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Thematic and methodological examination of theses on manual therapy in Türkiye

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Abstract

This research was conducted to examine postgraduate, doctoral, and medical theses written on manual therapy from a thematic and methodological perspective. This study includes only theses written on manual therapy on the National Thesis Center of the Republic of Türkiye. The National Thesis Center database was performed between January 2000–June 2024 using the keywords "mobilization, manipulation, chiropractic, osteopathy, manual therapy, myofascial release, ischemic compression, and trigger point." Seven theses were registered in the National Thesis Center between 2000 and 2016, and 114 between 2016 and 2024, for a total number of theses of 121. The majority of theses (67.8%) were written in the department of physiotherapy and rehabilitation. It was determined that the majority of the studies were designed as randomized controlled trials (51.2%). The most frequently evaluated parameters in the studies were pain and functionality (31.4%). Manual therapy methods were found to be mostly used in spinal pathologies (57.9%) and chronic diseases (83.5%). These results reveal the multidimensional effects of manual therapy on different parameters and interest in new evaluation parameters. More studies are needed to discuss the evidence-based impact of manual therapy methods.

Keywords: Manual therapy, thesis, manipulation, mobilization

Introduction

Higher education institutions are high-level institutions that advance scientific studies, and research produces knowledge and technology. Higher education institutions support development and progress in national and international areas by ensuring the dissemination of scientific data [1]. In our country, it is observed that contributions to education have increased as a requirement of the information age. Especially in the field of higher education, the number of universities offering associate, undergraduate, and graduate programs has increased [2]. Today, there are 168 universities in Türkiye. A total of 111 higher education institutions in Türkiye offer undergraduate programmes in physical therapy and rehabilitation. Among

universities, 31 universities have graduate education programs, and 19 of them provide doctoral education in the field of physiotherapy and rehabilitation.

According to the Higher Education Council Thesis Center data, 185 theses were written in graduate programs of Physiotherapy and Rehabilitation. Of the theses produced, 44.6% were in pediatrics, 13.2% in orthopedics, 12.9% in neurology, and 6.7% in general physiotherapy and rehabilitation. Research conducted in graduate programs of physiotherapy and rehabilitation has examined the effects of exercise, electrotherapy, different massage techniques, and rigid-flexible taping [3]. In addition to these methods, in recent years, research has also been conducted on the effectiveness of techniques under the title of

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manual therapy, such as myofascial releases [4,5], soft tissue mobilizations [6-11], and joint mobilizations-manipulations [8,9,12-22]. Manual therapy has become one of the frequently applied methods in the treatment of musculoskeletal system diseases; it is seen as a treatment option worthy of research in graduate education due to its reliability, ease of application, and the positive results it creates in patients [3,5,11,23-30].

Manual therapy is generally defined as the deliberate application of externally produced force to body tissue for therapeutic purposes, typically through the hands. Manual therapy is generally defined as the intentional application of externally produced force to body tissue for therapeutic purposes through the hands. It includes touch-based interventions such as thrust manipulation, joint mobilization, soft tissue mobilization, and neurodynamic movements [6-19]. Although manual therapy techniques are often found in studies conducted in the field of orthopedics [6,13,23,26,30-32], they are also used in areas such as neurology [4,25], pediatrics [30], and cardiopulmonary [23,25,31]. Research comparing the effectiveness of these techniques with other treatment methods used in physical therapy, as well as the effects of their combined use, is being investigated. There are studies showing the superiority of techniques over each other or that combined studies are more beneficial. Manual therapy has also been shown to have positive effects on many parameters such as pain [4,7,9,12,14,17,21,24,26-28,32-35], functional level [7,17,24,26-28], and improvement in daily living activities [4], depression [27], respiratory functions [23,25,31], balance [7,12,13,26], and sleep quality [14]. According to the studies results in the literature, it can be said that manual therapy is frequently used in extremity and trunk pathologies, especially in the spine [8,12,17,20,32]. The effectiveness of manual therapy techniques in the acute and chronic phases of diseases is debatable [7,28,33-35]. Although manual therapy has become a widely used technique in many fields in recent years, there is insufficient research on its long-term and short-term outcomes [25,26,35]. Regarding manual therapy, it is observed that the number of studies aimed at reducing disease symptoms, increasing functionality, and selecting appropriate treatment techniques is gradually increasing. It is believed that more high-evidence research is needed to reveal the effects of the techniques used and to establish specific protocols [29,36]. A methodological examination of theses conducted in this field can guide future research on many topics such as the techniques used, application periods according to the type of pathology, and their effects.

