. Inserting emergent themes into the MAXQDA 2022 software for organizing and managing data. Primary themes can be found at the bottom as “Lista de Códigos”

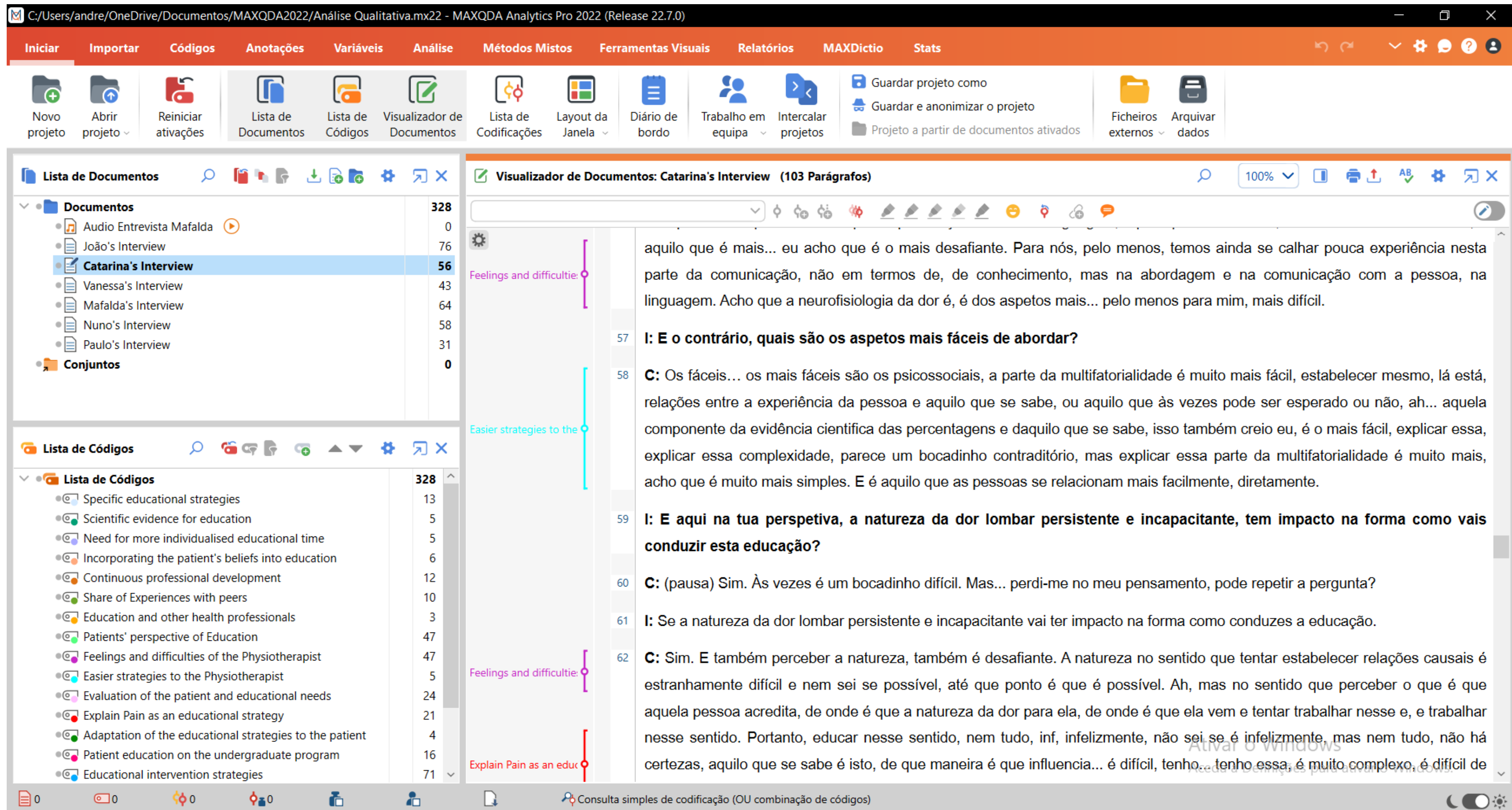

Fig. 3 – Print screen from MAXQDA_ Catarina's interview

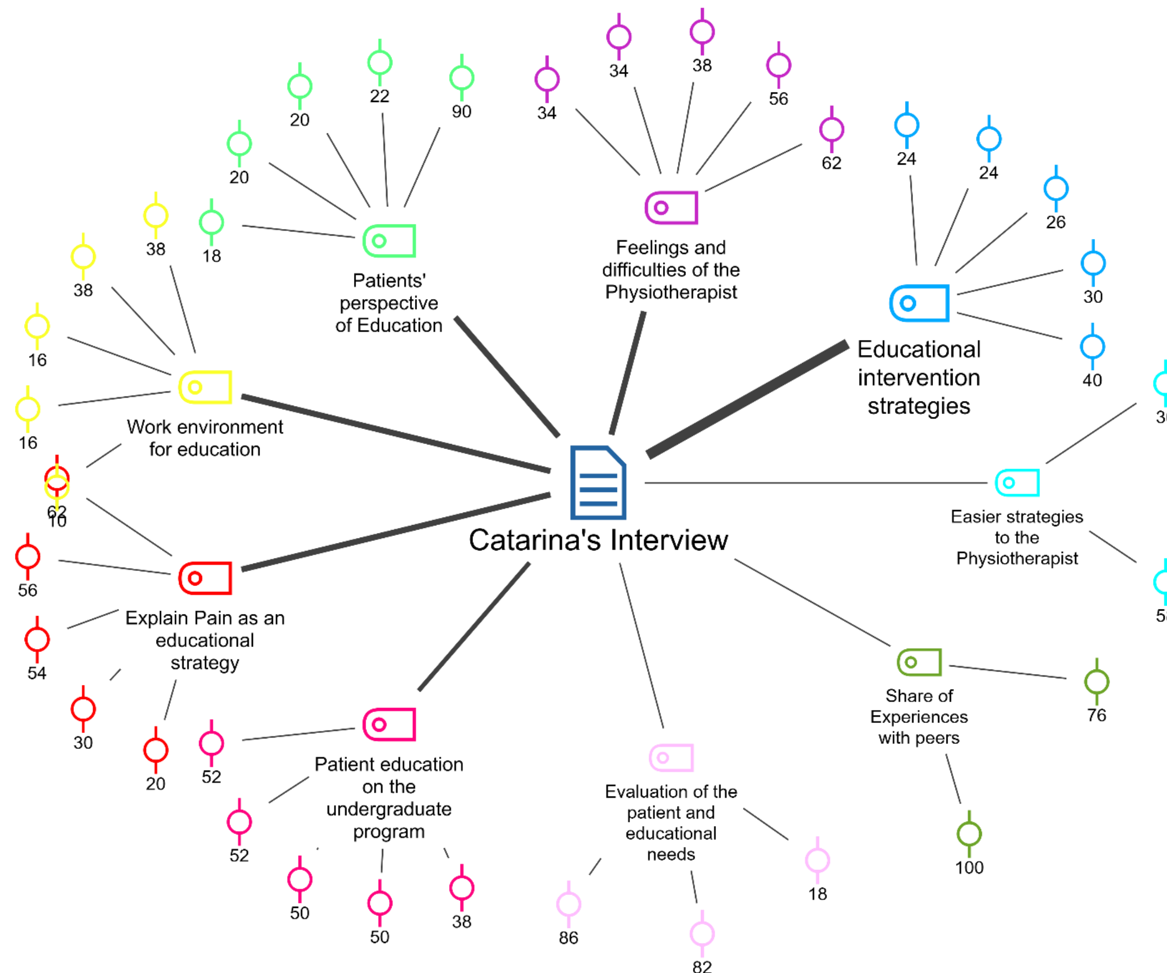

Fig. 4 – Conceptual Map generated by MAXQDA_ Catarina's Interview. The larger the lines and themes, the more prominent the theme was during the interview.

Fig. 5 – Document portrait generated by MAXQDA_ Catarina's Interview. The colors correspond to the points in the transcript where the preliminary themes emerge.

5. To immerse into each participant's interviews and personal experience of the phenomenon under study, a narrative was produced by the researcher.

From the beginning of the interview, it is possible to realize that Catarina is a reserved person and appears somewhat nervous about the situation of being interviewed. However, it is possible to see that the topic under study is something that interests her and with which she struggles, since the perspective she demonstrates throughout the conversation seems to have already been the result of previous, in-depth reflections. Despite her apparent shyness, over the course of the interview Catarina seems to feel increasingly comfortable sharing as she realizes that the interview involves longer and more in-depth answers.

From the beginning, it is possible to realize the impact and importance that the work context has for Catarina, namely in the constraints she feels when intervening with patients with persistent low back pain in terms of education strategies. It's a topic she starts to address early on and follows through the interview, occasionally. Catarina has experience of working in both private and conventional practice, so some insights and comparisons are shared between the two work settings. Catarina describes the conventional setting as a chaotic place, from which she left as soon as she had the chance. It is a difficult work context, where she must attend to several patients at the same time, which conditions the type of intervention she can have. It is a place where many of the patients have been clients for several years, where they always receive the same type of treatment, which influences what the patient is expecting and, also what the physiotherapist can and has the freedom to do. In addition, it is also a place that, given its characteristics, there is no chance to carry out a careful assessment of the patient, as the time with each patient is very limited ("In the conventionalized setting ... well. It's chaos. It's chaos. And there's no assessment. So, there's no question of being able to use measurement instruments, and being able to talk to the person is quite limited as well…" Catarina.14.279-282; "*They had also been in the clinic for 20 years and for them it was okay to just do electrotherapy and often those were the moments when I could talk to the person. Because I had to be there, it was really, in that half hour it was one to one. So, I was able to, I was able to try to talk but it was always very, it was always very frustrating, because no... you can't do what you like and what is right*." Catarina.14. 285-291).

