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The Preferences of Osteopathy Patients, Students, and Osteopaths on the Patient-Centered Orientation in Osteopathic Care

A cross-sectional study

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Background: Research about patient-centered care has been increasing in the last years, the concept has evolved and there is a need to establish a universally accepted concept. The World Health Organization recognized Osteopathy as a manual therapy and along with the European Committee for Standardization classified Osteopathy as providing patient-centered care. Although attitudes towards patient-centered care positively impact patient satisfaction, congruence between therapists and patients in attitudes can also have a positive outcome in patient satisfaction.

Objectives: The aim of this study is to compare the preferences of osteopathy patients, students, and osteopaths on the patient-centered orientation of osteopathic care.

Methods: A cross-sectional design was selected. Three groups were divided into osteopathy patients (Group A), osteopathy students (Group B), and osteopaths (Group C). Subjects were recruited through convenience sampling and required to fill in an online questionnaire, the Patient-Practitioner Orientation Scale - European Portuguese. The questionnaire construct validation and reliability were measured, group comparisons were analyzed with ANOVA with Post Hoc tests and nonparametric data were analyzed with a Kruskal Wallis test.

Results: The study had 191 respondents A=133, B=6, and C=52. Correlations between items were found in the construct validity and the internal consistency, after the removal of items, the Cronbach alfa was 0.726 for the Total scale, 0.642 for the Sharing subscale, and 0.551 for the Caring Subscale. The data analysis revealed that all groups were therapist-centered, in the Total Scale mean scores Group A scored 4.12 (SD 0.69), Group B scored 4.37 (0.37), and Group C scored 4.37 (SD 0.66). Overall, the statistical analysis showed congruence between groups in patient-centered orientation, namely, therapist-centered orientation. However, in the Caring subscale, Group A scored a mean of 4,51 (SD 0.70) and Group C scored 4.89 (SD 0.70), the statistical analysis revealed a statistical difference in between groups. In the caring subscale osteopaths are medium-centered, and patient, therapist-centered.

Conclusions: The Patient-Practitioner Orientation Scale - European Portuguese revealed good reliability and construct validity to measure patient-centeredness orientation in the osteopathy context. The main findings between the groups were that all groups scored low on patient-centeredness, and overall, there was congruence between groups.

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Keywords	Osteopathy; Patient-Centered Orientation; Internal Consistency

Contents

1 Introduction

Patient-centered care was first described by Balint, E. (1969), stating that the patient should be seen as a whole. This new perspective contrasted with the traditionally illness-oriented care. Thru the years the concept of patient-centered care has evolved. In a review, Mead & Bower (2000) proposed a conceptual framework establishing principles or dimensions of patient-centered care. Today, patient-centered care is accepted as a fundamental element in patient-therapist interactions (Hudon et al. 2012) and studies have demonstrated that actions, like communication (Deledda, Moretti, Rimondini & Zimmermann 2013), are determinants for general quality of healthcare.

For a health practitioner to communicate in a patient-centered manner, one needs to adapt one's communication style to each patient and their needs as not all patients are equal (Carrard, Schmid Mast, Jaunin-Stalder, Junod Perron & Sommer 2018). The communication style adopted by the practitioner has a direct influence on the treatment outcomes but has better results when met with the patient's preferences (Cousin, Schmid Mast, Roter & Hall 2012). A higher practitioner behavior adaptability to the patient's preferences results in higher positive outcomes (Carrard et al. 2018). The adaptability of the practitioner's behavior is fundamental to patient-centered practice, while it is related to patient preferences and the patient profile (Zandbelt, Smets, Oort, Godfried & de Haes 2006). For example, high levels of patient-centered communication when the patient prefers less can be understood as "non-patient-centered" communication because it is not following the patient's preferences (Zandbelt et al. 2006; Thomson, Petty & Moore 2013).

Patients report that osteopaths are more patient-centered oriented (Licciardone & Aryal 2021). From the patient's perspective, the osteopath can understand the patient's complaint and the patient as an individual, while having an empathetic attitude. (Thomson et al. 2013). In contrast, many osteopaths have a more biomechanical approach and are less patient-centered (Dinis, Silva, Cruz, Esteves & Nunes 2022).

Few studies (Olson et al. 2021; Chan et al. 2020; Little et al. 2001) see patient-centered care from the point of view of the patient (Zeh, Christalle, Zill, Härter, Block & Scholl 2021). Patient-centered care is a concept that needs to be addressed considering patients' preferences (Mead & Bower 2000; Thomson et al. 2013; Zandbelt et al.

2006). Thus, assessing patients' preferences can reveal the congruence between patients and health professionals (Epstein et al. 2005). Therefore, the ability to adapt the behavior to correspond to patient needs and wishes (Carrard et al. 2018) can have a relation with the preferences congruence (Krupat, Yeager & Putnam 2000). The aim of this study is to compare the preferences of osteopathy patients, students, and osteopaths on the patient-centered orientation of osteopathic care. To this extent, this research can have the potential to set a baseline for the patient-centered orientation role preferences, in future research, concerning the ability to adapt behavior and how it occurs during osteopathic consultation.

2 Patient-Centered Care

2.1 Patient-Centered Care Concept

Modern medicine is evolving from the old biomedical model, adapting to a biopsychosocial model whose objective is to develop patient-centered care in the healthcare system (Naughton 2018). Patient-centered care has been evolving continuously. In the last years, numerous studies were conducted to understand this concept and its importance for healthcare (Grover et al. 2022). However, although it is now recognized as a fundamental key in the interactions of the therapist-patient relationship (Hudon et al. 2012) and, also, a recommended practice (Grover et al. 2022), there is still some resistance to the acceptance among the existing definitions of a universal definition of patient-centered care (Grover et al. 2022; Gartner et al. 2021; Langberg, Dyhr & Davidsen 2019; Hudon, Forlin, Haggerty, Lambert & Poitras 2011; Mead & Bower 2000).

For several years, illness-oriented medicine was a common perspective in the healthcare systems. Nevertheless, patients' perceptions can be different. A new perspective emerged as patient-centered care, which was first defined as the patient understood as a whole, not just in an illness-centered perspective (Balint 1969). A few decades after this definition emerged, the concept evolved and became more acceptable, creating an impact on therapist care that it should be in correspondence, flexible, and tailored to the preferences, needs, and wishes of the patients (Laine & Davidoff 1996). In contrast, a model was proposed by Steward et al. (1995) and later revised (Ford 2004; Wang, Y. Y. 2005), whereas six components of the patient-centered care

concept were described as exploring both the disease and the illness experience, understanding the whole person, finding common ground, incorporating prevention and health promotion, enhancing the patient–doctor relationship and being realistic. In a review of the conceptual and empirical literature, Mead & Bower (2000) aimed to develop a model of multi-components of the doctor-patient relationship and establish a conceptual framework based on five dimensions, classified as biopsychosocial perspective, patient-as-person, sharing power and responsibility, therapeutic alliance, and doctor as a person.

In a recent literature review, providing an overview, after Mead & Bower's (2000) work, on the development of the patient-centered care concept, it was found that out of the 5 dimensions described above, the doctor-as-person dimension was less frequently found in studies, contrasting with the other four dimensions (Langberg et al. 2019). This is in line with the comparison of Mead & Bower (2000) works in which the dimensions identified are in common with the dimensions found by Steward et al. (1995), except for the doctor-as-person dimension, which was not present (Hudon et al. 2011). Another interesting fact found in the Langberd et al. (2019) review was that the dimension, of coordinated care, was found being cited in last year's studies, however, it was not included in Mead & Bower (2000) studies. This last dimension was identified by Gerteis et al.(1993) from the Picker Program being used as an inspiration for the elaboration of the patient-centered care concept by Institute of Medicine (Langberg et al. 2019). The coordination care dimension resurfaced in the literature (Institute of Medicine (US) 2001). Following, these dimensions can be grouped into 3 elements: 1) the patient 2) the therapist-patient relationship, and 3) the coherence of the treatment. Therefore, patient-centered care is directly linked to the attitudes of the health professional in relation to the way in which he manages the 3 elements. If he takes into account the patients' illness experiences and their life situation, if he acts in a way that develops the relationship between therapist and patient, and whether the therapist ensures that the treatment in the health care system is coherent and accessible (Langberg et al. 2019). The Institute of Medicine suggests that patient-centered care is not just a single quality of the individual health professional but the health system as one (Institute of Medicine (US) 2001), and also, we can have students (Bombeke et al. 2012), healthcare professionals, patients, relationships and healthcare systems all patient-centered (Epstein et al. 2005).

2.2 Patient-Centered Communication

Communication between health professionals and patients is a topic that has gained great importance in recent years (Verlinde, de Laender, de Maesschalck, Deveugele & Willems 2012). Patient-centered communication is seen and accepted as a key component in delivering high-quality healthcare services (Institute of Medicine (US) 2001). This allows the healthcare professional to better exchange information with their patients (Naughton 2018), with an atmosphere that promotes information sharing and patient participation in the decision-making process (Sandhu, Adams, Singleton, Clark-Carter & Kidd 2009). Studies reveal that there is interest in exploring patients' perceptions of communication between health professionals and patients (Verlinde et al. 2012). Patient-centered communication is a fundamental component in the provision of patient-centered health care and as communication requires at least two interlocutors, it also requires that both health professional and patient are engaged in the care process (Kwame & Petrucka 2021). Given the difficulty of a patient in assessing the clinical knowledge and skills of a particular healthcare professional, patients attend a healthcare professional who has a particular interaction style. A change in style on the part of the professional can cause friction in the patient-health professional relationship and cause dissatisfaction (Epstein et al. 2005). Factors such as health professional's communication style, patient characteristics, therapist-patient demographic agreement, and patients' communication style can potentially influence communication (Verlinde et al. 2012). An adaptive and more open communication style can be more efficient than a tight communication type that suits all types of patients because all patients are different (Carrard et al. 2018). Communication styles are diverse, and none should be chosen as the best or standard one (Noll, Rowan, Noll, Ginsberg, Elahi & Cavalieri 2016). Communication is a process developed through time, as also patient-centered care communication, that requires experience (Epstein et al. 2005). It is fundamental that healthcare professionals are conscious of their communication orientation/style as this might affect patient-centered treatment. (Kwame & Petrucka 2021). Communication skills can be trained (Bombeke et al. 2012) and are a component of the curricula in some universities (Laan, Leunissen & van Herwaarden 2010). Taught in a “student-centered” methodology, students respond well to communication training, it creates awareness of those skills and can encourage students to develop their natural style, as well as help awaken them to other roles, plus encouraging flexibility in adopting different styles of communication with the patient (Bombeke et al. 2012).