Therefore, this study aimed to examine the only open-access theses published in the National Thesis Center between 1 January 2000 and 30 June 2024 in the field of manual therapy, which focus on manual therapy within the field of physiotherapy and rehabilitation, as well as across various related disciplines, from both thematic and methodological perspectives.

Material and Methods

Type of Research

In this study, the document analysis data collection method was used. The document analysis data collection method is a scientific research method that involves querying, examining, and analyzing the sources included in the study's dataset in a specific order [36,37]. This method provides comprehensive information about the applications related to the subject being researched. The study was conducted at the Gaziantep Islamic Science and Technology University, Department of Physiotherapy and Rehabilitation.

Research Universe and Sample

The study was conducted by examining graduate theses and specialization theses in medicine related to manual therapy performed in Türkiye. These theses on manual therapy, in specific years, specific academic levels were included, written in Türkiye; theses not primarily focused on manual therapy, inaccessible full texts were excluded in this study. The database used was the National Thesis Center, where graduate theses are officially published in Türkiye. A search was conducted in the National Thesis Center using the keywords "mobilization, manipulation, chiropractic, osteopathy, manual therapy, myofascial release, ischemic compression, and trigger point" related to manual therapy. In accordance with the keywords, a total of 121 theses conducted between 2000 and 2024 were reviewed.

Data Collection Tools

The graduate theses conducted in the field of manual therapy, registered in the National Thesis Center, were examined based on the following 12 variables:

1. Year of thesis publication
2. Main discipline of the thesis
3. Distribution of the theses according to Physiotherapy-Rehabilitation and Medical Fields
4. Type of the thesis
5. Number of participants studied in the theses
6. Genders of participants studied in the theses
7. Assessment methods used in the theses
8. Pathology regions studied in the theses
9. Acute-chronic status of the pathology studied in the theses
10. Manual therapy techniques applied in the theses (treatment methods)
11. Short-term (acute) and long-term effects of the techniques applied in the theses
12. Comparison of treatment methods in the theses

Based on these variables, the publication years were examined to determine the distribution of the theses by year. Manual therapy is not only a physical therapy method used by physiotherapists and manual therapists to treat musculoskeletal pain and injuries but is also a preferred method in the studies of other professional branches [35,38]. To report the departments using the method, the main disciplines (orthopedics, neurology, cardiopulmonary, pediatrics, other) in which the theses were conducted were analyzed. In order to obtain the highest level of evidence regarding a clinical problem, the best evidence that is most objective in terms of research methodology should be sought [37]. At the same time, the breadth of the group studied increases the reliability of the study [36,37,39]. Therefore, to examine the evidence levels of the studies, the types of studies, the number of participants, and the gender distributions were analyzed. Although manual therapy is primarily known as a preferred treatment method for orthopedic diseases, its treatment scope has expanded today, and it is reported to be effective in treating conditions in fields such as neurology, pediatrics, and cardiopulmonary, along with relevant studies [4,23,25,30,31]. For this reason, the distribution of theses according to physiotherapy-rehabilitation and medical fields was researched. The studies indicate that manual therapy techniques not only have effects on pain reduction and joint range of motion but also influence functionality [7,17,27], quality of life [14,28], performance [15,38] and balance [7,12,13,26]. It is believed that the effects of manual therapy techniques vary depending on the body part affected by the pathology and whether the pathology is in an acute or chronic stage. In theses examining acute and chronic conditions of pathologies, the authors' statements in the study were taken into consideration. Therefore, the theses were analyzed based on these parameters to reveal the method's temporal effects. At the same time, the theses on manual therapy were examined in terms of the most commonly used methods in the evaluation.