In comparison, the private clinic for Catarina was an improvement in context, but not yet ideal, as she still has three to four patients per hour. Although in the current clinic it is already possible for Catarina to assess her patients, this assessment must be brief, since to meet the patients' expectations, some kind of intervention should also be performed. This is an improvement, as the time she ends up gaining with each client during the sessions allows her to carry out constant brief assessments throughout the client's recovery process in order to have a deeper understanding of the patient and their environment ("…*It's a context, it's a bit chaotic... I am, we have a place, and although it's good place to work, it ends up being a bit, um, it becomes crowded when each physiotherapist attends three or four patients per hour. Oh well, it's hard to manage, as there's a lot of stress involved. We want to do a good job, but it's not always possible to proceed as intended*." Catarina.4.71-74; "*although I have a very limited time for what I want to know, I always try to address a little bit during the sessions with the patient, that is, the assessment is a little bit constant. Therefore, in these patients I try to understand their context, how long they have had pain, if it is awakened by something or not, how their behavior is, in terms of, well, psychosocial ah economic status, therefore, all those factors that will influence the patient's pain and that they often, no, are not aware of*" Catarina.5. 86-94).

For Catarina, educational intervention with patients with persistent low back pain has proven to be challenging. In her experience of approximately one year of work, she finds that there are several factors that influence her ability to intervene with patients. One of the important factors is the working context, as mentioned before, since Catarina refers that the specific characteristics of patients with persistent low back pain led to the need for more one-to-one time to be able to educate. Another key and interesting factor for Catarina is the patients' own perspective on their condition. In her experience, patients with persistent low back pain have several beliefs, fear-avoidance behaviors and expectations about their condition that make the need for educational strategies crucial. When patients come to physiotherapy, they arrive with a set of complementary diagnostic exams already done, in their search for a structural cause that justifies their symptoms. In Catarina's experience, patients display fear-avoidance behaviors, preconceived ideas about what they should do for their pain as well as installed beliefs that will influence recovery ("…*when they have lower back pain, people always come with complementary diagnostic exams. For example, they always believe that there is a structure that is damaged and that is the source of their pain*..." Catarina.6.106-109; "…*they [patients) cannot move because they are afraid, they are doing worse to their body or that it will make the pain worse, they have avoidance behaviors."* (…)

Fig. 6 – Excerpt from Catarina's narrative

6. After this individualized process, the researcher went on to analyze the interviews of the other participants. After inserting all the emergent ideas in the MAXQDA 2022, it generated a figure with all the preliminary emergent themes, by each participant. The columns represent the participant, the line represents the preliminary themes, and the numbers represent the times that each theme was mentioned by each participant.