The health professional adapts his communication style according to the social class, while the patient, depending on the social class, can adopt a different communication style. Patients characterized by lower income, education, and occupation receive, from health professionals, less socio-emotional conversation, and a more direct and less participatory style (Verlinde et al. 2012). In contrast, patients of higher social class are more likely to have positive interactions with health professionals (Aelbrecht, Hanssens, Detollenaere, Willems, Deveugele & Pype 2019) which also tend to adopt a decision-sharing style (Verlinde et al. 2012).

It is important to remember that the characteristics and preferences of the patient influence the interaction between therapist and patient and are not only dependent on the health professional (Verlinde et al. 2012). Patients want to receive information in adequate language but more importantly they want full attention when they are presenting their information (Zeh et al. 2021). There are communication barriers between health practitioners and patients such as attitude and time (Mead & Bower 2000; Naughton 2018). The time barrier, namely the lack of it, works both ways, if, on the one hand, the healthcare professional may feel that he does not have enough time to listen, explain and negotiate with the patient, on the other hand, the patient may feel that he cannot explain clearly his concerns before being interrupted by the professional (Naughton 2018). A divergence of attitudes between both therapists and patients could potentially cause dissatisfaction (Epstein et al. 2005). Patient-centered health communication creates bonds of trust and mutual respect, allowing care to meet patients' needs, concerns, and preferences, thus becoming a therapeutic communication (Kwame & Petrucka 2021).

2.3 Patient-Centered Care Attitudes

Nowadays, Mead & Bower revised dimensions are still relevant as a guide for present and future studies and practices, however, the dimensions are not commonly studied all at the same time (Langberg et al. 2019). Although there are inter-correlations between the dimensions, they represent different aspects of clinical practice and have different development times. In this way, the therapist can demonstrate a greater behavior and attitude towards one or more dimensions and be acting as centered on the patient. This attitude towards a dimension can be influenced by experience or if it was taught because dimensions represent different aspects of clinical practice and the time

to develop is different between them. The therapist-patient relationship is a central pillar and is dependent on the interaction behavior between them. Therefore, demonstrating a behavior more related to one dimension and less related to another can be interpreted as an attitude that is not patient centered. However, if the therapist, based on his experience, adopts a different behavior, meeting the patient's expectations and desires, he is adopting a patient-centered posture (Mead & Bower 2000; Zandbelt et al. 2006).

2.4 Patient-Centered Orientation

The ability of the health professional to adapt his behavior to different patients is described as behavioral adaptability. This behavior adaptation is due to the needs, preferences, and patient heterogeneity (Carrard et al. 2018). The relationship between patient-centered role and non-patient-centered role is not a dichotomy. There are more stages in this relationship, meaning that the healthcare professional may have a role that wanders back and forth at different speeds across the patient-centered care dimensions (Kjeldmand, Holmström & Rosenqvist 2006). The health professional behavior can be evaluated according to own behavior characteristics (Carrard et al. 2018). These behaviors can be categorized into two dimensions, affiliation (agreeableness, friendliness) and control (dominance, power) (Kiesler & Auerbach 2003). These dimensions are globally used in research on social interactions, personality and in models of descriptions of medical interactions (Carrard et al. 2018). Following this context, although there are various patient-centered roles (Bombeke et al. 2012), Krupat, Yeager, & Putnam established two elements of patient-centeredness with opposite extremes: caring and sharing, representing the contrast of patient-centered and doctor-centered (Krupat, Yeager, et al. 2000). The sharing element involves a doctor-centered role where the physician acts as the one who controls the visit, limits the exchange of information, and does not involve the patient in decision making (Krupat, Yeager, et al. 2000). This element corresponds to the control behavior dimension (Carrard et al. 2018). The caring element is the patient-centered style where the physician engages in mutual communication and share-decision with the patient (Krupat, Yeager, et al. 2000) This element corresponds to the affiliation behavior dimension (Carrard et al. 2018). The distinction between the opposing elements is supported by the degree to which the health professional tries to understand the patient's complaints through the patient's perspective. Furthermore, although these elements are on opposite ends, they are not a choice of "right" or "wrong". The success of the different styles is related and depends

on the type of patient orientation (Krupat, Yeager, et al. 2000). Knowing the patient's preferences reveals whether the clinical results obtained is congruent with the patient's wishes and not only with the health professional's wishes (Epstein et al. 2005), additionally, when patient´s expectations are not met, this can potentially lead to patient's complaints (Carnes 2016).

2.5 Patient-Centered Orientation Measurement

Several instruments have been developed over the years to measure physicians' patient-centered communication behavior (Brouwers, Rasenberg, van Weel, Laan & van Weel-Baumgarten 2017). Globally accepted (Wang, J., Zou, Fu, Qian, Yan & Wang 2017; Monteiro Grilo, Santos Rita, Teresa Carolino, Isabel Gomes & Custódio dos Santos 2018) and a common tool used to access attitudes towards patient-centered care (Bejarano, Csiernik, Young, Stuber & Zadro 2022) and was acknowledged as a valid instrument in a review about attitudes measurements (Pollard, Bansback & Bryan 2015), the Patient-Practitioner Orientation Scale (PPOS), developed by Krupat et al. (2000) is a tool that allows to assess patients, health professionals, and health students attitudes, concerning the type of role to play in patient-centered communication. In this way, the PPOS questionnaire classifies subjects as physician-centered, medium-centered, and patient-centered. To distinguish the classification, cutoff points were applied with an average limit greater than 5.00 for patient-centered, between 4.58 and 4.99 for medium centered, and 4.57 for low level and doctor-centered. It should be noted that only above 5.00 is considered patient-centered (Krupat, Rosenkranz, Yeager, Barnard, Putnam & Inui 2000). Within the PPOS scale, there are also two subscales, the sharing subscale is related to the extent of the decision-making process, and the caring subscale is related to the caring subscale assesses, through the respondents' point of view, the extent to which the patient's expectations, preferences and feelings are decisive for the doctor-patient relationship and the treatment process (Krupat, Rosenkranz, et al. 2000).

This questionnaire was already applied in Portugal (Grilo, Santos, Rita & Gomes 2014; Monteiro Grilo et al. 2018; Manchaiah, Gomersall, Tomé, Ahmadi & Krishna 2014; Miguel Cavaco, Grilo & Barros 2020), although it was originally created in English it was culturally translated into Portuguese from Portugal (Monteiro Grilo et al. 2018; Leão 2012), Portuguese from Brazil (Pereira et al. 2013), Spanish (Perestelo-Pérez et al. 2021), Sinhala (Mudiyanse, Wasantha Pallegama, Jayalath, Dharmaratne & Krupat

2015), German (Kiessling, Fabry, Fischer, Steiner & Langewitz 2014), Chinese (Wang, J. et al. 2017), French (Paul-Savoie, Bourgault, Gosselin, Potvin & Lafrenaye 2015), Turkish (Özdemir & Edirne 2018), Italian (Ardenghi 2019), Hungarian, Slovak, Czech and Polish et al. (Bányai 2021).

The areas of health where studies with PPOS were developed were, for example, with audiologists (Bellon-Harn, Azios, Dockens & Manchaiah 2017; Manchaiah et al. 2014; Manchaiah, Dockens, Bellon-Harn & Burns 2017; Laplante-Lévesque, Hickson & Grenness 2014), physicians (Ishikawa, Son, Eto, Kitamura & Kiuchi 2018; Shaw, Woiszwillo & Krupat 2012; Ishikawa, Eto, Kitamura & Kiuchi 2014; Olivero, Miniotti, Bailon & Leombruni 2023; Hur, Cho & Choi 2017), surgeons (Matsen et al. 2020), chiropractors (Hammerich et al. 2019), dieticians (Jones, Eggett, Gunnell Bellini, Williams & Patten 2021), nurses (Feijoo-Cid, et al. 2022; Grilo ym. 2014; Archer, Bezuidenhout, Kidd & Van Heerden 2014), dentists (Lee, M. & Ihm 2021), pharmacists (Miguel Cavaco et al. 2020), and oncologists (Pollard et al. 2015).

3 Osteopathic Care

3.1 Osteopathy Concept

Following a policy of recognition and integration of traditional therapies in health systems, the World Health Organization (WHO) recognized Osteopathy as a manual therapy that uses manual techniques to establish a diagnosis and treatment (World Health Organization 2010). Currently, Osteopathy is practiced in many countries (World Health Organization 2010), and although Osteopathy is an independent branch of healthcare, cooperation with other healthcare professionals is important (European Committee for Standardization - CEN 2015).

The main goal of Osteopathy is to help and support the patient at all stages of their health. It can help through practices informed by evidence, with scientific rigor, based on the analysis of the structure and function of the body, always supported by the critical reasoning of osteopathic principles (European Committee for Standardization - CEN 2015). Historically, the development of osteopathic principles has crossed three periods, constantly changing, and adapting (Stark & Still 2013). Today, Osteopathy is founded on the following principles: The state of health of the human being is influenced by the body, mind, and spirit, working as a dynamic functional unit. The body

has the ability to self-regulate, structure and function operate interrelated (World Health Organization 2010). The osteopathy professional practices according to osteopathic, medical, and scientific knowledge, applying them in the osteopathic diagnosis and treatment of the patient (European Committee for Standardization - CEN 2015).