When reviewing studies related to manual therapy techniques, differences in the selected methods stand out. Manual therapy employs techniques such as mobilization, manipulation [29,34,39], chiropractic [8,9,12-22], osteopathy [30,38], and myofascial release [4,5]. Studies exist where these methods are compared to other physical therapy modalities [3,5,6,10-12,14,19-21,23,24,27,31,33,34] and to each other [8,9,16]. In this review, the theses were examined in terms of the manual treatment techniques applied and the methods compared. The reviews indicate that while manual therapy has a good acute recovery response, there is still insufficient evidence regarding its long-term effects [25,26,35]. Based on this, the examined theses were also analyzed in terms of treatment techniques and their acute/long-term effects.

Researchers were divided into three separate groups, and four variables were defined for each group. Each group searched the database according to its own variable criteria. Finally, under the supervision of a responsible advisor, all researchers discussed whether the theses reached by the researchers met the criteria,

and studies were selected for inclusion and exclusion based on a consensus decision.

Data Analysis

Each analysis dimension in the thesis review form developed by the researchers was converted into a spreadsheet using Microsoft Excel 2010. First, demographic information (thesis title, publication year, department), thematic information (field of study), and methodological information (short-term (acute) and long-term effects of the thesis, study group, thesis sample type, pathologies, and techniques used) were included in each row. Excel macros were used to perform searches based on a predetermined criterion (e.g., finding theses related to an author or a university). The created spreadsheet prepared the study for data recording. The 422 theses within the scope of the study were examined according to these criteria, and each data was recorded in the relevant column. The 422 theses included in the study were examined according to these criteria, and each data point was recorded in the relevant column. 90 of the theses were inaccessible, 100 were studies that fell into the therapy category but did not meet our search criteria, 75 were not in the field of medicine and physiotherapy, and 36 could not be classified according to any variable. There are no language restrictions for the included theses.

Ethical Aspects of the Research

Postgraduate theses of the Council of Higher Education National Thesis Center are accessible electronically in order to contribute to science and support scientific research and activities, in accordance with the provisions of Additional Article 40 of Higher Education Law No. 2547. Since these theses have been reviewed in accordance with Personal Data Protection Law, no "Ethical Approval" was required.

Results

When examining the distribution of a total of 121 theses by year, it is observed that the first place is held by 114 theses (94.2%) between the years 2016-2024, the second place by four theses (3.3%) between the years 2000-2008, and the third place by three theses (2.5%) between the years 2008-2016.

In the distribution of the theses by their major disciplines, it was found that most of the 121 theses were written in the Department of Physiotherapy and Rehabilitation, with 82 master's theses (67.8%) and 20 doctoral theses (16.5%). Twelve (9.9%) were in the field of Medical Specialization, and seven (5.8%) were in other fields. In the distribution of theses according to Physiotherapy-Rehabilitation and Medical fields, the orthopedics field ranked first with 95 theses (78.5%). This was followed by ten theses (10.7%) in the other fields, ten theses (8.3%) in neurology, two theses (1.7%) in cardiopulmonary, and one thesis (0.8%) in pediatrics. The distribution of thesis numbers by year, major discipline, and field is presented in Table 1.

Table 1. Distribution of theses by year, department and field

Variables	n %	p
Publication year		
2000-2008	4	3.3
2008-2016	3	2.5
2016-2024	114	94.2
Department		
PTR master's degree	82	67.8
PTR doctorate	20	16.5
Medical specialization	12	9.9
Other	7	5.8
Field (PTR- medicine)		
Orthopedics	95	78.5
Neurology	10	8.3
Cardiopulmonary	2	1.7
Pediatrics	1	0.8

PTR: Physiotherapy and Rehabilitation, n: Number of theses, %: percentage

It was found that theses conducted in the field of manual therapy were most commonly planned as randomized controlled trials, with 62 (51.2%) and 50 (41.3%). Cross-sectional and other study types were identified as comprising four (3.3%) and five (4.1%) of the total theses, respectively. When the theses were examined according to participant numbers, it was determined that most theses, 51 (42.1), were conducted with the participation of 40-59 people. Additionally, 46 theses (38%) involved 10-39 participants, 16 theses (13.2%) involved 60-79

participants, and eight theses (6.6%) involved more than 80 participants. When examining the distribution of participants by gender in the 121 theses studied in the field of manual therapy, it was found that a total of 96 theses (79.3%) included both male and female participants, 17 theses (14%) included only female participants, and eight theses (6.6%) included only male participants. The results of the examination based on the type of study, participant numbers, and gender of the theses are presented in Table 2.

