ISSN: 2651-4451 • e-ISSN: 2651-446X

Turkish Journal of Physiotherapy and Rehabilitation

2023 34(3)346-356

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Received: 16.01.2023 (Geliş Tarihi)
Accepted: 14.06.2023 (Kabul Tarihi)

ROTATOR CUFF DISORDERS: A SURVEY OF CURRENT PHYSIOTHERAPY PRACTICE IN TURKIYE

ORIGINAL ARTICLE

ABSTRACT

Purpose: One of the most important factors guiding the physiotherapy program for rotator cuff disorders (RCD) is the clinical preferences of the physiotherapist in light of the evidence. However, the management parameters are remarkably variable between physiotherapists. It was aimed to describe the current physiotherapy practice of Turkish physiotherapists for the management of RCD and to explore its parallelism with the research evidence, and with the clinical perspective in European countries.

Methods: A cross-sectional online survey based on a clinical scenario that describes a typical patient with symptoms of RCD was conducted during July/August 2020. Descriptive responses of 104 physiotherapists were reported and analyzed by grouping physiotherapists with special interest (SI) who have further clinical experience or specialized training on RCD and no special interest (NSI).

Results: The most preferred approaches were mobilization (82), scapular stabilization exercises (82), advice/education (71), and taping (62). The preference rate of cold therapy (x^2=4.303, p=0.038) and isometric exercises (x^2=4.248, p=0.039) were significantly higher for physiotherapists with SI rather than NSI group.

Conclusions: The most preferred management strategies of mobilization, exercise, and advice/education have been aligned with the preferences of physiotherapists from European countries and the current research evidence. However, passive modalities were also highly preferred. The management strategies differ between the physiotherapists who have SI and NSI. The high degree of practice variability and passive treatment preference of physiotherapists for the patients with RCD might be due to a lack of following the current literature evidence regularly.

Keywords: Rotator Cuff, Shoulder, Survey/s

ROTATOR MANŞET PATOLOJİLERİ: TÜRKİYE'DE MEVCUT FİZYOTERAPİ UYGULAMALARI

ARAŞTIRMA MAKALESİ

ÖZ

Amaç: Rotator manşet patolojilerinde (RMP) fizyoterapi programına yön veren en önemli faktörlerden biri, bilimsel kanıtlar ışığında fizyoterapistin klinik tercihleridir. Bununla birlikte yönetim parametreleri fizyoterapistler arasında oldukça değişkendir. Bu çalışmada Türk fizyoterapistlerin RMP tedavisi için kullandıkları mevcut fizyoterapi uygulamalarının tanımlanması ve bu uygulamaların literatür kanıtları ve Avrupa ülkelerindeki klinik bakış açısı ile paralelliğinin incelenmesi amaçlandı.

Yöntem: RMP semptomları olan tipik bir hastayı tanımlayan bir klinik senaryoya dayalı kesitsel bir online anket Temmuz/Ağustos 2020 tarihleri arasında uygulandı. Yüz dört fizyoterapistin tanımlayıcı yanıtları, RMP ile ilgili daha fazla klinik deneyime veya eğitime sahip olan (SI) ve olmayan fizyoterapistler (NSI) olarak iki gruba ayrılarak raporlandı ve analiz edildi.

Sonuçlar: En çok tercih edilen yaklaşımlar mobilizasyon (82), skapular stabilizasyon egzersizleri (82), tavsiye/eğitim (71) ve bantlamaydı (62). Soğuk uygulama (x^2=4,303, p=0,038) ve izometrik egzersiz (x^2=4,248, p=0,039) tercih oranı SI grubundaki fizyoterapistler için NSI grubuna göre anlamlı olarak yüksekti.

Tartışma: En çok tercih edilen yönetim stratejileri olan mobilizasyon, egzersiz ve tavsiye/eğitim Avrupa ülkelerindeki fizyoterapistlerin tercihleri ve güncel literatür kanıtlarıyla uyumlu olarak bulundu. Ancak pasif modaliteler de yüksek oranda tercih edilmişti ve SI ve NSI gruplarındaki fizyoterapistlerin yönetim stratejileri de farklılık gösteriyordu. RMP hastaları için fizyoterapistler arasındaki yüksek oranda uygulama değişkenliği ve pasif tedavi tercihi, güncel literatür kanıtlarının düzenli olarak takip edilmemesine bağlı olabilir.