In recent years, there has been a considerable increase in scientific research in the field of osteopathy (Steel, Sundberg, Reid, Ward, Bishop, Leach, Cramer, Wardle & Adams 2017) which reveals the effectiveness of osteopathy (Rechberger, Biberschick & Porthun 2019). Positive results in improving the health of patients who resort to this type of treatment were found (Burke, Myers & Zhang 2013) with an emphasis on reducing the symptoms of low back pain (Franke, Franke & Fryer 2014; Licciardone & Aryal 2021), costs reduction and hospitalization time (Steel et al. 2017).

3.2 Osteopathic Clinical Reasoning

Osteopathy differs from other health professions in its clinical reasoning approach. In the first phase of the clinical encounter, the osteopath adopts a more biomedical stance to rule out red flag conditions. In a second phase, the osteopath uses osteopathic diagnostic models to define the treatment approach. These models understand the function and structure of the human body and the relationships between them (Grace, Orrock, Vaughan, Blaich & Coutts 2016). Osteopathic clinical reasoning involves processes of hypothetico-deductive reasoning, pattern recognition and collaborative reasoning (Roots, Niven & Moran 2016) or narrative reasoning (King, Kremser, Deam, Henry, Reid, Orrock & Grace 2018; Clifford, Segal, Guterres & Orrock 2022).

There are differences in clinical reasoning between experienced and novice osteopaths. The most experienced Osteopaths use hypothetical-deductive models, pattern recognition, and narrative reasoning models simultaneously, combining the different models. Novice osteopaths, based on their student learning, despite the presence of different models, base their clinical reasoning on the hypothetical-deductive model, having a more practitioner-centered perspective (King et al. 2018).

3.3 Osteopathic Patient-Centered Care

The European Committee for Standardization (CEN) and WHO classify Osteopathy as providing patient-centered health care (European Committee for Standardization - CEN 2015; World Health Organization 2010), with a holistic view of the patient (World Health

Organization 2010) and is based on osteopathic philosophy and principles (Steel et al. 2017; Orrock 2016). Based on patient experiences, these suggest that osteopathy has a holistic (Orrock 2016) and patient-centered approach (Orrock 2016; Licciardone & Aryal 2021; Lam, Banihashem, Lam, Wan & Chow 2019).

Understanding and studying patients' perceptions is a fundamental part of the provision of health services and patient management. In practice, this knowledge can help improve the treatment experience (Judkins, Vaughan & Mulcahy 2017). Patient's perception knowledge about patient-centered care by the health professional enables a better outcome. In the same way, the establishment of a relationship between patient and health professional is equally important for effective communication and shared decision-making (Jaensch, Baker & Gordon 2019). Shared decision-making is fundamental if a personalized osteopathic approach is going to be adopted in the consultation (Baroni, Ruffini, D'alessandro, Consorti & Lunghi 2021). Patients claim that osteopathic health care is individualized and adjusted to their context. The treatment and evaluation plans were also reported to be negotiated between the patient and the therapist (Orrock 2016). Among many other factors, patient preferences can have a direct impact on the osteopath's therapeutic approach (Clifford et al. 2022).

Reports of patients' experiences of osteopathic treatment are connected to patient-centered care components such as knowledge sharing, education, family involvement, collaboration, sensitivity to non-medical issues, respect for the needs and preferences of patients and accessibility of information stand out (Orrock 2016). When the patient's preferences in the osteopathic consultation are considered (Clifford et al. 2022; Baroni et al. 2021), this brings confidence to the patients, which makes it possible, for example, to perform direct manipulation techniques, in a comfortable way for the patient (Clifford et al. 2022).

Patients consider communication, partnership, and health promotion to be important factors in a patient-centered approach (Little et al. 2001). Patient-centered care teaching and training is possible and facilitated by effective patient-centered care communication techniques. This can enhance the transformation of health care provided in the encounter between therapist and patient (Moore, Britten, Lydahl, Naldemirci, Elam & Wolf 2017).

3.4 Osteopathic Communication

Therapeutic communication influences the outcome of the consultation and skills such as collaborative management, patient education, and patient empowerment are important components in the therapeutic communication of osteopaths (Roots et al. 2016). A substantial part of osteopathic consultations comprises communication and dialogue, fostering the development of a therapeutic relationship (Orrock 2016). In addition to the clinical history, patient narration, or perception, touch is a communicative tool available to the osteopath to build the clinical reasoning process (Baroni et al. 2021). Components such as therapeutic relationship and communication are important in osteopathic treatment, however, relationships of trust and hope, improved quality of life, and pain relief (Orrock 2016) are also important elements in managing expectations in the osteopath-patient encounter (Rajendran, Bright, Bettles, Carnes & Mullinger 2012).

Research reveals the importance of studying and creating opportunities for the development of therapist-patient communication and patient-centered care (Carnes 2016). Communication is a fundamental aspect of the therapist and patient relationship; effective communication translates into an improvement in the healing process (Noll et al. 2016). Although patient-centered communication is beneficial for osteopathic consultation outcomes, there is a lack of studies on teaching patient-centered communication techniques to student osteopaths (Muddle, O'malley & Stupans 2019). Communication between healthcare professionals and patients should be included in the education and training process (Carnes 2016). An important aspect in the comparison between experienced and novice practitioners is language differences. Experienced osteopaths, throughout their professional experience, develop this tool, which is an important communication element for a patient-centered approach (King et al. 2018). There are osteopaths who adopt a more therapist-centered posture and others who opt for a more patient-centered communication role. Patients seem to have a preference for a more patient-centered communication role but also reveal general satisfaction with osteopathic care (Lam et al. 2019).

4 Aims and Objectives

Patient-centered care is a concept that needs to be addressed considering patients' preferences (Mead & Bower 2000; Thomson et al. 2013; Zandbelt et al. 2006), assessing patient's preferences can reveal the congruence between patients and health professionals (Epstein et al. 2005). Therefore, the ability to adapt the behavior to correspond to patient needs and wishes (Carrard et al. 2018) could have a relation with the preferences congruence (Krupat, Yeager, et al. 2000).

Based on this, the aim of this study is to compare the preferences of osteopathy patients, students, and osteopaths on the patient-centered orientation of osteopathic care. In this way, this research can have the potential to establish a baseline for the patient-centered orientation role preferences for future research on the ability for adapting behavior and how it takes place during osteopathic consultation.

The research questions set for this study are:

1. What is the internal consistency of Patient-Practitioner Orientation Scale - European Portuguese version work in a data comprising osteopathy patients, osteopathy students, and osteopaths?
2. Is there congruence in the patient-centered orientation between osteopathy patients, osteopathy students, and osteopaths?

5 Methodology

5.1 Design

For this study, a cross-sectional design was selected. A pilot study was conducted in order to access the feasibility of the study.

5.2 Sampling

For this study, three groups were created. Group A was assigned to osteopathy patients, group B to osteopathy students, and group C to working osteopaths.

Group A: The inclusion criteria for this group were participants with age over 18 that previously had osteopathic treatment and living in Portugal. The last register of subject who had osteopathic treatment is an estimate of 1440000 (Bacelar 2017). Participants were voluntarily recruited thru convenience sampling.

Group B: The inclusion criteria were osteopathy students from the Portuguese bachelor program, with ages over 18. Participants were recruited thru the university department or student's association, from Portuguese institutions that currently offer the Osteopathy course. The total population of osteopathy students by the year 2022 was 272. It should be noted that, due to the recent nature of the course, it was not possible to obtain the correct number of students, due to lack of data from 2 higher education schools.

Group C: The inclusion criteria were osteopaths filiated with Portuguese national osteopathic associations. The participants were recruited thru osteopathic professional associations. The total population registered in the Portuguese healthcare professions regulator, Autoridade Central de Sistemas de Saúde (ACSS), is 2299 in December 2022.

5.3 Data Collection

The data was collected between the 10th of February and the 30th of April, using the online software E-Lomake (Eduix Oy) that follows the General Data Protection Regulation (GDPR), which is available for all students through Metropolia University of Applied Sciences, Helsinki, Finland. The subjects had access to the digital questionnaire through an untraceable generated link.

The data was collected in two parts. In the first part, participants read the participant's information sheet and were asked for consent by ticking a box in the online form. These forms can be found in Appendix 1. In the second part participants filled in the questionnaire Patient-Practitioner Orientation Scale - European Portuguese version (PPOS-P) recently translated (Monteiro Grilo et al. 2018), with Cronbach alfa of .65, from the original validated questionnaire (Krupat, Rosenkranz, et al. 2000), which can be found in Appendix 2.

This questionnaire has been used in other patient-centered care studies (Chan et al. 2020; Grilo, Santos, Rita & Gomes 2014) and it is composed of 18 questions (3 questions are reverse worded, and scoring is done reversely) divided into two subscales, sharing and caring. The questionnaire is a Likert 6-point scale where strongly agree is scored 1 and strongly disagree is scored 6. A higher mean score (>5.00) is associated with a patient-centered orientation and inversely a medium (4.57<mean score<5.00) or lower (≤4.57) score means a disease or therapist-centered orientation.

The questionnaire was adapted to the context of the study, as it was already done in other studies (Grilo et al. 2014; Laplante-Lévesque et al. 2014; Jones et al. 2021) therefore the word "Doctor" was replaced with the word "Osteopath".

A pilot test was conducted on the 9th of February and had a participation of 7 subjects from which 5 participants were from Group A (osteopathy patients), 1 participant from Group B (osteopathy students), and 2 participants from Group C (osteopathy professionals). To facilitate the respondents' experience, a small change was made in the form of presentation of the information and questionnaire. Initially, it was presented in three pages, the last page a submission page and to reduce the loss of data due to confusion in submitting data, all information and questionnaire were fitted into one page.

5.4 Data Analysis

Data were analyzed using the statistical software SPSS (IBM Statistic Package for Social Sciences), version 29. Following the questionnaire developers and translating authors' instructions, mean values for each group were calculated to verify the orientation role. All data were checked for normality thru a Shapiro-Wilk and Kolmogorov-Smirnov test. A-NOVA with Post Hoc tests were selected to analyze the differences between groups and Kruskal Wallis was selected to analyze non-normal distributed data.