Table 2. Methodological characteristics of theses

Variables	n	%
Field (PTR- Medicine)		
Randomized	50	41.3
Randomized controlled	62	51.2
Cross-sectional	4	3.3
Other	5	4.1
Number of participants		
10-39	46	38.0
40-59	51	42.1
60-79	16	13.2
80 and above	8	6.6
Gender		
Female	17	14.0
Male	8	6.6
Female- male	96	79.3

PTR: Physiotherapy and Rehabilitation, n: Number of theses, %: percentage

In the studies, pain, functionality, and quality of life were identified as the most frequently evaluated parameters, accounting for 31.4%. In 22.3% of the studies, pain was evaluated along with performance, normal joint mobility, and balance, while other parameters termed as depression, sleep quality, and respiratory function were observed to be evaluated in 18.2% of the studies. It was noted that pain, classified as parameter number 0, was not evaluated individually in the studies. The evaluation methods used in the theses are presented in Table 3.

Table 3. Evaluation methods used in theses

Assessed parameters	n	%
0 and 1 (Pain + Function/QOL)	38	31.4
0 and 2 (Pain + Performance, ROM, Balance)	27	22.3
0 and 3 (Pain + Other)	17	14.0
Performance, ROM, Balance	11	9.1
Other (Depression, sleep, etc.)	22	18.2
Functionality/QOL Only	6	5.0

0: Pain, 1: Functionality and Quality of Life, 2: Performance, ROM, Balance, 3 (Other): depression, sleep quality, respiratory function, n: Number of theses, %: percentage

When examining the distribution of the theses according to the pathological regions, it was found that the first place was held by the spine region with 70 theses (57.9%), the second place by other regions with 24 theses (19.8%), the third place by the upper extremity with 16 theses (13.2%), and the fourth place by the lower extremity with 11 theses (9.1%). In the theses included in the research, based on the acute-chronic condition of the pathology, it was found that 101 theses (83.5%) focused on chronic diseases, 19 theses (15.7%) were categorized as other, and one thesis (0.8%) looked at acute diseases. The distribution of the theses by pathological region and the acute-chronic condition of the pathology is presented in Table 4.

Among the manual therapy techniques applied in the theses, mobilization was most frequently used in 48 theses (39.7%), and manipulation methods were used in 37 theses (30.6%). Other treatment methods under categories such as classical physical therapy methods, dry needling/acupuncture, kinesio taping, and exercise were identified in 24 theses (19.8%), while soft tissue applications were included in 12 theses (9.9%). The manual therapy methods applied in the theses are presented in Table 4.

Table 4. Characteristics of pathology examined in theses and manual therapy techniques applied in theses

Variables	n	%
Pathology area		
Spine	70	57.9
Upper extremity	16	13.2
Lower extremity	11	9.1
Other	24	19.8
Pathology status		
Chronic	101	83.5
Acute	1	0.8
Other	19	15.7
Application type		
Mobilization	48	39.7
Manipulation	37	30.6
Soft tissue applications	12	9.9
Other	24	19.8

n: Number of theses, %: percentage

When examining the short-term and long-term (acute-chronic) effects of the methods applied in the examined theses, it was found that 60 theses (49.6%) had acute effects, while the remaining 61 (50.4%) had long-term effects. When studies comparing manual therapy methods to other physiotherapy methods were examined, it was found that exercise applications were present in 30 (24.8%) of the studies. Additionally, methods (injection, surgery, etc.) that are not applied in the field of Physiotherapy but are used in different fields (medicine, etc.) and compared with manual therapy methods are given under the

title of other. Accordingly, it was determined that 22 (18.2%) of the studies were conducted under this title. 17 (14%) studies comparing the methods within manual therapy and 20 (16.5%) studies discussing pre-treatment and post-treatment results were identified. In addition, 16 (13.2%) studies comparing the results of electrophysical agents, 10 (8.3%) placebo, and 3 (2.5%) studies comparing the results of taping and dry needling applications were identified. The short and long-term (acute-chronic) effects and comparisons of the methods applied in the theses are given in Table 5.