Anahtar Kelimeler: Rotator Manşet, Omuz, Anket

INTRODUCTION

Shoulder pain is one of common musculoskeletal problems encountered in primary healthcare institutions and it affects 15-30% of the general population (1,2). Of all cases of shoulder pain, up to 80% are derived from rotator cuff disorders (RCD) (3). The symptoms of pain and functional limitations according to RCD cause difficulties during activities of daily living, work, and sport (4,5). Over 40% of individuals with RCD reported continuing or recurring symptoms 12 months after onset (6).

Physiotherapy approaches constitute an important and comprehensive part of the treatment program for RCD (7). However, there has been considerable variability relating to the current physiotherapy practice (8-12). Along with the inadequacies in applying for evidence-based physiotherapy, the results of studies investigating the effectiveness of exercise therapy alone and exercise therapy combined with manual therapy are contradictory. (13, 14). In addition, recently the application of kinesiotaping has not been recommended and it was concluded that there is a lack of evidence of electrotherapy in the management of RCD (14-17).

As physiotherapists play a key role in the management of RCD, they should practice their profession based on current, valid, and relevant evidence. In this context, Littlewood et al. conducted a survey on physiotherapists to investigate the clinical practice for RCD and it was emphasized that the clinical practice of physiotherapists has a wide range of different perspectives which is limitedly supported by recent scientific evidence (19). Bury and Littlewood repeated the same survey after 5 years to understand whether the practice has been updated considering current evidence and they concluded that the practice had evolved in line with research evidence (20). It was reported that physiotherapy practice aligns with current evidence-based recommendations for the management of RCD by the studies, conducted in Belgium & Netherlands (BE & NL) and Italy (21,22).

To our knowledge, no similar research has been conducted to determine existing physiotherapy approaches for RCD in Türkiye. Hence, we aimed to identify the current physiotherapy practices of Turkish physiotherapists and investigate how their practices correspond with the current evidence, and additionally compare the results with circumstances in other European countries. Moreover, it was aimed to analyze the potential practice variabilities between physiotherapists with special interest (SI) who have further clinical experience or special education (i.e., specific training course in the management of RCD) and have no special interest (NSI).

METHODS

Study Design

This study was designed as a cross-sectional observational study. An online survey developed by Bury and Littlewood is based on a clinical scenario that describes a typical patient with symptoms of RCD and consisted of 11 questions about physiotherapy practice for the patient (20). The survey was adapted to the Turkish language with the permission of the authors. The translated survey was piloted by four senior clinicians, to have a clear translation before dissemination. According to feedback from the pilot process, some items of the open-ended question about prescribed exercise instructions (Question 8) were modified. The item of ''frequency'' was asked separately as daily and weekly frequency and the item of ''quality of movement'' was detailed as "pace" and "fluidity" in parentheses.

This study was approved by the Ethical Committee of Marmara University Health Science Faculty, with protocol number 25.06.2020/38 and conducted in accordance with the Declaration of Helsinki.

Sampling and Recruitment

The inclusion criteria comprised Türkiye-based physiotherapists. Several online sources were used to invite potential participants: a mail newsletter promoted by the Turkish Physiotherapy Association, community groups of physiotherapists on social media, and the researchers' professional contacts. Informed consent was implied through voluntary completion of the survey and hence written consent was not requested from participants.

Sample Size

The study aimed to reach the maximum number of participants collected during the data collection period: similar to the previous studies (20-22).

Table 1. Respondent's Experience and Practice Settings

Variables	SI (36)	NSI (68)	Total (%)
Years Qualified (n=104)			
<5 Years	16	37	53 (51.00 %)
5 Years to 10 Years	11	18	29 (27.90 %)
10 Years to 15 Years	7	7	14 (13.50 %)
15 Years to 20 Years	1	4	5 (4.80 %)
>20 Years	1	2	3 (2.90 %)
Practice Setting (n=104)			
Public Hospital	5	9	14 (13.50 %)
Education/Research Hospital	2	4	6 (5.80 %)
Private Clinic / Private Hospital	15	25	40 (38.50 %)
Sport Club	2	3	5 (4.80 %)
University/Research Center	7	17	24 (23.10 %)
Family Practice Center	1	0	1 (1.00 %)
Others	4	10	14 (13.50 %)

SI: Special interest in Rotator cuff disorders; NSI: No special interest in Rotator cuff disorders.

Data collection

As a precedent, the previous studies indicated that the total duration of one month was the optimal period for data collection (20-22). The survey was online, available via SurveyMonkey, during July/August 2020 for a month period.

Statistical Analysis

All responses were downloaded into Excel 2016 (Microsoft Corp. Redmond, WA, USA) from Survey Monkey. Descriptive statistics were shown by dividing into two groups as participants having a SI in RCD and those who had NSI. Chi-square tests were applied to investigate any between-group differences in the SAS Statistics version 9.4 (SAS Institute, Inc., Cary, NC). Qualitative data obtained from the open-ended questions were reviewed and discussed by researchers (B.A. and B.Ö) and summarized by constituting thematic categories and subcategories.