Lista de Códigos	João's Interview	Catarina's Interview	Vanessa's Interview	Mafalda's Interview	Nuno's Interview	Paulo's Interview	SOMA
Specific educational strategies				6	4	3	13
Scientific evidence for education			1	2	2		5
Need for more individualised education			4	1			5
Incorporating the patient's beliefs into e			4	2			6
Continuous professional development	7			3	2		12
Share of Experiences with peers	4	2	1	2		1	10
Education and other health professiona	3						3
Patients' perspective of Education	11	8	7	9	10	2	47
Feelings and difficulties of the Physioth	8	8	5	10	7	9	47
Easier strategies to the Physiotherapist	2	2	1				5
Evaluation of the patient and education	4	3	1	5	7	4	24
Explain Pain as an educational strategy	5	7	3	2	3	1	21
Adaptation of the educational strategie	4						4
Patient education on the undergraduate	5	6	2	1	1	1	16
Educational intervention strategies	13	12	8	17	16	5	71
Work environment for education	5	8	6	4	6	5	34
Importance of the first session for educ	5						5
Σ SOMA	76	56	43	64	58	31	328

Fig. 7. Preliminary themes emerged from each individual interview. each column indicating the themes from each participant and the number of times it was mentioned.

7. After analyzing each interview in detail, the researcher engaged in the searching for patterns across all interviews

João (6)

Continuous professional development vs Undergraduate Program
- Need for advanced training for intervention (P.5, L.83- 86; P. 8, L. 148- 155, P. 25-26, L. 523-524)
- Continuous professional development has increased attention to communication (P. 20, L. 414-417)
- Learning must be continuous (P. 21, L. 433- 438)
- The mistakes made contribute to professional development (P. 24, L. 486- 594)
- Professional development in patient education (P, 29, L. 590-594)
- Pain should be explored in greater depth in the undergraduate program (P. 7, L. 131-136)
- Undergraduate patient education is not enough (P. 24-25, L. 498-504;, P. 27, L. 545-555)
- Simulated practice at undergraduate level could help future physiotherapists (P. 27, L. 559-561; P. 27- 28, L. 564- 574)

Work environment for education
- Workplace demands jeopardise educational approach (P. 6, L. 106- 111; P. 33, L. 674-681)
- Physiotherapy is mostly seen as hands on treatment (P. 33, L. 681- 686)
- Work environment as a barrier (P. 33-34, L. 688- 691; P. 34, L. 698- 700)

Educational intervention strategies
- Individualization of the first session with the patient (P. 5-6, L. 101-104; P. 11, L. 210-216)
- Too much initial information could lead to patients dropping out (P. 8-9, L. 161- 171; P. 10, L. 191-193)
- First session as a basis for establishing the therapeutic relationship (P. 11, L. 210- 216)
- 1st session to plan the educational approach (P. 39, L. 803- 812)
- Including beliefs, behaviors and psychosocial aspects in the intervention is challenging (P. 6-7, L. 118-125; P. 18, L. 358-362)
- Facilitating behavioural change is challenging (P. 7, L. 125- 130)
- Understanding patients' expectations and beliefs helps gain their

Catarina (6)

Work environment for education
- Chaotic context influences how she gets her work done (P.4, L. 76-81)
- The work environment can negatively influence the interven-tion (P. 3, L. 49-54; P. 13-14, L. 263-268)
- The workplace environment can be stressful (P. 14, L. 270-272)
- Several patients per hour does not ensure quality of work (P. 4, L. 71-74; P. 14, L. 279-282;P. 15, L. 291-297)
- Workplace context influences the use of educational strategies (P. 15, L. 300-306)

Feelings and difficulties of the Physiotherapist
- Being direct and assertive in patient communication is difficult (P. 11, L. 218-225)
- Adapting speech to patients is difficult (P. 12, L. 227-232; P.25, L. 512-515; P. 25-26, L. 522-530)
- Feeling lost about how to demystify patient beliefs (P. 13, L. 257-260)
- Clinical experience influences the ability to educate (P. 20, L. 414-419)
- Establishing causal relationships in PLBP is difficult (P. 21, L. 438-440)
- It is frustrating to fail an education strategy (P. 26, L. 535-543)
- Sharing with peers is important (P. 27, L. 553-561)
- Knowledge among physiotherapists should be homogeneous (P. 34, L. 690-697)

Evaluation of the patient and educational needs
- The assessment of factors influencing patients' symptoma-tology is a continuous process (P. 5, L. 86-94)
- Greater criteria for assessing educational needs (P. 28-29, L. 583-588)
- Pay attention to the way in which knowledge is transmitted (P. 29, L. 597-602)

Patients' perspective of Education

Vanessa (5)

Work environment for education
- Workplace does not allow to work as idealized (P.4, L. 64-70; P. 4, L. 72-79; P. 7, L. 134-139)
- Neglecting personal needs to attend to all patients (P. 5, L. 85-90
- Paperwork takes time away from intervention (P. 5-6, L. 96-103)
- The initial assessment is carried out by the doctor (P. 7, L. 122--132)
- Little time for individualized intervention limits patient education (P 14, L. 275-284; P. 16, L. 315-321; P. 20, L. 403-409)
- When time is limited, the focus is on teaching self-management (P. 21, L. 433-438)
- Adapting peer advice to the work context (P. 23, L. 469-474)