Table 5. Effect duration of techniques applied in theses and comparisons

Variables	n	%
Duration of effect (treatment result)		
Acute effect	60	49.6
Long-term effect	61	50.4
Exercise	30	24.8
Other	22	18.2
Compared methods		
Pre-post treatment	20	16.5
Manual therapy	17	14.0
Electrophysical agents	16	13.2
Placebo	10	8.3
Taping	3	2.5
Dry needling	3	2.5

n: Number of theses, %: percentage

Discussion

This study was conducted to evaluate the thematic and methodological characteristics of master's, doctoral and medical specialization theses on manual therapy manual therapy in different departments in Türkiye. The study analyzed the results related to variables such as the department in which the postgraduate theses were conducted, the type of study, the number of participants, gender, acute/chronic conditions of pathologies, treatment techniques and short/long-term effects. In the study, 121 theses in the field of manual therapy were examined using the keywords "mobilization, manipulation, chiropractic, osteopathy, manual therapy, myofascial release, ischemic compression and trigger point" in the National Thesis Center database. When the departments in which the theses were written were examined, it was seen that the vast majority of theses were written in the department of physiotherapy and rehabilitation. This may be due to the frequent application of manual therapy by physiotherapists. When the literature is examined, the widespread use and importance of manual therapy in the field of physiotherapy and rehabilitation is stated

[4-39]. According to the results of this study, it was determined that there were more theses in master's programs in the field of manual therapy than in doctoral programs. We believe that this result developed due to the increasing interest in this field in our country, after Europe, and the frequent use of manual therapy methods such as chiropractic and osteopathy in clinics. Manual therapy is also used in the field of medicine in addition to physiotherapy. In this study, the majority of theses are in the field of physiotherapy and rehabilitation, while studies in the field of medicine are expressed proportionally. It was determined that interventions such as injection, surgery, and manipulation under anesthesia were examined comparatively with manual therapy in theses in the field of medicine. In the analyzed theses, it was seen that manual therapy methods were used and analyzed in different fields such as neurology, pediatrics, orthopedics and cardiopulmonary. However, it was determined that the majority of theses were master's theses in the field of orthopedic rehabilitation [6,13,23,26,30-32]. One reason for this may be the larger orthopedic patient population and the easier application of manual therapy to orthopedic patient groups compared to other patient groups.

Randomized controlled trials are accepted as the gold standard for clinical evidence-based studies in scientific research. Randomized controlled trials are considered as second-level evidence in making decisions about implementation and are the main source for systematic reviews and meta-analyses, which are considered as first-level evidence [3]. In a study conducted by Yılmaz et al., it was stated that experimental (randomized controlled) studies were the most preferred in doctoral theses in the field of Physiotherapy and Rehabilitation [30]. In the theses examined in this study, it was seen that randomized controlled trials were preferred more than other types of studies as a study type. This result is important in terms of revealing short/long-term effects in an evidence-based manner, since manual therapy is a new treatment approach widely used in clinics. In the 121 theses related to manual therapy that we conducted through the National Thesis Center, it was determined that the studies were conducted with at least 14 and at most 173 people. It was seen that the study with the highest number of participants was in the field of orthopedic [6,13,23,26,30-32] and the study with the lowest number of participants was in the field of physiology [31,38]. Sağır compared laser applications and ischemic compression in chronic pelvic pain [34]. Akkaş evaluated the effects of osteopathic manual treatment (omt) on anaerobic performance and blood lactate clearance in elite athletes [38]. It was observed that the number of participants in studies conducted on orthopedic problematic diseases such as chronic low back pain, chronic neck pain, and fibromyalgia, which are frequently encountered in relation to the pathology area and patient diagnoses, was higher than in others. It was determined that the number of participant samples was considered a limiting factor in most of the theses examined and that future studies were recommended to be conducted with higher participant numbers [24].