RESULTS

In total, 104 physiotherapists completed the survey. There were not any excluded participants due to the voluntary nature of filling out the survey. The data of the physiotherapists in terms of years qualified and practice setting are shown according to the distribution in Table 1.

Would you request any further information or undertake any further clinical tests?

Overall, 44.2% (46/104; 14 SI, 32 NSI) of Turkish physiotherapists would carry out further physical examination tests, 43.3% (45/104; 16 SI, 29 NSI) would require more subjective information, 36.5% (38/104; 9 SI, 29 NSI) would carry out further investigations and 34.6% (36/104; 16 SI, 20 NSI) would undertake further rehabilitation classification (Figure 1).

Which management strategies would you typically recommend for this patient?

The most preferred management strategies were mobilization (82/104; 78.8%; 29 SI, 53 NSI), advice/education (71/104; 68.3%; 27 SI, 44 NSI), taping (62/104; 58.7%; 22 SI, 40 NSI) and some form of exercise therapy (Figure 2).

Within the type of exercises 78.8% (82/104; 30 SI, 52 NSI) would use scapular exercises, 53.4% (55/104; 20 SI, 35 NSI) would use kinetic chain exercises, 50.0% (52/104; 23 SI, 29 NSI) would prescribe isometric exercises, 50.0% (52/104; 19 SI, 33 NSI) would prescribe isotonic exercises. While isometric exercises were frequently preferred by the SI group (63.9%), physiotherapists in the NSI group generally do not prefer this type of exercise (57.4%) (x^2=4.248, p=0.039).

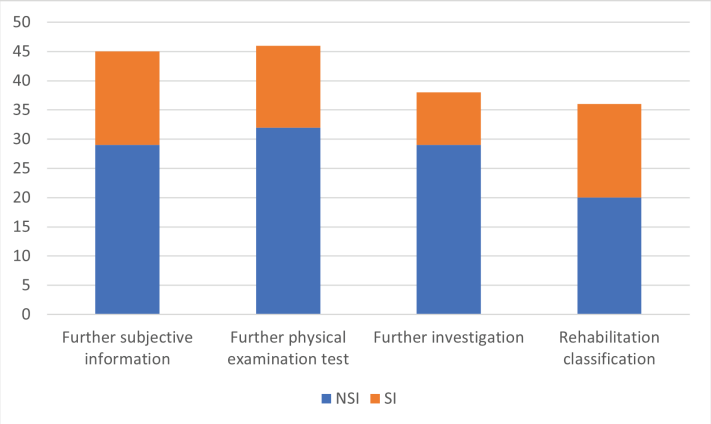

Figure 1. Would you request any further information or undertake any further clinical tests?