Feelings and difficulties of the Physiotherapist
- Fear of non-acceptance from older patients (P. 19, L. 377-381; P. 24, L. 480-488)
- Putting oneself in the person's shoes to understand them (P. 24, L. 490-498)
- Sadness for not working according to one's beliefs (P. 6, L. 107-113; P. 28, L. 569-571)

Educational intervention strategies
- Emphasis on promoting self-management strategies (P 7-8, L. 140-143; P. 12, L. 228-237)
- Encouraging physical activity as an educational strategy (P.8, L. 155-162; P. 9, L. 175-181; P. 10, L. 195-198; P. 13, L. 262-265)
- Teaching patients about postural awareness (P. 9-10; L. 182-189)
- Careful language during the educational intervention (P. 10, L. 190-192)
- Educational intervention requires prior planning (P. 20, L. 413-41
- Patients' beliefs can be included in the intervention (P. 9, L. 166-170; P. 10-11, L. 202-209)
- Knowing the patient's routine and beliefs to adapt educational strategies (P. 21, L. 421-426)
- Differences between Portuguese and foreign cultures in the

Mafalda (6)

Educational intervention strategies
- Combining different educational strategies (P. 4, L. 73-79; P. 16-17, L. 335-345; P. 17-18, L. 355-361; P. 18, L. 365-375)
- Appropriate educational strategies lead to behavioral change (P. 6, L. 117-121)
- Patient Education is included in group classes (P. 5, L. 94-98)
- Including the patient in the intervention process increases their trust (P. 10, L. 202-205)
- Evolving work colleagues in the management of the condition (P. 17, L. 345-352)
- Therapeutic relationship is important for patient education (P. 23, L. 470-482; P. 30, L. 616-623)
- Importance of individualizing patient education (P. 11, L. 215-224; P. 33, L. 695-699; P. 37, L. 770-774)
- Initially, education strategies involved planning (P. 38, L. 785-793; P. 39, L. 804-813)
- Education is introduced gradually (P. 39, L. 816-825)
- When time is limited, education should focus on patient's difficulties and expectations (P. 40, L. 833-839)
- Explaining the intervention process increase patient trust (P. 12, L. 240-246; P. 29, L, 592-602; P. 45, L. 922-928)
- Daily register as an educational strategy (P. 24, L. 495-502)
- Contact patients to remind them of self-management (P. 8, L. 159-161; P. 48-49, L. 1004-1012)
- The team must all agree on patient education (P. 5, L. 86-95)
- Inclusion of patient perspectives in the clinical practice (P. 7-8, L. 143-150)
- Adapting educational strategies to patient's needs (P. 24, L. 491-499)
- Bridging the gap between scientific evidence and the person's context (P. 21-22, L. 447-452; P. 34, L. 701-710)
- Explain pain to patients is difficult (P. 38, L. 785-794)
- Use of drawings or manual explanations to explain (P. 35, L. 804-811)

Nuno (6)

Work environment for education
- Limited time to talk to the patient (P. 5, L. 85-91)
- Freedom to add different interventions to the prescription (P.5, L. 92-96)
- Lack of privacy is a barrier to education (P. 32, L. 645-652; P. 35, L. 707-712; P. 36, L. 728-734)
- Having sports equipment facilitates education (P. 35, L. 715-723)

Evaluation of the patient and educational needs
- The subjective assessment is the basis for the educational intervention (P. 6, L. 111-118; P. 8, L. 150-159)
- Objective assessments are important for monitoring progress (P. 7, L. 129-136)
- Patient's progress is assessed subjectively (P. 7, L. 136-142)
- Identifying with the patient what to educate (P. 31, L. 632-639; P. 32-33, L. 662-669)
- Educational needs are evaluated subjectively (P. 34, L. 693-700)

Patients' perspective of Education
- Patients associate more movement with more pain (P. 8-9, L. 163-170)
- Poor literacy can affect patients' rehabilitation (P. 9-10, L. 183-187)
- Some patients have low expectations of the educational strategies (P. 12, L. 241-246; P. 39-40, L. 805-808; P. 40, L. 817-824
- Patient's personality influences the education (P. 21, L 421-427)
- The majority of patients are receptive to education (P. 38, L. 770-776)
- More severe condition leads to greater receptivity to education (P. 26, L. 521-527; P. 38, L. 777-785)
- Patients are active in seeking information (P. 39, L. 797-803)

Educational intervention strategies
- Patient trust is important for education (P. 11, L. 208-213; P. 16-17, L. 324-331; P. 20, L. 400-404)
- A good therapeutic relationship is important for counselling

Paulo (6)

Educational intervention strategies
- The physiotherapist should demystify patients' fears about medical exams (P. 2, L. 34-38)
- Educational interventions should be planned (P. 4, L. 62-70)
- Explaining that not all alterations in exams cause pain (P. 7, L. 123-128; P. 7-8, L. 138-144)
- Manage patient's expectations (P. 21, L. 426-432)
- Education on ergonomic aspects (P. 6, L. 103-107)
- Encourage behavioral change (P. 8, L. 148-150)
- Self-management includes strategies based on exercise and a healthy lifestyle (P. 5, L. 85-90; P. 19-20, L. 390-397)
- Encouraging behavioral change is easier (P. 8, L. 153-158)
- Teaching exercises to patient's daily basis (P. 16, L. 316-318)
- Explain persistent pain to the patient (P. 16-17, L. 330-337)

Patients' perspective of Education
- Patients show skepticism about the educational strategies (P. 2-3, L. 39-43)
- Patients understand the need for behavioral change (P. 19, L. 373-377)

Feelings and difficulties of the Physiotherapist
- Patient education has always been difficult (P. 3, L. 47-54; P. 15, L. 302-307)
- Unwillingness to educate when the patient doesn't value the intervention (P. 9, L. 176-182)
- Need to deepen knowledge of patient education (P. 13, L. 265-267; P. 22, L. 447-453)
- Talking to patients about their emotions is uncomfortable (P. 15-16, L. 309-313)
- A reserved personality might influence the intervention (P. 16, L. 325-327)
- Feeling good when educational strategies are effective (P. 20, L. 403-420)
- Difficulty in managing patient's expectations (P. 21, L. 414-420)
- Discussion with peers helps patient education (P. 13, L. 252-25

Fig. 8 – Excerpt from data analysis _ Main themes and sub-themes emerged from the six interviews. Each column corresponded to one participant and included the information exported from the fifth column of fig.