5.5 Ethics, Reliability, and Validation

5.5.1 Ethics

Study participants were recruited voluntarily and completely anonymously. Anonymity was achieved through the online form that follows the General Data Protection Regulation (GDPR) policy norms and there was no way to store personal information or trace

the questionnaire back to the participant. In order to follow the European Code of Conduct for Research Integrity developed by the All European Academies (ALLEA), the collected data was stored on a personal computer owned by the author and password-protected. Following the principle of transparency, access to data will be open, as far as possible, maintaining integrity and confidentiality (ALLEA 2017).

Complying with the Finnish National Board on Research Integrity TENK guidelines for ethical research, before participants filled in the questionnaire, they had to read a participant information sheet and a consent sheet, which had a tick box to be able to proceed to the questionnaire and start the study. The participant information sheet contained all pertinent information regarding the study, including its purpose and objectives, the level of participation required, the risks associated with the study, the information about the withdrawal of the study, and the authors' contact details (Finnish National Board on Research Integrity TENK 2019).

The questionnaire's original authors as well as the authors that translated the questionnaire into Portuguese European gave their consent for its use. Permission was requested from the Portuguese osteopathy associations to conduct the study from their affiliated practitioners as well as permission from the osteopathic students from the Portuguese universities that offer graduate course in osteopathy.

5.5.2 Validation and Reliability

The PPOS was submitted to a pilot test on the 9th of February and a small change was made in the way the online questionnaire was presented to respondents. For the questionnaire validation, the construct validation was assessed according to Monteiro Grilo et al. (2018) thru an exploratory factor analysis with varimax rotation. Components were extracted for an eigenvalue above 1 and the percentage of total variance explained was articulated with the extracted components. The exploratory factorial analysis was verified through the Measure of Sampling Adequacy from Kaiser-Meyer-Olkin ($KMO>0.7$) and Bartlett`s sphericity test ($p<0.05$).

The reliability of the instrument was measured, also following (Monteiro Grilo et al. 2018; Krupat, Rosenkranz, et al. 2000), through the internal consistency with the Cronbach alfa coefficient. The alfa can be considered satisfactory if $\alpha>0.7$ (Marôco &

Garcia-Marques 2006), and as a reference for this study, due to the translation and adaptation to the Portuguese population, the alfa from the study of Monteiro Grilo et al. (2018) was 0.73.

6 Results

In this study, 191 subjects answered the PPOS questionnaire. Of the 191 respondents, 133 belong to Group A, 6 belong to Group B, and 52 to Group C. Although the questionnaire was relatively quick to fill in, the response rate was Group A=0.01%, Group B=2.21%, and Group C=1.73%. Nonetheless, all proposed procedures were conducted.

Table 1. Report of respondents in each group.

Groups	Respondents
Group A	133
Group B	6
Group C	52
Total	191

6.1 Construct validity of the PPOS-European-Portuguese version

The construct validity was assessed thru a factorial analysis with Varimax rotation, the score in the correlation matrix of the determinant was 0.076. In the variance analysis, five components were extracted for an Eigenvalue of 1 that explained 56.622% of the variance. The KMO Measure of Sampling Adequacy score was average (>0.708) for the strength of the partial correlation between variables. Also, Bartlett`s sphericity test was statistically significant (<0.001), meaning that the variables in the correlation matrix are related.

6.2 Reliability

In the internal consistency, the score in the Cronbach alfa for the PPOS Total Scale was 0.605 which is questionable for internal consistency. To improve the internal consistency of the questionnaire, items were removed one by one until the score was considered acceptable (≥0.7). This process is described in Table 2, after the removal of item 13 “A treatment plan cannot succeed if it is in conflict with a patient’s lifestyle or

values" the alfa increased to 0.664, following the removal of item 17 "Humor is a major ingredient in the doctor's treatment of the patient" it improved to 0.696, and finally with the removal of item 9 "Patients should be treated as if they were partners with the doctor, equal in power and status" the alfa changed to 0.726. Due to the fact that the process reached a value above 0.70 and as removing more items would not lead to a significant improvement, no more items were removed.

Table 2. Removal of items in order of 13, 17 and 9, improved alfa from 0.605 to 0.726.

	Cronbach's Alpha			
	0.605	0.664	0.696	0.726
	Cronbach's Alpha if Item Deleted			
Item 1	0.572	0.637	0.672	0.708
Item 2	0.565	0.636	0.669	0.704
Item 3	0.564	0.630	0.666	0.703
Item 4	0.589	0.650	0.685	0.717
Item 5	0.556	0.626	0.662	0.702
Item 6	0.605	0.665	0.699	0.729
Item 7	0.574	0.642	0.679	0.712
Item 8	0.558	0.628	0.665	0.700
Item 9	0.633	0.692	0.726	
Item 10	0.591	0.660	0.696	0.728
Item 11	0.580	0.646	0.682	0.713
Item 12	0.575	0.639	0.673	0.705
Item 13	0.664			
Item 14	0.607	0.665	0.697	0.729
Item 15	0.556	0.622	0.655	0.694
Item 16	0.586	0.648	0.683	0.715
Item 17	0.636	0.698		
Item 18	0.592	0.655	0.688	0.723

The revised Table 3 describes the scoring for the PPOS total scale and for caring and sharing subscales. The Total scale scored 0.726, the subscale Sharing scored 0.642 and the caring subscale scored lower at 0.551. Regarding the subscales, after the three mentioned items were removed, the internal consistency was calculated without removing any more items. This reorganization of the items allows for the PPOS questionnaire to be used with reliability in the context of this study.

Table 3. Revised Cronbach alfa for the total scale (0.726) and subscales sharing (0.642) and caring (0.551).

PPOS Questionnaire	PPOS Total		Sharing		Caring	
	Corrected item-total correlation	Alpha if item deleted	Corrected item-total correlation	Alpha if item deleted	Corrected item-total correlation	Alpha if item deleted
1. The osteopath is the one who should decide what gets talked about during a visit.	0.248	0.708	0.369	0.601		
2. Although health care is less personal these days, this is a small price to pay for medical advances.	0.309	0.704			0.228	0.542
3. The most important part of the standard medical visit is the physical exam.	0.287	0.703			0.357	0.477
4. It is often best for patients if they do not have a full explanation of their medical condition.	0.184	0.717	0.190	0.644		
5. Patients should rely on their osteopaths' knowledge and not try to find out about their conditions on their own.	0.334	0.702	0.497	0.559		
6. When osteopaths ask a lot of questions about a patient's background, they are prying too much into personal matters.	0.221	0.729			0.255	0.524
7. If osteopaths are truly good at diagnosis and treatment, the way they relate to patients is not that important.	0.293	0.712			0.398	0.470
8. Many patients continue asking questions even though they are not learning anything new.	0.292	0.700	0.352	0.607		
10. Patients generally want reassurance rather than information about their health.	0.135	0.728	0.171	0.657		
11. If an osteopath's primary tools are being open and warm, the doctor will not have a lot of success.	0.270	0.713			0.248	0.524
12. When patients disagree with their osteopath, this is a sign that the osteopath does not have the patient's respect and trust.	0.287	0.705	0.385	0.598		
14. Most patients want to get in and out of the osteopath's office as quickly as possible.	0.145	0.729			0.179	0.552
15. The patient must always be aware that the osteopath is in charge	0.370	0.694	0.449	0.578		
16. It is not that important to know a patient's culture and background in order to treat the person's illness.	0.218	0.715			0.340	0.495
18. When patients look up medical information on their own, this usually confuses more than it helps.	0.235	0.723	0.278	0.625		
Internal Consistency (Cronbach Alfa)	**0.726**		**0.642**		**0.551**	

6.3 Data Normality

The data normality test was calculated for the total scale and for both subscales. Considering the low number of participants, the Shapiro-Wilk test was more suited for this study. Table 4 describes the normality test scores. There were no statistical differences, thus, the data is not statistically different from a normal distribution and parametric tests can be used to analyze data, except for Group C data in the caring subscale where there were significant differences, and the distribution is not normally distributed.

Table 4. Data distributions of groups within the Total Scale, Sharing Scale, and Caring Subscale.

		Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Groups	Statistic	df	Sig.	Statistic	df	Sig.
Total Scale	Group A	0.074	133	0.073	0.993	133	0.800
	Group B	0.297	6	0.105	0.916	6	0.480
	Group C	0.062	52	0.200*	0.984	52	0.726
Sharing Subscale	Group A	0.054	133	0.200*	0.987	133	0.216
	Group B	0.288	6	0.131	0.927	6	0.560
	Group C	0.143	52	0.010	0.958	52	0.065
Caring Subscale	Group A	0.074	133	0.073	0.981	133	0.063
	Group B	0.198	6	0.200*	0.952	6	0.755
	Group C	0.115	52	0.081	0.945	52	0.018

*. This is a lower bound of the true significance.
a. Lilliefors Significance Correction

6.4 Group Comparisons

Table 5 displays the descriptive statistics for PPOS Total scale and both subscales. In the PPOS Total scale subjects from Group A scored a mean value of 4.12 (SD=0.69), in Group B the total score was 4.37 (SD=0.37) and Group C scored 4.37 (SD=0.66). All groups scored below 4.57, fitting in a disease or therapist-centered care orientation. In the Sharing subscale, Group A scored a mean value of 3.78 (SD=0.90), Group B had a mean of 4.08 (SD=0.67), and lastly, Group C scored 3.91 (SD=0.84). In the caring subscale, Group A had a mean value of 4.51 (SD=0.70), Group B scored 4.69 (SD=0.34), and in Group C the mean value was 4.89 (SD=0.70). All three groups scored higher in the Caring subscale compared to the sharing subscale, which reveals that, in addition to the subjects being more therapist-centered, they have preferences for a caring style,

where the patient's preferences, feelings, and expectations are important for the therapist-patient relationship and for the treatment process. Whereas the sharing of power is a more undeveloped component in all three groups and the score in the sharing subscale contributed to the low patient-centered orientation. The mean score on the Caring subscale for Group C was 4.89 (SD 0.70), higher than what was observed on Group A that was 4.50 (SD 0.70). Group C scored in the range of medium centered (> 4.57) in this subscale, whereas, Group A was just below, however, we can see in table 5 that the similar is also found on Caring subscale between group A and B.