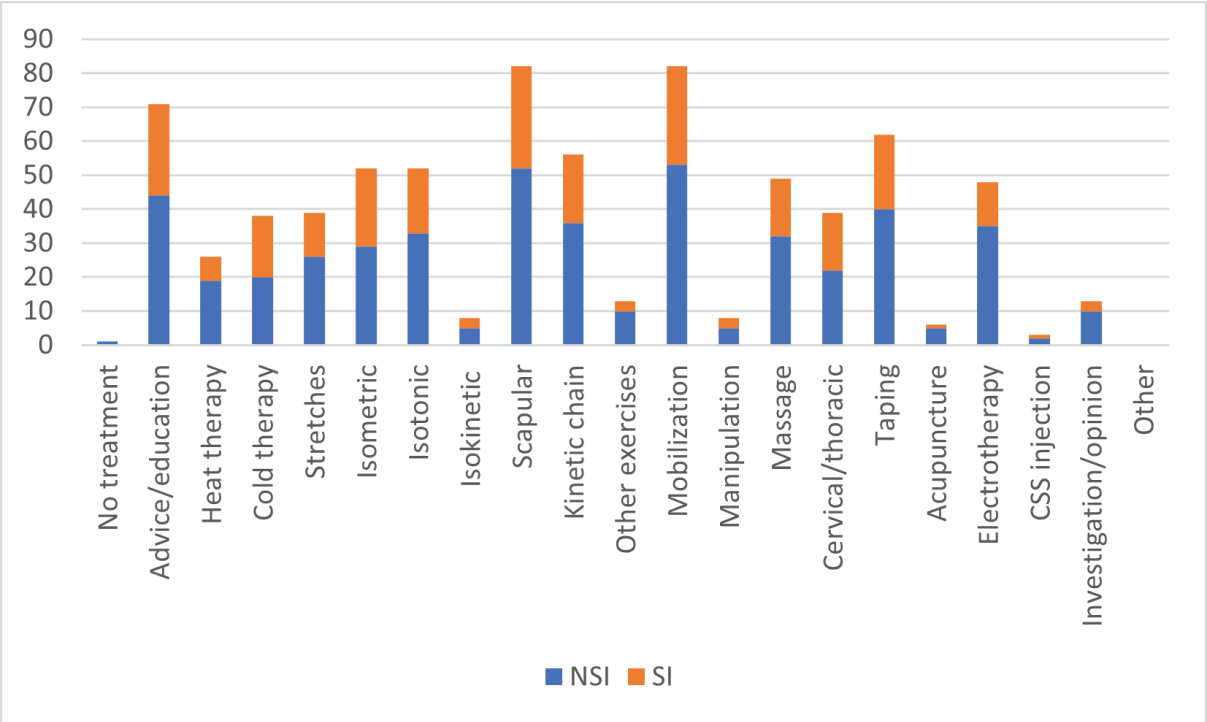

Figure 2. Which management strategies would you typically recommend for this patient?

Massage (49/104; 47.1%, 49/104; 17 SI, 32 NSI), electrotherapy (48/104; 46.2%, 13 SI, 35 NSI) treatment directed at cervical/thoracic spine (39/104; 37.5%, 17 SI, 22 NSI) and cold therapy (38/104; 36.5%, 18 SI, 20 NSI) were other used treatment modalities. A significantly greater proportion of the NSI group did not prefer cold therapy when compared to the SI group (x^2=4.303, p=0.038).

When prescribing exercises, what instructions do you generally give to the patient?

The first item of the open-ended question that addressed pain, 42% (42/100; 11 SI, 31 NSI) of respondents would recommend exercising with pain that is around the patient's pain threshold, 15% (15/100; 7 SI, 8 NSI) would instruct the patient to perform exercises with a pain that is below a certain value on the visual analog scale (e.g., below 5 or 6). A minority (9/100; 9%; 1 SI, 8 NSI)

Table 2. Treatment Delivery

Variables	SI (36)	NSI (68)	Total (%)
Treatment Setting (n=104)			
Face-to-face Appointments	10	16	26 (25.00%)
Home-based Program	2	1	3 (2.90%)
Face-to-face and Home-based Program	31	65	96 (92.30 %)
Group Class(es)	0	3	3 (2.90 %)
Other	2	0	2 (1.90 %)
Number of Times Typically Seen (n=104)			
Once	0	0	0 (0.00 %)
Twice	2	2	4 (3.80 %)
3 or 4 Times	7	13	20 (19.20 %)
5 or 6 Times	10	12	22 (21.20 %)
7 or 8 Times	5	7	12 (11.50 %)
9 or 10 Times	2	20	22 (21.20 %)
More than 10 Times	10	14	24 (23.10 %)
Typically, Duration of Treatment (n=104)			
Up to 3 Weeks	6	20	27 (26.00 %)
Up to 6 Weeks	18	21	39 (37.50 %)
Up to 8 Weeks	5	14	19 (18.30 %)
Up to 3 Months	4	7	11 (10.60 %)
Up to 6 Months	2	4	6 (5.80 %)
Up to 12 Months	1	1	2 (1.90 %)
Other	0	0	0 (0.00 %)

SI: Special interest in Rotator cuff disorders; NSI: No special interest in Rotator cuff disorders

would advise exercising with some level of pain if the symptoms disappeared in the following 3-12 hours, of which a higher proportion belonged to the NSI group.

Regarding the exercise load, the most common suggestions were loading under the guidance of pain (22/86; 25.5%; 10 SI, 12 NSI) and the patient's tolerance to load (19/86; 22%; 7 SI, 12 NSI). 16.2% (14/86; 4 SI, 10 NSI) of respondents suggested gradual progression when exercise loading. In relation to resistance, 15.1% (13/86; 6 SI, 7 NSI) of respondents would use some level of resistance.

In relation to exercise repetitions, the instructions were repetitions of less than ten (16/97; 16.4%; 9 SI, 7 NSI), ten repetitions (33/97; 34%; 10 SI, 23 NSI), and repetitions of greater than ten (24/97; 24.7%; 11 SI, 13 NSI), and "up to three sets" (19/97; 19.5%; 9 SI, 11 NSI).