8. After analyzing the data, the lead investigator proposed a first version of what would become the master table of themes, sub-themes and concepts, with four themes initially.

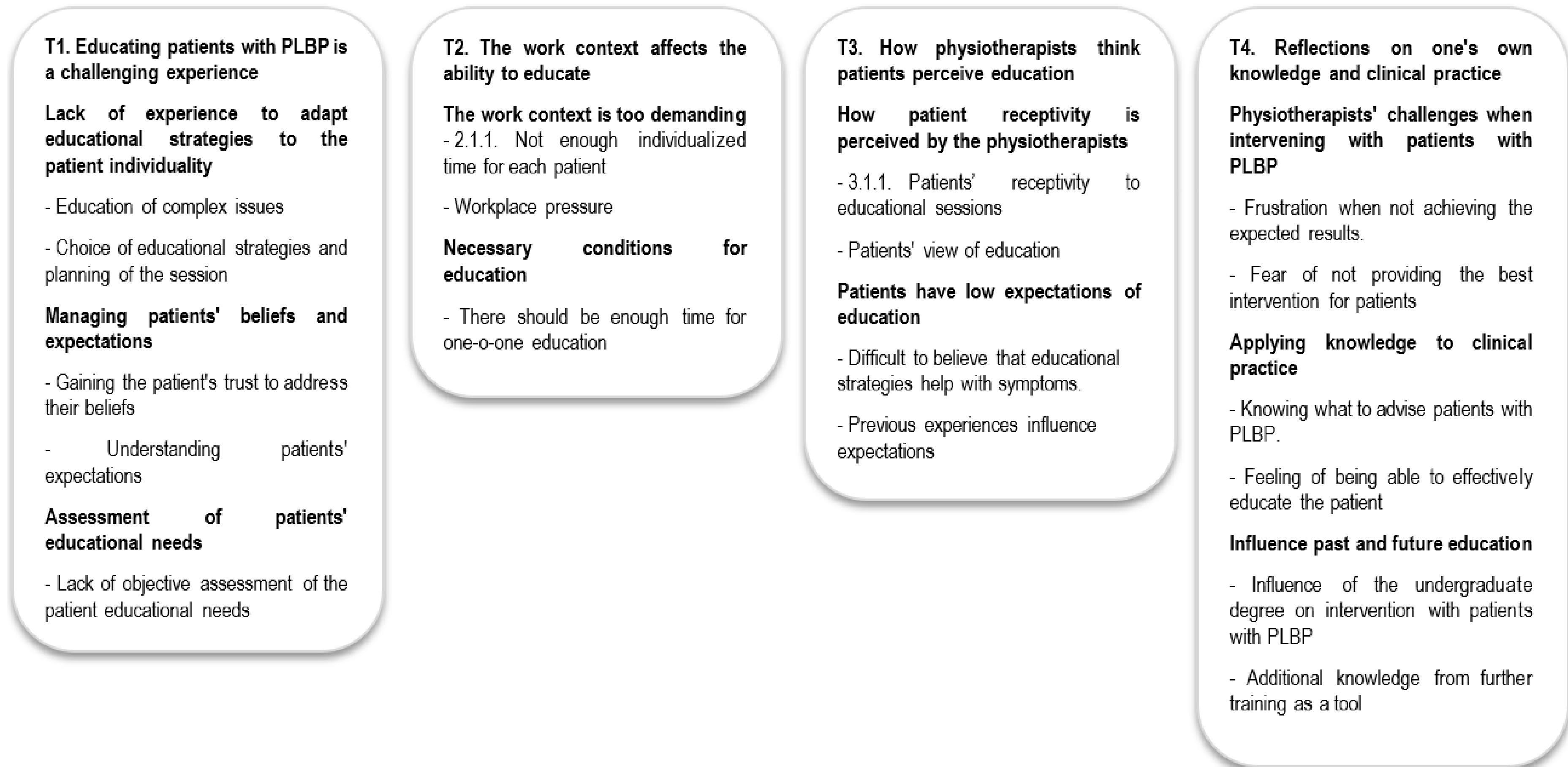

Fig. 9 – First version of the master table proposed by the lead investigator

9. Lastly, after respective discussion among researchers, improvements were made to the titles of themes, sub-themes, and concepts so that they were more illustrative of what they were referring to.