Table 5. Preferences for patient-centered role orientation by groups.

Groups		Total	Sharing	Caring
Group A	N	133	133	133
	Mean	4.1227	3.7841	4.5098
	Std. Dev.	0.69360	0.89626	0.70039
Group B	N	6	6	6
	Mean	4.3667	4.0833	4.6905
	Std. Dev.	0.36938	0.67392	0.34306
Group C	N	52	52	52
	Mean	4.3686	3.9104	4.8929
	Std. Dev.	0.65775	0.83522	0.70377

For the comparison of means between groups, ANOVA one way was calculated, and the results are described in Table 6. No significance was found in the homogeneity of variances, meaning that all groups had equal or homogenous variances. No statistical differences were found between groups in PPOS Total Scale (0.073), revealing that all groups are congruent with each other towards the therapist-centered role. In the analysis of the subscales, no differences were found in the Sharing subscale (0.521) for all groups, which in turn shows congruence for the preferences in sharing of power, although, in this study, they scored low.

Table 6. Group comparison in scale and subscales showed significance in Caring Subscale (0.004).

		Sum Sq	df	Mean Sq	F	Sig.
Total Scale	Between Groups	2.437	2	1.219	2.656	0.073
Sharing Subscale	Between Groups	1.000	2	0.500	0.653	0.521
Caring Subscale	Between Groups	5.515	2	2.758	5.722	0.004*

*. The mean difference is significant at the 0.05 level.

The Caring subscale contrasted with the Sharing subscale, thus, significant differences were found between groups (0.004). To check for differences between groups in the Caring subscale, a post hoc test was carried out. As shown in Table 7, the Tukey HSD test revealed that there were differences only between Group A and C. This reveals that the finding in table 5, where on the Caring subscale Group A was on the range of therapist-centered and opposed to Group B and C where they were medium-centered, the comparison test revealed significant differences between Group A and C that were not due by chance.

Table 7. Within groups comparison in Caring Subscale with significant differences between Group A and Group C (0.003)

Dep. Variable	(I) Parallel form	(J) Parallel form	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
Caring Subscale	Group A	Group B	-0.18063	0.28973	0.807	-0.8651	0.5038
		Group C	-0.38301*	0.11354	0.003*	-0.6512	-0.1148
	Group B	Group A	0.18063	0.28973	0.807	-0.5038	0.8651
		Group C	-0.20238	0.29931	0.778	-0.9095	0.5047
	Group C	Group A	0.38301*	0.11354	0.003*	0.1148	0.6512
		Group B	0.20238	0.29931	0.778	-0.5047	0.9095

*. The mean difference is significant at the 0.05 level.

Due to a non-normal distribution in Group C of the Caring subscale, a non-parametrical test was selected to better analyze if there were significant differences. A Kruskal-Wallis test was calculated only for the Caring subscale and as described in Table 8, there were significant differences between groups (0.004). The test allows also to make comparisons between each group and there was a significant difference between Group A and Group C (0.003), hence, in this case, the non-parametric test confirmed the findings of the parametric test (Table7) with the same level of significance. Therefore, Group A and C are significantly different on the subscale Caring in the patient-centered orientation, that is, therapist-centered and medium centered, respectively.

Table 8. Non-Parametric group comparison in Caring Subscale with significant differences between Group A and Group C (0.003).

Kruskal-Wallis Test					
Total N			191		
Test Statistic			11.094[a]		
Degree Of Freedom			2		
Asymptotic Sig. (2-sided test)			0.004		
Pairwise Comparisons					
Sample 1 - Sample 2	Test Statistic	Std. Error	Std. Test Statistic	Sig.	Adj. Sig.[b]
Group A-Group B	-11.882	23.030	-0.516	0.606	1.000
Group A-Group C	-30.030	9.025	-3.327	<0.001	0.003
Group B-Group C	-18.147	23.791	-0.763	0.446	1.000

a. The test statistic is adjusted for ties.
Each row tests the null hypothesis that the Sample 1 and Sample 2 distributions are the same.
Asymptotic significances (2-sided tests) are displayed. The significance level is 0.050.
b. Significance values have been adjusted by the Bonferroni correction for multiple tests.

In general, there is a congruence for preferences of patient-centered role orientation between groups in the PPOS Total scale and Sharing subscale, the only noncongruence found was between Group A and C in the Caring subscale. Although both groups scored high in that subscale, subjects from Group C scored higher.

A deep analysis of the data can help understand better the extent of the congruence between groups and from the point of view of the patients, what contributed the most to therapist-centered or patient-centered and to the Sharing or Caring Subscales. Above, Table 9 reports the mean values for each item of the PPOS questionnaire and the comparison of each mean between groups. To better interpret the weight that each item had for each subscale, the order of the items was rearranged, to divide both subscales.

The items where the subjects of Group A will score higher were item 4 "It is often best for patients if they do not have a full explanation of their medical condition", item 6 "When osteopaths ask a lot of questions about a patient's background, they are prying too much into personal matters", item 7 "If osteopaths are truly good at diagnosis and treatment, the way they relate to patients is not that important" and item 16 "It is not that important to know a patient's culture and background in order to treat the person's illness". Inversely, the lowest scores were in items 3 "The most important part of the standard medical visit is the physical exam" and 18 "When patients look up medical in-

formation on their own, this usually confuses more than it helps". It is relevant to remember that a high mean score is related to disagreement and patient-centered orientation, and the opposite, a low score is related to the agreement and a therapist-centered orientation.

Table 9. PPOS Item contributions for patient-centered role orientations in each group.

PPOS Questionnaire	Group A		A&B**	Group B		B&C**	Group C		C&A**
	Mean	Std. Dev.	Sig.	Mean	Std. Dev.	Sig.	Mean	Std. Dev.	Sig.
Sharing									
1. The osteopath is the one who should decide what gets talked about during a visit.	3.74	1.660	0.244	4.83	1.329	0.187	3.60	1.587	0.858
4. It is often best for patients if they do not have a full explanation of their medical condition.	**5.19**	1.360	0.944	**5.00**	1.265	0.816	4.63	1.495	0.043*
5. Patients should rely on their osteopaths' knowledge and not try to find out about their conditions on their own.	3.30	1.927	0.773	3.83	1.472	0.987	3.71	1.730	0.371
8. Many patients continue asking questions even though they are not learning anything new.	3.86	1.434	0.546	4.50	1.378	0.845	4.15	1.500	0.442
10. Patients generally want reassurance rather than information about their health.	3.38	1.816	0.986	3.50	1.871	0.999	3.47	1.617	0.952
12. When patients disagree with their osteopath, this is a sign that the osteopath does not have the patient's respect and trust.	4.08	1.604	0.639	3.50	1.378	0.656	4.08	1.324	1,000
15. The patient must always be aware that the osteopath is in charge	3.95	1.696	0.997	4.00	1.549	0.639	4.63	1.456	0.029*
18. When patients look up medical information on their own, this usually confuses more than it helps.	2.75	1.640	0.486	3.50	1.643	0.738	3.00	1.328	0.596
Caring									
2. Although health care is less personal these days, this is a small price to pay for medical advances.	3.68	1.726	0.325	2.67	1.506	0.073	4.27	1.598	0.083
3. The most important part of the standard medical visit is the physical exam.	2.74	1.418	0.171	3.83	1.472	0.907	4.10	1.524	<0.001*
6. When osteopaths ask a lot of questions about a patient's background, they are prying too much into personal matters.	**5.52**	1.012	0.928	**5.67**	0.816	0.933	**5.52**	0.828	1,000
7. If osteopaths are truly good at diagnosis and treatment, the way they relate to patients is not that important.	**5.10**	1.230	0.674	4.67	1.862	0.465	**5.29**	1.109	0.606
11. If an osteopath's primary tools are being open and warm, the doctor will not have a lot of success.	4.79	1.398	0.787	**5.17**	0.753	0.620	4.62	1.345	0.718
14. Most patients want to get in and out of the osteopath's office as quickly as possible.	4.49	1.490	0.832	4.83	1.329	0.989	4.92	1.197	0.159
16. It is not that important to know a patient's culture and background in order to treat the person's illness.	**5.23**	1.172	0.208	**6.00**	0.000	0.565	**5.52**	0.918	0.230

*. The mean difference is significant at the 0.05 level.
**. Multi-comparison between groups with ANOVA and Post Hoc test Tukey HSD.

These data reveal the preferences of the patients and which items contributed the most towards patient-centered care, despite their patient-centered orientation. Comparing the two scales regarding the highlighted data, we can see the highest scores in the caring subscale. Related to the items that highly contributed towards patient centered care, item 6 and item 16 mean scores were highly congruent between the 3 groups, all groups share the same preference for questioning the patient. The congruence was very high between Groups A and B in item 6, item 12 "When patients disagree with their osteopath, this is a sign that the osteopath does not have the patient's respect and trust" and item 10 "Patients generally want reassurance rather than information about their health". However, there were non-congruences between Groups A and C, namely, significant differences were found in item 4 (0.043), patients disagree more on this item than osteopaths, in item 3 "The most important part of the standard medical visit is the physical exam"(<0.001) where patient and osteopaths have opposite preferences, patient highly agree that the physical exam is the most important, whereas, osteopath disagree on it, and in item 15 "The patient must always be aware that the osteopath is in charge" (0.043), where the preferences patients slightly disagree and osteopaths moderately disagree.

For patients, it is important to have an explanation of the medical condition, whereas for osteopaths this issue is less important. On the sharing of power, opinions were divided. Osteopaths seem to be more aware of the division of power in the osteopath-patient relationship. Finally, there was a clear difference between these two groups in the importance of the physical examination, where on the one hand patients give great importance, on the other hand, osteopaths consider that this is not the most important part of an osteopathic consultation, other aspects of the consultation such as knowing the patient`s background is more important for osteopaths.