In terms of daily exercise frequency, the most common responses were more than 3 times, (12/95; 12.6%; 3 SI, 9 NSI), 2 to 3 times (11/95; 11.5%; 7 SI, 4 NSI) or once (8/95; 8.4%; 3 SI, 5 NSI). On a weekly basis, most of the respondents would suggest every other day (47/91; 51.6%; 14 SI, 27 NSI) or 3 to 6 days (40/91; 43.9%; 15 SI, 25 NSI).

Concerning the exercise position, the most frequent response was prescribing exercise in terms of body position (e.g., standing, sitting) (37/72; 51.3%; 13 SI, 24 NSI). Another common response was using pain-free positions (17/72; 23.6%; 7 SI, 10 NSI). 9.7% (17/72; 7 SI, 10 NSI) of respondents mention the exercise position should depend on the exercise type. In relation to the quality of movement, the most common responses were slow (48/78; 61.5%; 20 SI, 28 NSI), controlled, and/or smooth (28/78; 35.8%; 12 SI, 14 NSI).

Concerning the progression of exercises, 31.6% (19/60; 9 SI, 10 NSI) of respondents stated that they would progress as pain or fatigue allows, and 16.6% (10/60; 2 SI, 8 NSI) would progress after be-

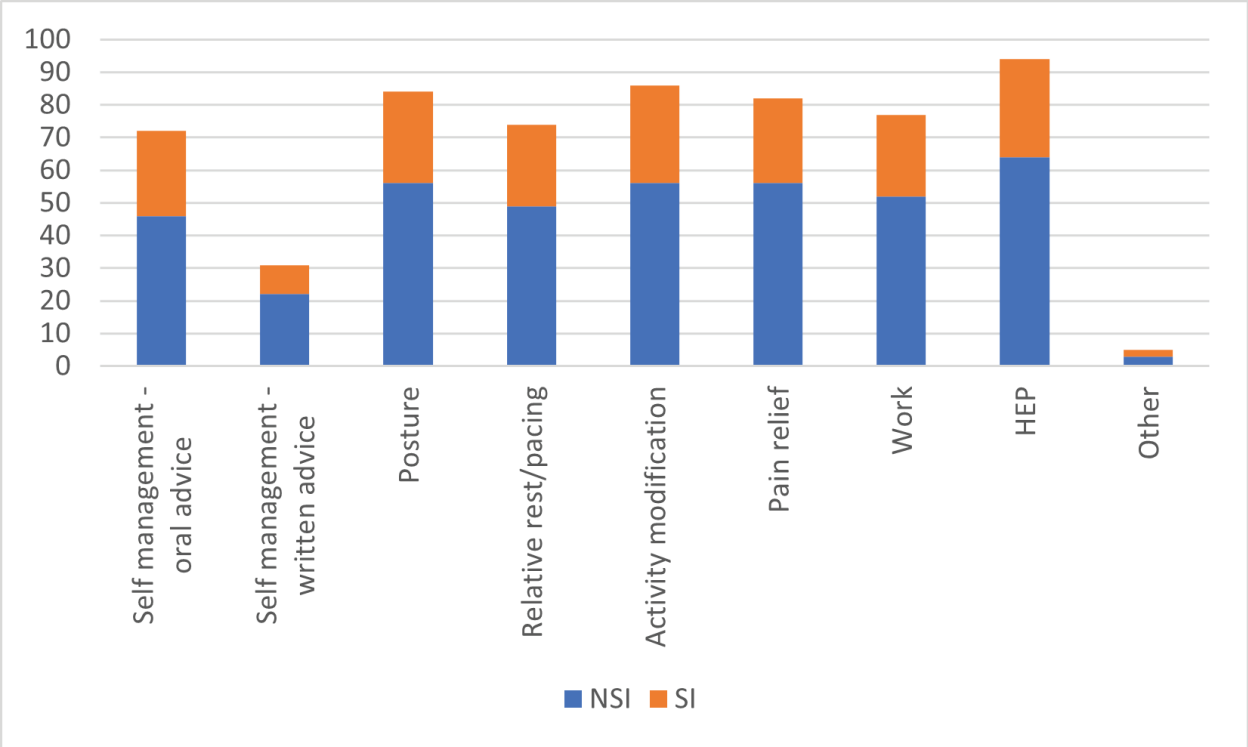

Figure 3. What advice would you typically offer this patient?

ing comfortable during exercises. In relation to the regression of exercises, the most common theme was regressing the exercises if the symptoms flare up or are worsening (32/51; 62.7%; 14 SI, 18 NSI).

What advice would you typically offer this patient?

While home exercise programs (94/104, 90.3%) were the most popular advice for Turkish physiotherapists, the use of written advice was less prevalent (31/104, 29.81%) (Figure 3).