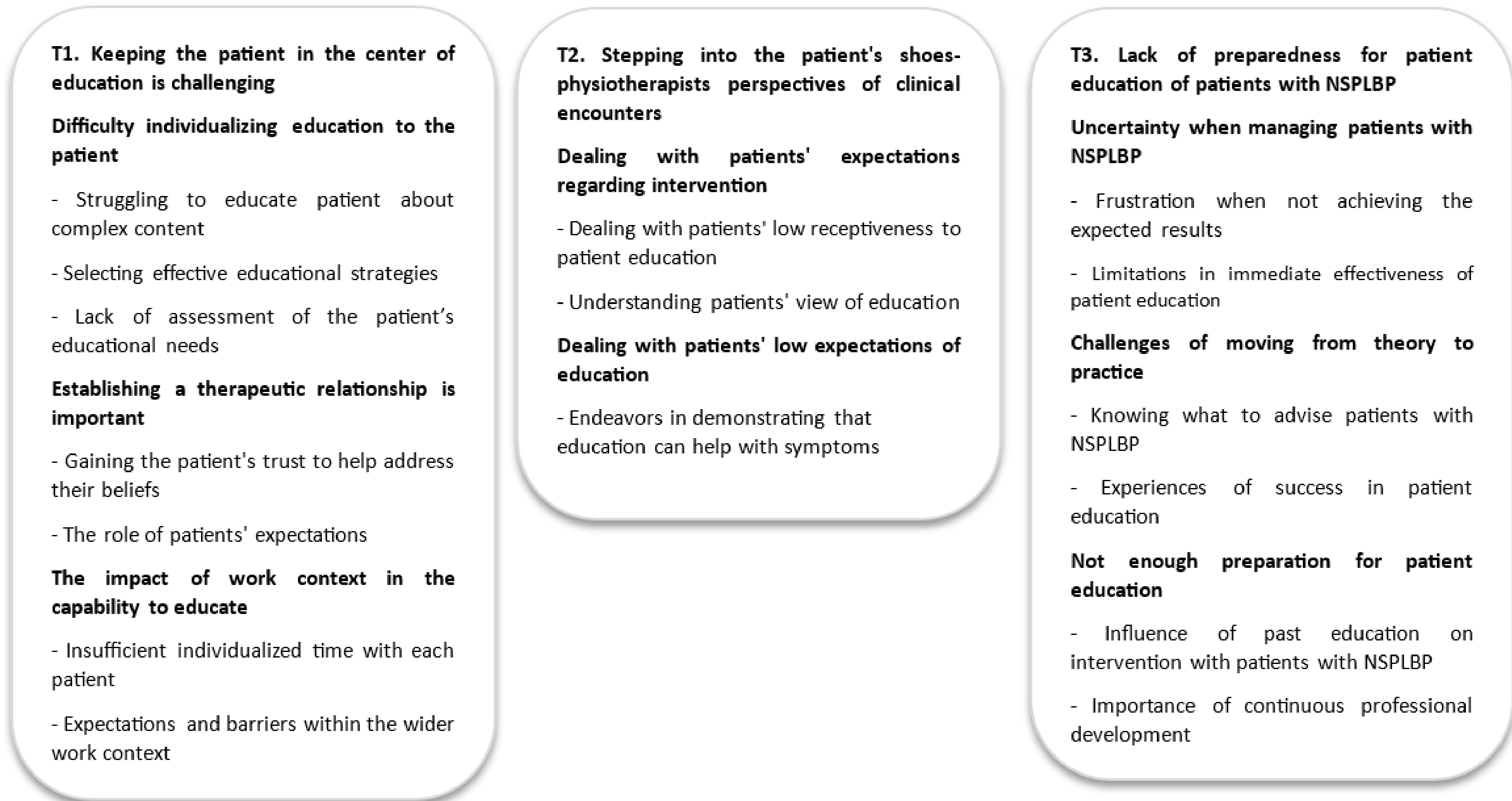

Fig. 11 – Master table of theme, sub-themes and concepts

Appendix F. Personal and professional motivations for this study

The idea for this study came from reflection on the researcher's clinical practice, as well as her pre- and post-graduate training and discussions with fellow physiotherapists, the motivations for which are set out in the following paragraphs.

After graduating, I began my professional practice mainly in musculoskeletal conditions. Musculoskeletal conditions, especially persistent pain, have always fascinated me since graduation. Perhaps due to the influence of my undergraduate studies, internships and the culturally instructed belief about what pain is, how it manifests itself and what causes it, I began to reflect on this subject from an early stage. Contact with the more experienced colleagues with whom I interacted at the beginning of my clinical practice also shaped my own beliefs about persistent pain and how to intervene with patients who had pain conditions. These colleagues, with a more paternalistic model of intervention focused on structure, taught me a lot about anatomy, physiology and performing diagnostic tests. However, I felt that my clinical practice lacked something beyond structure-based diagnosis, beyond manual therapy, beyond exercise-based strategies. Searching for the cause of the pain was often distressing. I could not understand why the same strategies worked for some patients, but not for others with similar conditions. I tried to individualize the sessions as much as the practice in a conventional setting, with 3 to 4 patients at the same time, would allow, but I often arrived at the end of the day sad, unmotivated, and afraid that I was not giving the best possible intervention to the patients I was treating. Talking to colleagues in the same situation, I realized that these feelings were similar and that the level of professional dissatisfaction was very high.

These feelings fueled what became an ongoing search for a greater understanding of persistent pain conditions. I then began attending a series of webinars, courses and formations focused on persistent pain, as well as patient education and person-centered practice. All this made me increasingly curious about persistent pain conditions, but also raised more and more questions and the desire to deepen my knowledge and improve my practice with the patients I had the chance to meet. At the same time as this process of personal and professional discovery was taking place, I also began to play a role as a clinical educator, receiving students from the physiotherapy degree. This role brings with it a huge responsibility, as internship placements have the power to influence the future of the students who pass through them. To teach and support them, I felt the need to learn more and study more myself.

As my professional practice progressed, the possibility of working in a private practice setting appeared, where I had the chance to work with one patient per hour, with total freedom of

intervention. This was a dream and a great privilege: individualized sessions, patient-centered practice, defining objectives and interventions in partnership with the patient. At the same time, however, new questions arose: I am still a new graduate, am I ready? 1 hour with each person is a long time, how can I use it to include educational strategies?

Curiously or not, the truth is that I was seeing more and more patients with persistent pain in this context, particularly patients with persistent low back pain. I began to identify some patterns during these interactions: years and years of pain, doubts, nocebo, the search for a miracle for the pain, the feeling of incomprehension on the part of health professionals, friends and family, the reams of tests that were placed on the table at the first consultation, as if those tests were a condemnation. The anguish I had felt in my first few months of practice resurfaced: how can I do better for these people? My move to a private practice allowed me to explore patient-centered practice and patient education strategies more and more. This gave rise to new challenges and new doubts. These aspects were difficult to discuss with patients, something that was shared and debated among colleagues in the same situation. What is the best strategy for effective intervention? How can we educate patients? I needed to continue to expand my knowledge, which led me to study for a master's degree, where I was able to deepen my understanding of musculoskeletal conditions, particularly intervention with patients with low back pain, and patient education. It was after I started my master's degree and had contact with the SPLIT project, for example, that I began to feel more comfortable intervening with patients with persistent low back pain, particularly in educational strategies.