7 Discussion

This study aimed to validate the PPOS questionnaire in the Portuguese osteopathic context and to give an understanding of the orientation toward patient-centered care of osteopathy patients, students, and osteopaths. For this purpose, two preliminary questions were elaborated that defined the development of the research study. In this chapter, the results referring to each of the two research questions will be discussed individually.

7.1 Internal consistency of Patient-Practitioner Orientation Scale - European Portuguese version in the selected data

Self-report questionnaires are widely used, both at the scientific research and at a clinical level, as they can potentially help health professionals in various ways, such as identifying behaviors and attitudes. When using self-report questionnaires, steps need to be taken to ensure the validity and reliability of the results (Demetriou, Ozer & Essau 2015).

The factorial analysis with varimax rotation, for the construct validity, showed average adequacy in KMO, and Bartlett sphericity test was significant, these results reveal the existence of correlation in the variables. These findings were in agreement with those from Monteiro Grilo et al. (2018) and Perestelo et al. (Perestelo-Pérez et al. 2021) studies.

The internal consistency in this study was 0.605, however, after removing three items the score improved to 0.726, this score has also been similarly found in other studies (Monteiro Grilo et al. 2018; Ishikawa et al. 2014). These items have proved to be problematic, and their removal was recommended in the internal consistency analysis, the removal of said items reveals congruence with other studies (Bányai et al. 2021; Özdemir & Edirne 2018; Monteiro Grilo et al. 2018; Perestelo-Pérez et al. 2021). The consistency of the findings in this study with those from Monteiro Grilo et al. (2018) in the same cultural environment shows a good validity of both studies.

A fact that is quite common to find in studies using the PPOS questionnaire is the higher internal consistency in the sharing subscale when compared to the caring subscale (Hammerich et al. 2019; Bellon-Harn et al. 2017; Ishikawa et al. 2014; Archer et al. 2014; Laplante-Lévesque et al. 2014; Bányai et al. 2021), this study was no exception, the subscale sharing (0.642) showed higher internal consistency than the caring subscale (0.551).

The results obtained in the construct validation showed a good correlation between the items, meaning that they are correctly measuring what they should measure and in the internal consistency with the removal of the items, the reliability was improved, therefore, these findings reinforce the interpretation that the items of the PPOS questionnaire are suitable and relevant.

7.2 Validity

In this section, we will discuss the validity of the study in a qualitative way. Validity is related to how much the results between subjects are generalizable among subjects from similar contexts. There are two branches of validity, internal validity, and external validity.

Internal validity is understood as the representativeness of the observed data as being true for the population under study. Measurement errors or selection of subjects for the study are elements that can affect internal validity. External validity is about how much the results can be generalized to the population that the study sample was intended to represent. External validity can be affected by the sampling process (Andrade 2018; Patino & Ferreira 2008).

7.2.1 Internal Validity

7.2.1.1 Self-reported online questionnaires

Self-reported questionnaires are usually used in scientific research and in cross-sectional studies (Demetriou et al. 2015), and nowadays online self-reported questionnaires perform well (Leeuw, Hox & Dillman 2008). They are a quick, low-cost way to potentially reach a large sample size. The random status of the distribution of the questionnaire improves the generalizability of the results. This type of instrument can also be sensitive to invalid responses, untrue responses, or open questions that are subjective, and increase bias (Demetriou et al. 2015). The questionnaire in this study uses a 6-point Likert scale, in addition to its anonymity, it reduces the potential pressure on responses, allowing participants to have the necessary time and privacy. Another issue is whether subjects tend to respond in the same way, or if the scale has an average response option, this can lead to participants avoiding answering a question by stating the midpoint as neither agreeing nor disagreeing (Demetriou et al. 2015). In this aspect, the questionnaire of this study is of 6 points, which does not allow a neutral answer.

An advantage of online questionnaires is the non-errors due to manual typing of the data or loss of information. The outcomes are automatically recorded with the exact answers from the participants and are readily available to be analyzed (Mekhora, Jalayondeja, Jalayondeja & Bhuanantanondh 2014).

Another relevant issue is the fact that studies of this type, without an interviewer, can lead the participant not to respond properly or even to drop out of the questionnaire, due to not having the interviewer to give explanations to potential doubts (Leeuw et al. 2008). Taking this into account, prior to completing the questionnaire, participants had access to a participant information sheet (Appendix 1.1) and a consent sheet (Appendix 1.2), with detailed information to minimize doubts about the study, in addition to providing the contact of the author for any doubts that might occur. These procedures contribute to the validity of the present study.

7.2.1.2 PPOS Questionnaire

The PPOS questionnaire was created in 2000 and literature searches on similar studies with the questionnaire date back to the present day, which shows its continued use. Furthermore, as highlighted in chapter 2.5 of this study, the PPOS questionnaire was translated into several languages and adapted to multicultures and multicontexts. However, one issue was found in some articles and in this study regarding the items, mainly with items 9 “Patients should be treated as if they were partners with the doctor, equal in power and status”, 13 “A treatment plan cannot succeed if it is in conflict with a patient’s lifestyle or values” and 17 “Humor is a major ingredient in the doctor’s treatment of the patient”. The same removal procedure done by Monteiro Grilo et al. (2018) and Bányai et al. (2021) was adopted in this study, which improved the internal consistency of the questionnaire. For this reason, it is recommended to calculate internal consistency when using this questionnaire, to verify the need or not to remove items.

7.2.1.3 Feasibility Study

Feasibility studies are important to improve the procedures and processes of a study with a consequent improvement in the efficiency and internal validity of a study. Due to its importance, it must be reported in detail (Arain, Campbell, Cooper & Lancaster 2010).

Considering that the questionnaire has already been adapted and translated, the pilot study aimed to verify that there were no hyperlink connection problems, layout errors, reading difficulties, or problems with data submission. Participants were representatives of each group and were informed that this was a pilot study and that they would not participate in the general study and were also asked for feedback.

Two participants reported confusion when sending data. Initially, the questionnaire had 3 pages, in the first page was located the participants' informed consent sheet and the consent sheet, on the second page there was the questionnaire, and due to some problem in the software that surpassed the author, a third page was generated by the software that contained a data submission button. Feedback focused on the confusion after filling out the questionnaire when clicking on the "Continue" button. Concerns were, if the data would already be sent or not, or if it would be necessary to click on the button on the third page. Regarding this issue, participants gave feedback about changing from three pages to two or one pages with just one button to submit data. Considering that the questionnaire is not very long, to facilitate the experience of the participant and to potentially reduced nonresponses due to issues in the design of the questionnaire (Leeuw et al. 2008), the change was made, two pages were not possible due to software constraints, and for this, the layout was changed to one page.

Another comment from two participants of slight relevance was in question 17 "Humor is a major ingredient in the doctor's treatment of the patient", the word "Humor" generated a little conflict in its interpretation, and no changes were made to the question. It should be noted that in the study of the translation and adaptation of Monteiro Grilo et al. (2018) into European Portuguese from the PPOS questionnaire, the authors mentioned that the issue with this item may be related to the meaning of this word in the Portuguese context, to which, although they validated the use of the questionnaire with all the items, they cautioned to review this item in the future.

7.2.2 External Validity

As mentioned before, external validity is related to the generalizability of the results to another population, however, before external validity, if the internal validity is in fact low, the inferences of the results must be incorrect and, in this way, the generality loses

its importance. Furthermore, the generalization of results is ensured due to a high internal validity (Rothman, Gallacher & Hatch 2013). Generalization is influenced by factors such as sample randomness, representativeness, or sample size.

7.2.2.1 Random Sample

The sampling method was purposive sampling, which guaranteed sample randomness and the same sampling probability.

7.2.2.2 Representativeness of Sample

The representativeness of the sample expresses how much the characteristics of the sample are shared by the population that the sample represents. Socio-demographic characteristics are a common example of sample characteristics. The present study did not collect sociodemographic characteristics for two reasons. Firstly, to maintain the anonymity of the participants, and secondly, due to bias in the correlation of these characteristics with the PPOS questionnaire. Focusing the discussion on this last point, we will expose the findings of the studies on this subject and their inconsistencies according to the groups of this study.

In studies with patients, Krupat et al. (2000) found differences in patient gender, but the subjects all fell into the same patient-centered orientation preference category. However, opposite to the findings in gender, no differences were found by Shaw et al. (2012), Mudiyanse et al. (2015), Wang et al. (2017), and Manchaiah et al. (2017). Also, no differences were found in age (Manchaiah et al. 2017; Wang, J. et al. 2017; Shaw et al. 2012) and education (Wang, J. et al. 2017).

In studies with students, Grilo et al. (2014) found significant differences in students' years of schooling, and in contrast, Hammerich et al. (2019) found no significant differences between students from different countries in this characteristic. Archer et al. (Archer et al. 2014), in turn, found negative differences over the years of schooling of students, but all were in the same category. Regarding gender, differences were found in two studies (Lee, M. & Ihm 2021; Hammerich et al. 2019), despite being significant, the preference category for patient-centered orientation was the same, and not found in two studies (Hammerich et al. 2019; Grilo et al. 2014).

In studies with health professionals, Krupat et al. (2000) and Cavaco et al. (2020) found differences in the gender and experience of the professionals, but the subjects all fell into the same category of patient-centered orientation preference. In contrast, several studies found no significant differences in gender, age (Wang, J. et al. 2017; Ishikawa et al. 2014), and education (Ishikawa et al. 2014).

Specifically in professionals from the same health area, no relationship was found between demographic factors such as gender (Bellon-Harn et al. 2017; Manchaiah et al. 2017; Laplante-Lévesque et al. 2014), age, years of experience (Bellon-Harn et al. 2017; Manchaiah et al. 2017), religious beliefs (Manchaiah et al. 2017) type of education, work setting (Bellon-Harn et al. 2017) and patient-centered preferences between patients and audiologist professionals.

These conflicting findings in these types of sociodemographic characteristics affect the representativeness of the sample for the PPOS questionnaire. The issue could be, potentially, due to the sampling of sociodemographic characteristics as representative of psychological features such as behaviors or opinions (Leeuw et al. 2008). Furthermore, future studies on the PPOS questionnaire should consider psychological characteristics such as attitudes or empathy, to improve representability.