Although it is known that the prevalence of pain in regions such as the waist and neck is higher in women than in men due to postural and hormonal reasons, it was seen that most of the studies evaluated both male and female participants together. In this study, it was determined that the majority of theses (79.3%) were conducted with the participation of both genders [10,13,17,24,25,35,37]. The effects of manual therapy applications are evaluated not only on pain and functionality; but also with many different parameters such as respiratory function [23,25,31], depression level [27] and sleep quality [14]. Ögüten examined the effects of thoracic chiropractic applications and chiropractic combined with breathing exercises on respiratory function parameters, blood pressure, and heart rate in smokers aged 18-50 years [31]. Akbaba investigated of the effects of manual therapy and proprioceptive neuromuscular facilitation techniques on pain, functionality, and depression in patients with subacromial impingement syndrome [27]. Apo compared the effects of pilates and scapular mobilization exercises on posture, sleep, and quality of life in people with neck pain [14]. This diversity reveals the multidimensional effects of manual

therapy on different parameters and shows the interest in new evaluation parameters.

It was seen that the majority of theses first focused on pathologies in the spine region. It has been found that manual therapy is frequently used in pathologies such as acute-chronic neck and back pain and kyphosis, where biomechanical changes of the spine are seen [8,12,17,20,32]. Among these diseases, back pain is one of the most common health problems in all societies. It is known that 70-80% of people experience back pain at some point in their lives [24]. The most common musculoskeletal disease after back pain is neck pain. The general prevalence of neck pain in the general population varies between 0.4% and 86.8% (average: 23.1%) [25]. Accordingly, it can be seen as normal that the studies conducted mostly focus on these regions. Coşkun evaluated spinal manipulation, activator, and mulligan techniques on pain in mechanical neck pain [9]. Aktaş investigated combined use of cervical and lumbar mobilization on neck pain and functionality [17]. It was determined that the pathological regions that the theses focused on in the second and third places were the upper and lower extremities. The upper extremity is a region that is actively used in functional activities in daily life. It is open to injuries that occur after overuse due to repetitive movements. In the upper extremity, diseases such as subacromial impingement syndrome, rotator cuff tears, and lateral epicondylitis are frequently seen [3,10,12,18,19,24,27]. Diseases such as osteoarthritis, ankle joint limitations [13], hallux valgus [16], and lateral ankle strain [15] are observed in the lower extremity. Yıldırım assessed the effects of different talocrural joint mobilization techniques on jump performance and kinesiophobia in elite basketball players with ankle sprain [15]. Tuğrul compared the immediate effects of mobilization and manipulation with sham manipulation in patients with hallux valgus [16]. The other areas (pelvic floor, temporomandibular joint dysfunction, bruxism) were also included in the studies [5,26,34,35]. According to the study results, it can be said that manual therapy is frequently used in extremity and trunk pathologies, especially in the spine. Manual therapy's effectiveness of in acute and chronic diseases is also investigated in studies. There are studies in the literature examining the positive/negative effects of manual therapy techniques on the symptoms of diseases that occur in the acute and chronic periods [7,28,33-35]. The number of studies conducted on chronic diseases is higher than the number of studies conducted on acute diseases. Of the 121 studies examined, 101 were conducted on chronic diseases (e.g., chronic low back and neck pain, osteoarthritis), and 19 were performed on healthy or athletic individuals. This situation is consistent with the literature and shows that chronic diseases are more prevalent in research [7,28,33-35]. There are studies conducted on both short-term, and long-term effects of manual therapy [25,26,35]. Although there are studies evaluating its effectiveness in the long term, there is also the opinion that this