Personal experience is important to consider when conducting this study. I begin this study with experiences, prejudices and expectations that will play a role during the research process. My journey, the people I met, the teachers, colleagues and patients I learned from helped shape my professional path. I realized that the doubts I experienced were common to recent graduates and that they were beginning to be addressed in the literature in other countries and in Portugal, given their prevalence. In this sense, the question that would later lead to this study was born: are these doubts and difficulties in intervening in education with patients with persistent low back pain common to other recently graduated physiotherapists?

Appendix G. Compilation of excerpts not included in the results chapter

Theme 1: Keeping the patient in the center of education is challenging

Subtheme 1.1: Difficulty individualizing education to the patient

"Practical experience! Then, by continuing to explore, right? By continuing to observe, the patients help us a lot; Due to the fear I feel of not being in the patient context, the patients are helping us. It's not like I won't be able to do so over the years, but we've only just graduated, right? And we don't have that much, we have not practical experience, and I think that all the experience we're gaining by treating one patient will allow us to do a better job with the next one." (Mafalda. I4. 34-35. 708-714).

"... I'd say that I do not approach it in the right amount. So to say, I provide some loose hints and not, not…, not in a purely educational conversation. In other words, it's not, no, it is not about the educational way I am intervening. It is not about just a few hints that I provide throughout the session, ok? It's not. No, it's not something that, well, let's suppose that has not been planned. It's not something that I do plan, like "look, for this session I'm going to broach this concept, for this session I'm going to broach that concept". It is not like that, no.... It's not about a planned education. It's something more natural." (Paulo. I6. 4. 62-70)

"... it involves planning, and it involves me... having to make an introduction to what I'm going to say, the reason I'm doing to do so, only then do I teach and when I teach, I ask: "Oh, did you understand and why are we doing it?" Um... And then I try to appeal to self-management issue, so there's always a planning." (Vanessa. I3. 20. 407-411)

Subtheme 1.2: Establishing a therapeutic relationship is important

"... when people suffer from lower back pain, they always, always, bring complementary diagnostic exams. For example, they always believe that there's a damage in their structure, and that's the source of their pain... So, we have complementary diagnostic exams and their will to improve their posture, because technically, for them, there's a better posture that won't cause them pain (...) And it transverses to the age group. Maybe when I was working at the conventional clinic, as we also attended an elderly population, these assertions were still pretty well established. Yet, even the younger population also have these kinds of assertions. It was also something that perhaps slightly surprised me." (Catarina. I2. 6. 106-122)

"My main difficulty in, in dealing with these people, with these patients with this condition has to do, above all, with the management of expectations. It's above all the, the management of, of assertions that often may not be appropriate to their rehabilitation process. Um… And this is all, this is all about a set of issues that I think, in general, make the job of any physiotherapist very difficult..." (João. I1. 7. 138-144) "I've had the opportunity to really put myself in people's shoes and I think that's relatively important in order to be able to give educational strategies, because if I don't have a clue what it's like to be in someone else's shoes, I can't really outline what strategies I'm going to use." (Nuno. I5. 24. 489-497)

"My main difficulty in, in dealing with these people, with these patients with this condition is above all the management of expectations, it's above all the, the management of, of beliefs that often may not be appropriate to their rehabilitation process, ah... and that's all and that's all a set of characteristics that make my practice very difficult, I think for any physiotherapist in general..." (João. I1. 7. 138-144)

Subtheme 1.3: The impact of work context in the capability to educate

"... It's a context, it's a bit chaotic... I am, we have a place, and although it's good place to work, it ends up being a bit, um, it becomes crowded when each physiotherapist attends three or four patients per hour. Oh well, it's hard to manage, as there's a lot of stress involved. We want to do a good job, but it's not always possible to proceed as intended." (Catarina.4.71-74)

"That made me really sad, because of the point we've reached, I feel that we recent graduates have come from a... well, from the struggle of the order, that whole struggle and we want to change future practice, don't we, and trying to show older physiotherapists that this is important is a struggle, it's a difficult and constant struggle, but at the same time I felt sure of what I was doing and the path I wanted to take, because we really know that the most up-to-date practice, the most up-to-date evidence tells us that this is the best and that this is what works, which has worked and which, in other words, I was afraid of being, I felt frustrated at not being able to get there, but knowing, feeling that the future and that my path had to change and had to be that, I felt comfortable with that and confident, because it had to be, change had to happen." (Mafalda. I4. 28-29. 573-585)

"...as a matter of time, not having the time to physically accompany, ah, each person to be there with them, inevitably ends up influencing the context we have and what we can address in each session." (Paulo. I6. 12. 239-242)

Theme 2: Stepping into the patient's shoes: physiotherapists perspectives of clinical encounters

Subtheme 2.1: Dealing with patients' expectations regarding intervention

"I think they're generally quite receptive because often, since persistent low back pain has been with them for a long time and they've tried a bit of everything, I think they're a bit receptive to these changes, but there are also people who might not be so receptive. I'm going to say, on average, so far, I've caught more people who were receptive than were not receptive (Nuno. I5. 38. 770-776)

"... I've had one or two cases like this and at the hospital, as we work together, I've witnessed several cases like this where people have simply told my colleagues that they don't want to talk, they just want to go away, get there, get their treatment and leave. So... I think that receptivity can sometimes be quite a

challenge when it comes to intervening with patients with persistent low back pain." (João. I1. 43. 878-885)

"I basically accept it because it is about different mentalities, um, and because I know that, um, people in their forties and fifties are already starting to have a more exercise-oriented approach to rehabilitation... Basically, I do, I do accept it, I feel, not outraged for sure, it's not like that, but I am... It's all about acceptance and trying to put myself in the other person's shoes. It is legitimate not to understand. It is legitimate not to understand why they're doing this and why a person, even a very young person, is asking to do this and to move." (Vanessa. I3. 24. 483-491)