7.2.2.3 Sample Size

The sample size of this study was low, which translated into a low response rate. This can negatively influence the study's validity, however, the validity of a study, as discussed above, is composed of several parameters. The response rate for Group A was 0.01%, for Group B was 2.21% and for Group C was 1.73%. It should be noted that the group A population was based on estimates (Bacelar 2017).

The construction of the methodology considered the facilitation for the participants in completing the questionnaires, so that they were quick and easy to understand, to increase the response rate. Refusal to participate in questionnaires is a major obstacle, as well as dropping out during completion (Leeuw et al. 2008) and in recent years there has been a decrease in the number of participants in this type of study (Rindfuss, Choe, Tsuya, Bumpass & Tamaki 2015). The studies that use questionnaires should report response rates (Leeuw et al. 2008), however, it was not found in studies in the literature of this study. An aspect that contributed to the low response rate was the low

collaboration of institutions that were asked to participate. There is no specific technique that increases the response rate, however, assuring participants that data will be stored securely, and ensuring confidentiality and anonymity can help gain participants' cooperation and trust (Leeuw et al. 2008). This study was created considering the above, to increase the response rate.

When comparing the sample size with other studies, there are studies with smaller sample sizes (Matsen et al. 2020; Shaw et al. 2012; Bellon-Harn et al. 2017), studies with similar sizes (Manchaiah et al. 2017; Lee, K. H., Seow, Luo & Koh 2008), and with larger sizes (Hammerich et al. 2019; Hur et al. 2017; Bányai et al. 2021).

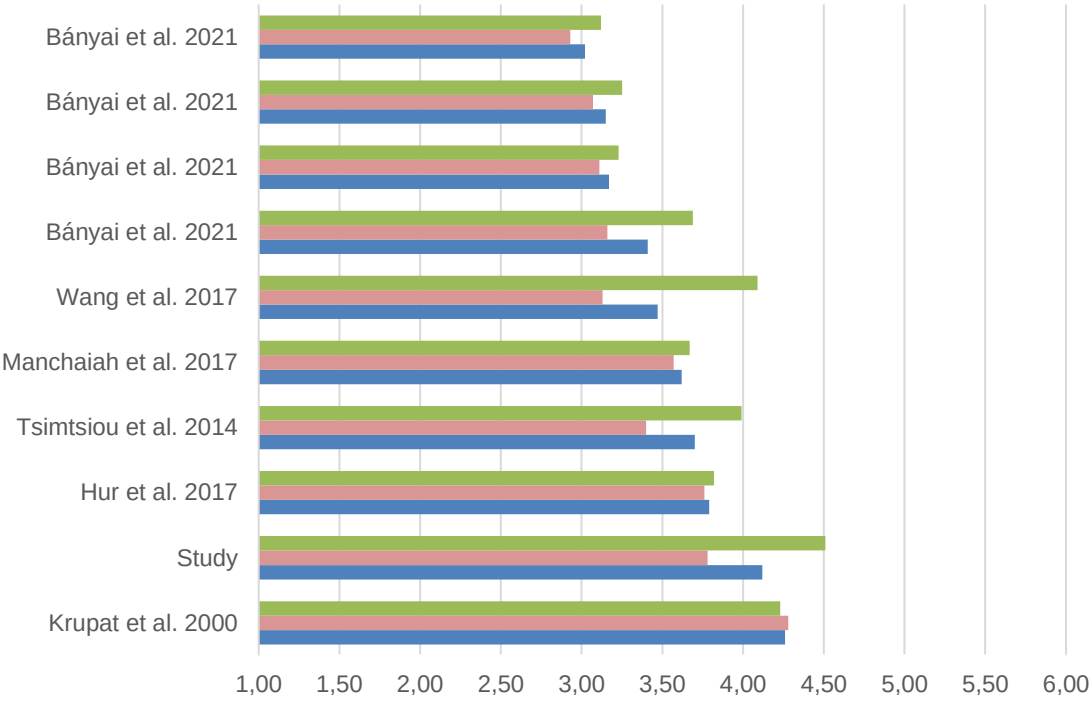
The response rate of the study negatively affects the validity of the study, however, when comparing the sample size with other studies, this study sits in the middle. Worth remembering that the other studies, high or low in sample, did not report their response rate.

7.3 The congruence in the patient-centered orientation between osteopathy patients, osteopathy students, and osteopaths

There is a need to establish a universally accepted concept of patient-centered care and its implementation involves therapists in their daily professional practice and interaction with patients (Grover et al. 2022). The therapeutic approach is affected and shaped by several factors, patient preferences being one of them (Clifford et al. 2022). Knowing patients' preferences can allow therapists to create strategies to implement patient-centered care (Zeh et al. 2021). The scientific literature over the years has clarified the benefits and positive impacts on patient satisfaction of the therapist adopting a patient-centered attitude, however, there is an improvement in patient satisfaction when there is congruence in the style of interaction between therapist and patient (Krupat, Yeager, et al. 2000).

The questionnaire has been translated and applied in several cultures, however, it has been greatly applied to students and professionals. Patients on the other hand have been less studied with the PPOS (Bányai et al. 2021), still, usually, patients score in the range of therapist-centered. Even less studied in the same research are patients, students, and professionals, no literature was found. In Figure 1 we can compare this study’s PPOS mean scores with similar studies in patients. The studies were conducted in different countries with a high number of subjects, and patients are mainly

from general practice, except the study by Manchaiah et al. (2017) which were audiologist patients. The Total mean result from this study was higher than the other studies and close to the total mean from the initial study from the developer Krupat, Rosenkranz, et al. (2000). However, contrary to this study and like all other studies, the subscale Caring was higher than the Sharing subscale. It is not clear what patient characteristics, such as demographics, contribute to patient-centeredness, nonetheless, from the studies in Figure 1 the results are quite heterogeneous.



	Krupat et al. 2000	Study	Hur et al. 2017	Tsimtsiou et al. 2014	Manchaiah et al. 2017	Wang et al. 2017	Bányai et al. 2021	Bányai et al. 2021	Bányai et al. 2021	Bányai et al. 2021
Caring	4,23	4,51	3,82	3,99	3,67	4,09	3,69	3,23	3,25	3,12
Sharing	4,28	3,78	3,76	3,40	3,57	3,13	3,16	3,11	3,07	2,93
Total	4,26	4,12	3,79	3,70	3,62	3,47	3,41	3,17	3,15	3,02

Figure1. Patients mean score was similar to the scale developer Krupat, Rosenkranz, et al. (2000) and higher than the other studies.

There is quite a difference between the two subscales, power sharing is a component that can be improved, and as mentioned by Grover et al. (2022) and Zeh et al. (2021), the osteopath has the potential to create conditions to implement power-sharing attitudes between osteopath and patient, although, it must be taken into account the osteopath's orientation in relation to the sharing subscale because if the osteopath has the

same orientation or less, this could be a barrier to the implementation of power-sharing. Patient-centered care increases satisfaction, however, the existence of congruence between both parties also generates satisfaction for patients (Krupat, Rosenkranz, et al. 2000). This study found that all groups were therapist-centered oriented with congruence between groups, the students and the osteopaths also scored higher in the caring subscale, although, in this subscale, there was a noncongruence between patients and osteopaths, with a significant difference between them. This congruence between osteopaths or therapists and patients was not observed in a comparison conducted in the USA between audiologists and patients in the total scale and subscales, also, they reported general differences in the items (Manchaiah et al. 2017). In the reported items, the items that most contribute towards a patient-centered care approach were items 4 “It is often best for patients if they do not have a full explanation of their medical condition”, item 6 “When osteopaths ask a lot of questions about a patient’s background, they are prying too much into personal matters” and item 7 “If osteopaths are truly good at diagnosis and treatment, the way they relate to patients is not that important”, which our study had similar findings. Bányai et al. (2021), conducted a study in Hungary, Slovakia, Czech Republic, and Poland with an N=4000 and they found, as seen in Figure 1, that patients were therapist-centered, and in the items analysis, the higher PPOS mean scores found were on items 4, 6, 7 and 11 in Hungary, items 4, 7 and 11 in Slovakia, and items 4 and 11 in Czech Republic and Poland. Similarly, our study found the same higher mean values and in item 11 “If an osteopath’s primary tools are being open and warm, the doctor will not have a lot of success”, although was not highlighted in our study due to other higher items, the score in our study is in the range of the findings for item 11 in Bányai et al. (2021) study.

From the patient's perspective, their main patient-oriented characteristics are fundamentally based on Caring. It seems to be transversal to the patients in the mentioned studies that their approach to patient-centered healthcare is more strongly based on aspects related to the creation of interpersonal relationships through active listening, being friendly, and questioning all the necessary elements, including their background. In the decision-making process, patients score very low, nonetheless, it is a main characteristic, presented in all previous studies, patients expect of a full explanation of the medical condition. Therefore, patients prefer that osteopaths ask questions and are interested in their background in order to have a clear explanation of their medical condition and that they perform a good physical examination, as they consider the osteopath

to be a reliable source of information about their medical condition. In addition to an interest in the patients' backgrounds, they also value the development of a good osteopath-patient relationship.

8 Conclusion

In this study, although, there were issues with items 9, 13, and 17, overall, the PPOS revealed acceptable internal consistency in the Total scale (α=0.726) and is a reliable instrument to measure patient-centeredness orientation in osteopathy patients, osteopathy students, and osteopaths. The subscale Sharing (α=0.642) was higher than the subscale Caring (α=0.551), however, this is a consistent finding in the literature. The construct validation showed a good correlation between items, these findings reinforce the interpretation that the items of the PPOS questionnaire are suitable and relevant. Furthermore, the results in this study showed consistency with those from the study of Monteiro Grilo et al. (2018). Both studies were conducted in the same cultural environment, this shows a good validity of both studies.