Table 2 presents an overview of how the respondents would typically deliver treatment for this patient. The majority would use a combination of face-to-face appointments and a home-based program, seeing this patient more than 10 times and over 6 weeks.

Would you expect this person to recover with the prescribed physiotherapy?

In response to this question, 62.5% (65/104; 23 SI, 42 NSI) considered that this person would recover within 3 months and 28.8% (30/104; 9 SI, 21 NSI) considered recovery would be achieved within 6 months (Figure 4).

What would be your main treatment goals for this patient?

All respondents, %100 (36 SI, 68 NSI) stated at least one treatment goal in this open-ended question. The most frequent treatment goals were a decrease in pain/symptoms; an increase in the range of motion; improvement of RC muscle strength and/or scapular stabilization.

Would you consider referring this patient for a surgical opinion and if so, when?

Most of the respondents' stated to consider referral for a surgical opinion (65/104; 62.5%; 23 SI 42 NSI) Surgical options following a specified period of conservative treatment first or with certain stipulations were the most common subthemes.

Do you think that further research could benefit your practice with regard to rotator cuff disorders?

Most of the respondents (92/104; 88.5%; 33 SI, 59 NSI) considered that further research could benefit their practice. The suggestions for further research predominantly were focused on revealing which exercise type is more useful to treat RCD, the effec-

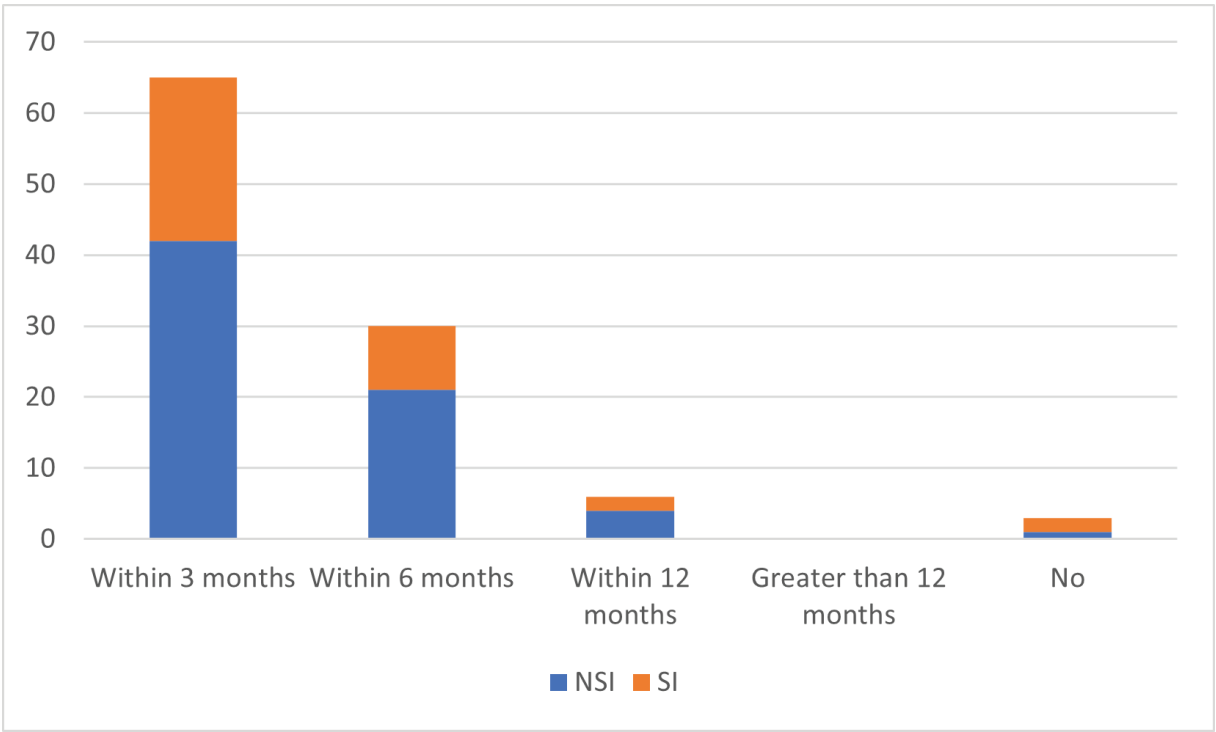

Figure 4. Would you expect this person to recover with the prescribed physiotherapy?

tiveness of manual therapy techniques and investigation of other muscle activity around the shoulder joint, beyond the RC muscles.