Subtheme 2.2. Dealing with patients' low expectations of education

"... the fact that people come with low expectations means that, um, all my education strategies end up being ineffective because the person doesn't have, um, no... let's say, does not need to see particular results that will make them in what I say. In other words, perhaps the major difficulty I have is actually showing the benefits or particular results." (Nuno. I5. 12. 241-246)

"In other words, what I feel is that older people, especially those who have had a lot of experience in physiotherapy, just want some warming up, a few massages and that's it. The younger people..., it also depends, and in my practice, it's been always different. Some people do not exercise, and others do. In other words, people who exercise, they are more receptive, um, I mean, they're used to movement, and they're used to being educated..." (Mafalda. I4. 43. 904-911)

Theme 3: Lack of preparedness for patient education of patients with NSPLBP

Subtheme 3.1: Insecurities when managing patients with NSPLBP

"... I basically accept it, because they're different mentalities, ah, and because I know that, ah, people in their forties, fifties are already starting to have a more exercise-oriented approach to rehabilitation... basically I, I accept it, I'm not outraged, clearly, it's not that, but I am. ... it's acceptance and trying to put myself in the person's shoes, that it's legitimate not to understand, it's legitimate not to understand why they're doing it and why a person, even a very young person, is asking to do it and to move." (Vanessa. I3. 24. 483-491)

"I remember that every session the person would struggle with their belief and no matter how much I tried to demystify it in the most varied ways, the person would continue to persist in that thought. And then I realize that it's not being effective and I find it difficult to understand how else I can approach this subject. And so it always ends up being a consecutive and daily analysis, trying to see if what I'm saying is making sense, if it's generating some kind of change, even if it's on a behavioral level." (Catarina. I2. 25-26. 513-521)

"... without a doubt, it was an approach that I had never, never thought of and that the course focused on and that I realized and that made sense to me and that I was able to apply both in Portugal and abroad and that really, in comparison with Erasmus, I was able to see really positive effects in terms of education." (Vanessa. I3. 16. 309-314)

Subtheme 3.2: Challenges of moving from theory to practice

"... I think we've had a lot of theory, we've talked about pain ah, we've talked about the neurophysiology of pain, no, not in depth, but we've talked about the neurophysiology of pain, we've talked about ways of outlining educational objectives and ways of integrating education into the intervention plan when we're intervening with patients, but I think, I think we're missing a bit more, especially for chronic pain which, these are patients who need more care, these are patients who need more strategies, I don't mean strategies, but care and, and characteristics to take into account. Because I think we're often attached to the acute, at least that was the feeling I had during my degree." (João. I1. 27. 545-555)

Subtheme 3.3: Not enough preparation for patient education

"... it's important that we talk about this because I used to say during my degree that this was my difficulty, it was the most educational part, so I think it's, I think it's important to see if it encourages me to want to, to want to look more into this and implement it, because I really think it's important, but I don't, well, it's still a bit of a gap for me, I'd say." (Paulo. I6. 22. 447-453)

"... I think we've had a lot of theory, we've talked about pain ah, we've talked about the neurophysiology of pain, no, not in depth, but we've talked about the neurophysiology of pain, we've talked about ways of outlining educational objectives and ways of integrating education into the intervention plan when we're intervening with patients, but I think, I think we're missing a bit more, especially for chronic pain which, these are patients who need more care, these are patients who need more strategies, I don't mean strategies, but care and, and characteristics to take into account. Because I think we're often attached to the acute, at least that was the feeling I had during my degree." (João. I1. 27. 545-555)

Annexes

Annex 1. Ethics committee approval

Comissão de Ética

Identificação do documento: CE-IPS – PI nº 33A / 2023

Título do projeto: "Experience of Portuguese New-Graduate Physiotherapists in the use of Patient Education with Patients with Persistent Low Back Pain - An Interpretive Phenomenological Analysis" (Tradução: Experiência dos Fisioterapeutas Portugueses Recém-Licenciados na utilização de Educação ao Paciente na intervenção de utentes com Dor Lombar Persistente- Uma Análise Fenomenológica Interpretativa)".

Investigador principal: Andreia Pombares

Equipa de investigação: Professora Doutora Carmen Caeiro da ESS-IPS e Professora Doutora Roma Forbes, da The University of Queensland (Austrália)

Unidade Orgânica do IPS: Escola Superior de Saúde

Outras Unidades/Participantes: Nova Medical School/ Faculdade de Ciências Médicas (NMS/ FCM) e Escola Nacional de Saúde Pública da Universidade Nova de Lisboa (ENSP-UNL)

ANÁLISE E JUSTIFICAÇÃO DO PARECER

Parecer

Em conclusão, considerando a informação clarificada solicitada nos pontos 6 e 7 e corrigida no ponto 8, pela equipa de investigação, (Parecer PI33_2022), a CE-IPS emite parecer favorável para a realização da investigação nos termos do projeto submetido, a partir da data deste parecer.

Relator/a: Filomena Matos

Aprovado a 9 de fevereiro de 2023

Assinado por: **SÓNIA ALEXANDRA PAIVA DOS SANTOS**
Num. de Identificação: 10091202
Data: 2023.02.09 10:01:49+00'00'

Vice-Presidente da CE-IPS

Documentos recebidos

Na submissão do pedido foram recebidos os seguintes documentos:

- Sinopse do Estudo;
- Ficha Informativa para os participantes;
- Formulários de Consentimento Informado;
- Guião de Entrevista;
- Cronograma do Estudo
- Declaração/ Termo de Responsabilidade e boas práticas
- Declaração de Interesses e incompatibilidades
- 2 Link para Curriculum Vitae (CV)
- 1 Curriculum Vitae (CV)

Na ressubmissão do pedido foram recebidos os seguintes documentos:

- Carta de resposta ao CE-IPS
- 2ª submissão do dossier CE-IPS

Análise e justificação do Parecer

1. Os documentos ora submetidos clarificam os pontos 6 e 7 respeitantes à anonimização dos dados.
2. O documento ora submetido apresenta corrigido e atualizado o cronograma proposto (ponto 8).