The data suggest that osteopathy patients have a therapist-centered orientation, as also osteopathy students and osteopaths. Furthermore, in a perspective of congruence between osteopath-patient in the consultation and treatment process, this orientation has the potential to be considered, which was found among the studied groups. In addition, the characteristics of patients, in relation to patient-centered care, that are more relevant and should be considered, are, building interpersonal relationships with active listening, being friendly, and open questioning to the extent that it allows osteopaths to build a clinical case and clearly explain their medical condition in words they understand.

Following this study and based on the work of Krupat, Rosenkranz, et al. (2000), there is potential to apply the PPOS questionnaire to osteopaths and patients and combine them according to their congruent and non-congruent patient-centered orientations and assess whether there is an adaptation of osteopath attitudes during the osteopathic encounter and subsequently assess patient satisfaction. Combined with the creation of patient profiles, that consider attitudes or empathy, regarding patient-centered care orientations, it increases the possibilities for the osteopath to use this data to design and implement patient-centered care strategies that are truly patient-centered.

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Participants Information Sheet

Study title: How do You Want to be Approached by Your Osteopath? Patient Preferences for a Patient-Centered Role Orientation in Osteopathy – A Cross-Sectional Study

Invitation to participate in a research study

We would like to invite you to participate in our research study where the objective of our study is to understand from the patient's point of view what attitude the osteopath should have when providing patient-centered health care. With this study, we intend to reach the general population that has been consulted by an Osteopath before, student Osteopaths and Osteopaths.

This information sheet describes the study and Your role in it. Before you decide, it is important that You understand why the research is being done and what it would involve for You. Please take time to read this information and discuss it with others if You wish. If there is anything that is not clear, or if You would like more information, please ask us. After that, we will ask You to give consent to participate in the study.

Voluntary nature of participation

Participation in this study is entirely voluntary. You can withdraw from the study at any time without giving any reason and without there being any negative consequences. If You withdraw from the study or withdraw Your consent, any data collected from You before the withdrawal can be included as part of the research data.

Purpose of the study

The concept of Patient-Centered Health Care provided by the Osteopath must respect the preferences and desires of the patient during the clinical encounter. Knowing these preferences can help the Osteopath to adapt his behavior and decisions to meet the preferences of his patients and consequently provide better osteopathic healthcare.

This study aims to provide data for a better understanding of osteopathy patients' preferences regarding the patient-centered role orientation that osteopaths should have.

Who is organizing and funding the research?

This study is carried out by Bruno Alexandre D. Mendes under the supervision of Metropolia University of Applied Sciences, Helsinki, Finland.

What will the participation involve?

Your participation in this study will involve filling out a questionnaire that takes approximately 10 minutes to complete in which none of the answers will identify you. The questionnaire questions, which are scientifically validated, are about how much you agree with the statements regarding patient-centered care.

No questions about personal data or data that identify you will be asked, nor will a record be made that can trace back to you. The link to the questionnaire is generic and does not store any tracking information.

You can withdraw at any time during the completion of the questionnaire, however, after submitting the questionnaire it will not be possible to remove the date submitted as it will not be possible to track your responses.

Possible benefits of taking part

There are no direct benefits to being part of the study, however, indirectly it could potentially benefit osteopathic healthcare and consequently patients.

Possible disadvantages and risks of taking part

There are no risks with your participation in the study and there are no disadvantages.

Financial information

Participation in this study will involve no cost to You and You will receive no payment for Your participation.

Informing about the research results

The research results will be used as a part of the thesis for Bruno Alexandre D. Mendes's Master's degree in Osteopathy at Metropolia University of Applied Sciences, Helsinki, Finland. Furthermore, potentially the results can be presented in scientific journals or conferences, and in any case, no participant will be identifiable.

Further information

Further information related to the study can be requested from the researcher / person in charge of the study.

Contact details of the researchers

Researcher / Student
Name: Bruno Alexandre D. Mendes
Email: Bruno.Mendes@metropolia.fi

Person in charge of the study / Supervisor
Name: Eija Metsälä
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PARTICIPANT CONSENT FORM

Title of the study: How do You Want to be Approached by Your Osteopath? Patient Preferences for a Patient-Centered Role Orientation in Osteopathy – A Cross-Sectional Study

Location of the study: Online study

Researcher / Student
Name: Bruno Alexandre D. Mendes
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Person in charge of the study / Supervisor
Name: Eija Metsälä
Helsinki Metropolia University of Applied Sciences
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I have been invited to participate in the above research study. The purpose of the research is to provide data for a better understanding of osteopathy patients' preferences regarding the patient-centered role orientation that osteopaths should have.

I have read and understood the written participant information sheet. The information sheet has provided me sufficient information about above study, the purpose and execution of the study, about my rights as well as about the benefits and risks involved in it. I have had the opportunity to ask questions about the study and have had these answered satisfactorily.

I have had sufficient information of the collection, processing and transfer/disclosure of my personal data during the study.

I have not been pressurized or persuaded into participation.

I have had enough time to consider my participation in the study.

I understand that my participation is entirely voluntary and that I am free to withdraw my consent at any time, without giving any reason. I am aware that if I withdraw from the study or withdraw my consent, any data collected from me before my withdrawal can be included as part of the research data.

By ticking in the box, I confirm that I voluntarily consent to participate in this study ☐

Questionnaire

Patient-Practitioner Orientation Scale

The statements below refer to beliefs that people might have concerning doctors, patients, and medical care. Read each item and then blacken in the circle to indicate how much you agree or disagree with each.

		Strongly disagree	*Moderately disagree*	*Slightly disagree*	*Slightly agree*	*Moderately agree*	*Strongly agree*
1.	The doctor is the one who should decide what gets talked about during a visit.	O	O	O	O	O	O
2.	Although health care is less personal these days, this is a small price to pay for medical advances.	O	O	O	O	O	O
3.	The most important part of the standard medical visit is the physical exam.	O	O	O	O	O	O
4.	It is often best for patients if they do not have a full explanation of their medical condition.	O	O	O	O	O	O
5.	Patients should rely on their doctors' knowledge and not try to find out about their conditions on their own.	O	O	O	O	O	O
6.	When doctors ask a lot of questions about a patient's background, they are prying too much into personal matters.	O	O	O	O	O	O
7.	If doctors are truly good at diagnosis and treatment, the way they relate to patients is not that important.	O	O	O	O	O	O
8.	Many patients continue asking questions even though they are not learning anything new.	O	O	O	O	O	O
9.	Patients should be treated as if they were partners with the doctor, equal in power and status.	O	O	O	O	O	O
10.	Patients generally want reassurance rather than information about their health.	O	O	O	O	O	O
11.	If a doctor's primary tools are being open and warm, the doctor will not have a lot of success.	O	O	O	O	O	O
12.	When patients disagree with their doctor, this is a sign that the doctor does not have the patient's respect and trust.	O	O	O	O	O	O
13.	A treatment plan cannot succeed if it is in conflict with a patient's lifestyle or values.	O	O	O	O	O	O
14.	Most patients want to get in and out of the doctor's office as quickly as possible.	O	O	O	O	O	O
15.	The patient must always be aware that the doctor is in charge	O	O	O	O	O	O
16.	It is not that important to know a patient's culture and background in order to treat the person's illness.	O	O	O	O	O	O
17.	Humor is a major ingredient in the doctor's treatment of the patient.	O	O	O	O	O	O
18.	When patients look up medical information on their own, this usually confuses more than it helps.	O	O	O	O	O	O

©

Patient-Practitioner Orientation Scale (Portuguese European)

	Completamente em desacordo	*Moderadamente em desacordo*	*Ligeiramente em desacordo*	*Ligeiramente de acordo*	*Moderadamente de acordo*	*Completamente de acordo*
1. É o osteopata que decide o que é conversado durante uma consulta.	O	O	O	O	O	O
2. Apesar de hoje em dia o serviço de saúde ser menos personalizado, este é um pequeno preço a pagar pelos avanços na área da medicina.	O	O	O	O	O	O
3. A parte mais importante de uma consulta osteopática comum é o tratamento físico.	O	O	O	O	O	O
4. Muitas vezes é melhor para os pacientes não terem uma explicação completa da sua condição médica.	O	O	O	O	O	O
5. Os pacientes deveriam confiar no saber do seu osteopata e não procurarem, pelos seus próprios meios, informação sobre o seu estado.	O	O	O	O	O	O
6. Quando os osteopatas fazem muitas perguntas sobre o passado do paciente, estão a intrometer-se demasiado em assuntos pessoais.	O	O	O	O	O	O
7. Se os osteopatas forem realmente bons no diagnóstico e tratamento osteopático, a forma como se relacionam com os pacientes não é muito importante.	O	O	O	O	O	O
8. Muitos pacientes continuam a fazer perguntas, apesar de não estarem a aprender nada de novo.	O	O	O	O	O	O
9. Os pacientes deveriam ser tratados como parceiros dos osteopatas, com igualdade de poder e estatuto.	O	O	O	O	O	O
10. Geralmente, os pacientes preferem ser tranquilizados a possuírem informação sobre a sua saúde.	O	O	O	O	O	O
11. Se as principais ferramentas do osteopata forem ser aberto e caloroso, este não terá muito sucesso.	O	O	O	O	O	O
12.Quando os pacientes discordam do osteopata, isso é um sinal de que este último não possui o respeito e a confiança do paciente.	O	O	O	O	O	O
13. Um plano de tratamento não pode ser bem-sucedido se colidir com o estilo de vida e os valores do paciente.	O	O	O	O	O	O
14. A maior parte dos pacientes quer entrar e sair do gabinete osteopático o mais depressa possível.	O	O	O	O	O	O
15. O paciente tem que ter sempre presente que é o osteopata que manda.	O	O	O	O	O	O
16. Não é muito importante saber informações sobre a cultura e o passado do paciente para tratar a doença de uma pessoa.	O	O	O	O	O	O
17. O humor é um dos principais ingredientes utilizado pelo osteopata no tratamento do paciente.	O	O	O	O	O	O
18. Quando os pacientes procuram informação médica pelos seus próprios meios, isso habitualmente costuma confundir mais do que ajudar.	O	O	O	O	O	O