DISCUSSION

The results of this study showed that Turkish physiotherapists constitute physiotherapy programs for RCD by using a wide variety of interventions including advice/education, exercise therapy, mobilization as well as other passive treatment modalities such as taping, massage, and electrotherapy. In addition, preferred rate differences for cold therapy and prescribing isometric exercises were detected between the SI and NSI groups.

In relation to clinical examination, some of the respondents particularly would perform special clinical tests of the shoulder in the line with the findings of previous studies (20-22), but contrary to current evidence that suggests the poor diagnostic accuracy and reliability of those clinical tests (23-25). Furthermore, 36.5 % of the respondents would request further investigation by imaging methods. This preference of Turkish physiotherapists was parallel to the responses shown in BE & NL and Italy (21,22), contrary to responses from the United Kingdom (UK) (20). However, an uncertain relationship between the source of the pain and the structural examination via imaging techniques has been indicated (23,26,27).

In addition, only 34.6 % of respondents stated using rehabilitation classification approaches such as shoulder symptom modification procedure or McKenzie in the clinical evaluation. This result has constituted a contradiction to the UK results (%53) (20) which most of the physiotherapists indicate that they would use rehabilitation classification, however, the current result was parallel with the BE & NL (21) and Italy results (22). This result might be potentially explained by the possibility of those classification approaches are rarely included in undergraduate education in Türkiye.

The most preferred management strategies by Turkish physiotherapists were mobilization, exercise therapy, and advice/education. The preferences for advice and exercise therapy were similar to previously conducted studies and research evidence (13,20-22,28). Particularly, mobilization was highly preferred by Turkish physiotherapists

(78.8%) comparable to BL & NL (21) and Italian physiotherapists (22). This result has shown that the preferences of physiotherapists in different countries towards the mobilization approach are at different rates. In addition, while the preference for joint mobilization has decreased in the UK over the years (35% vs 23%) (12,20), it is remarkable that rate is quite high in Türkiye in the current situation. Although a recent systematic review suggests that manual therapy combined with exercise may have short-term benefits in reducing pain and improving function, the findings of another meta-analysis indicate that combining manual therapy with exercise did not demonstrate superior effectiveness compared to exercise alone in adult patients with RCD. These contrasting results highlight the need for further research to reconcile the conflicting findings and explore optimal manual therapy approaches for the management of RCD (13,14). The reason why this approach is detected at high rates in Türkiye may be that it can also be applied in combination with exercise, however, the lack of such an option in the survey may have affected the answers of the participants.

The use of other passive treatment modalities such as taping, massage, and electrotherapy was also frequently preferred. Nonetheless, the lack of high-quality evidence for the clinical effectiveness of these passive modalities has been reported (13). The possible preference reasons for the passive treatment modalities might be that those passive modalities are still considered core elements of conventional musculoskeletal physiotherapy practice, ordered by physicians, or requested by patients in Türkiye. Although physiotherapists answered the questions independently as decision-makers, any physiotherapists working in Türkiye, especially those working in a private or public hospital, are not able to work with the direct access option while it is possible in private practice in European countries (29). Thus, the obligation of physiotherapists to work with physicians, the standard orders used in the health system in Türkiye, and the expectations of the patients may require the use of some ordered passive modalities and may accordingly affect the physiotherapists' perspectives on treatment alternatives. It was concluded that greater technical autonomy resides in countries where individuals can self-refer to physiotherapists in a review on direct access and contemporary practice (29). Another possible reason why passive modalities are preferred more frequently by Turkish physiotherapists may be the variable professional knowledge of the graduates due to the probability of different contents of each curriculum of universities. Moreover, physiotherapists with SI were significantly more likely to use cold therapy (x^2=4.303, p=0.038), although there is no clear clinical recommendation for this method in the management of RCD in the relevant literature.

When the preferred exercise type is examined; most Turkish physiotherapists (78.8%) would prefer scapular exercises, similar to the physiotherapists in BL & NL (21) and Italy (22). Despite reported wide use in clinical practice, recent systematic reviews have revealed conflicting results regarding the effectiveness of scapular exercises (30-32). One possible motive behind the preference for scapular exercises is their recognition as a core aspect of exercise prescription for achieving and maintaining optimal alignment and movement of the scapulohumeral joint. This preference is supported by previous studies that consistently establish a relationship between altered scapular kinematics and various shoulder pathologies (33-35). Isotonic, isometrics, and kinetic chain exercises were also suggested by half of the respondents. Physiotherapists of the SI group were significantly more likely to use isometric exercises in their treatment than the NSI group (x^2=4.248, p=0.039). This difference in the preferences of the SI group may be due to the earlier demonstration of the positive effects of isometric exercises on pain perception and their ability to help control pain (36-38).