effectiveness has not been sufficiently demonstrated in well-designed randomized controlled trials [3]. It was determined that a significant portion of the theses examined in this study evaluated short-term and long-term effects comparatively [25,26,35]. Yıldız examined the immediate and short-term effects of manual therapy techniques on pain, balance, and functional status in patients with temporomandibular joint dysfunction [26]. In neurological and orthopedic patient groups where the effects of manual therapy have been studied, its acute effects on pain mechanisms [4,7,9,12,14,17,21,24,26-28,32-35], and positive improvements in functionality [7,17,27] are noted. It is known that improvements are observed in daily life activities in patients with decreased pain and increased functionality [4]. Many studies have indicated that manual therapy applications increase the range of motion [4], and performance [15,38] in individuals and have positive effects on balance development [7,12,13,26]. Therefore, investigating the long-term and short-term effects of manual therapy on disease symptoms can offer evidence-based guidance for effective application. This situation can be evaluated as a sign that manual therapy is not limited to the orthopedic field only but can also be effective in other physiotherapy areas (neurology, pediatrics, cardiopulmonary).

Manual therapy approaches are generally divided into two categories: joint [8,9,12-22] and soft tissue techniques [6-11]. In this study, it was determined that techniques such as mobilization, manipulation [6-22], chiropractic [8,9,12-22], osteopathy [30,38], and myofascial release [4,5]. [8,10,18,34,39], ischemic compression and trigger point [34,35] are used under the heading of manual therapy. It was found that the two different manual therapy methods mentioned above were compared with each other in the theses reviewed (14%). It was also seen that manual therapy methods were compared with other treatment methods in the theses. Studies comparing them with exercise in particular (24.8%) were seen most commonly. Aslanov investigated manual therapy and scapular stabilization exercises on pain, functional status, and life quality in patients with subacromial impingement syndrome [24]. Alı evaluated cervical stabilization exercises and cervical stabilization exercises-chiropractic applications on lordosis and pain in patients with cervical hypolordosis exercise [32]. Büke compared Mulligan mobilization technique and core stabilization exercises in women with knee osteoarthritis [6]. This was followed by comparisons with electrophysical agents (13.2%). In addition, there are studies comparing manual therapy applications with other physiotherapy techniques such as decompression, splint, proprioceptive neuromuscular facilitation, muscle energy technique and pilates [5,10,14,20,22,27]; and with different methods in the field of medicine [6,13,23,26,30-32]. Aslanlı compared chiropractic spinal manipulation and local decompression device in patients diagnosed with lumbar disc herniation [20]. Kırkaya compared Mulligan mobilization technique and proprioceptive neuromuscular facilitation techniques in patients with rotator

cuff syndrome [10]. Hatık compared chiropractic manipulation and muscle energy technique in the treatment of sacroiliac joint dysfunction [22]. Electrophysical agents are known as basic therapeutic interventions and are a method used together with manual therapy techniques in the management of a wide variety of soft tissue disorders [11,12]. Aksakal compared manual neural mobilization and conventional physiotherapy and rehabilitation in patients with carpal tunnel syndrome [11]. Similar to the results of this study, Steuri et al. reported that manual therapy methods were mostly compared with exercise applications in their studies examining the methods applied in treatment. In addition, it has been reported that there are many studies showing that manual therapy methods are superior to exercise [3].

Limitations

A limitation of this study is that it was conducted using only one database (National Thesis Center), as theses from other databases could not be included. Another limitation is that the study is limited to Türkiye and includes only theses published on manual therapy, not all studies. The study is purely descriptive; the lack of any evaluation of the quality of the theses and the absence of inferential statistics can be considered a limitation.

Conclusion

It is important for the development of science that theses in postgraduate programs are conducted on a specific topic, and that the data specific to the topic are scientifically evaluated, analyzed, and processed. We believe that more research is needed to clearly demonstrate the positive and negative effects of manual therapy methods compared to other physiotherapy practices.

Ethical Approval

This study does not require ethics committee approval. Therefore, ethics committee approval was not applied for this study.

Patient Consent

Not necessary for this manuscript.

Conflict of Interest

The authors declare no conflict of interest.

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