There was a large variety in responses in terms of exercise prescription parameters. While respondents mostly describe the parameters in terms of pain, load, sets, and repetitions, responses to other parameters such as fatigue, quality of movement, progression, and regression were relatively low. For example, 70% of respondents would advise exercising with varying levels of pain during exercises while only 11% stated they would specifically work within the pain-free range. Besides the current evidence has been uncertain regarding pain production or avoidance during exercise yet (12), Smith et

al. reviewed systematically that shoulder exercises into pain are superior to pain-free exercises for patient-reported pain level with moderate quality of evidence (39). In relation to sets and repetitions, 3 sets and/or repetitions of ≤10 were the most frequently suggested. Overall, stated instructions for exercise parameters were inconsistent and reflected current uncertainty in the literature. Further research is needed to put forth the optimal exercise prescription parameters specifically for RCD.

While Turkish physiotherapists preferred a wide variety of treatment delivery options, the home exercise program was the most popular one. In addition, Turkish physiotherapists would provide fewer group classes (2.9%) and more visits (56%; between 5 and 10 times), opposite to physiotherapists in the UK (14%; group classes, 36.5% 5-10 times of visit) (20). This may be expected to be due to differently designed healthcare systems or Turkish physiotherapist's perspectives on recovery rate, in which 81.1% of Turkish physiotherapists would complete the treatment of patients up to an 8-week period, whereas only 32.1 % of UK physiotherapists would complete up to 8 weeks (20).

One strength of the presented study was the inclusion of participants from variable roles /settings, which increases the likelihood of representative samples. Furthermore, it is worth noting that a slight majority of respondents (51%) had been qualified for under 5 years, indicating a group that completed their undergraduate education more recently and may have been exposed to the latest evidence in the field. While this could be seen as a strength of the study, allowing for insights into the practice preferences of younger physiotherapists in managing RCD, it also poses a limitation. The relative lack of clinical experience among this group raises questions about the level of expertise and hands-on knowledge they may possess in effectively addressing the complexities of RCD. In addition, the percentage of the respondents who had been qualified for more than 10 years was only 21.1%. Therefore, the combination of limited experience among younger practitioners and a relatively low percentage of highly experienced professionals raises concerns about the overall proficiency and depth of knowledge within the field.

The evident limitation of this study was probably the low number of participants, which may be due to the announcement of the survey during the Coronavirus Disease 2019 pandemic. The lack of motivation or harsh working conditions of Turkish physiotherapists might have had a negative effect on the idea of participation in a clinical survey in that period. However, the participant number was still comparable to the other studies from Europe. However, updated work including a larger number of physiotherapists can be carried out in further years.

The present study is the first study to provide insight into Turkish physiotherapy practice for RCD. Advice, scapular exercises, and mobilization were the most preferred treatment strategies by Turkish physiotherapists, reflecting the current literature and similar to the results of previously conducted surveys in European countries, apart from a different point of view in terms of joint mobilization. However, passive modalities, with limited effectiveness in the literature, such as taping, massage, and electrotherapy were also preferred by most Turkish physiotherapists. The possible reasons why passive modalities are preferred more frequently than physiotherapists in other countries may be variable professional knowledge of the graduates due to the possibility of different contents of the university education, the different health system procedures & the nonapplication of direct access. Additionally, it was detected that physiotherapists who have a SI in RCD significantly preferred to prescribe cold therapy and isometric exercise. Although the responses were generally parallel to current evidence-based strategies, the wide variety of selected interventions and lack of consensus on exercise prescription parameters indicates that current physiotherapy practice and management were clinician-dependent. The high degree of practice variability and passive treatment preference of physiotherapists might be due to a lack of reading the current research evidence regularly. Thus, we recommend that physiotherapists consider the current literature more frequently in addition to their clinical experience in RCD management. In addition, regular workshops and seminars can be organized by healthcare organizations to improve evidence-based practices, especially in RCD. More

research is needed to determine definite exercise parameters including type, frequency, duration, and intensity, and to establish optimal management strategies for RCD.

Source of Support: The authors received no financial support for this research.

Conflict of Interest: The authors report no conflict of interest.

Author Contributions: BA: Conceptualization, Methodology, Investigation, Analyzing, Literature Review, Writing. BÖ: Conceptualization, Methodology, Investigation, Analyzing, Writing, Review & Editing. JB: Methodology, Review & Editing. MGP: Review & Editing, Supervision, Project Administration.

Explanations: This study was presented as an oral presentation at 5th Physiotherapy-Orthopedics and Traumatology Symposium on 09-14th November 2021.

Acknowledgments: We would like to thank the physiotherapists who participated in the study.

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