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MOST PREFERRED MANUAL THERAPY TECHNIQUE AMONG PHYSIOTHERAPIST FOR TREATING FROZEN SHOULDER

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ABSTRACT

All the manual therapy techniques have their pool of research suggesting as effective in treating frozen shoulder. But, it is seen that not all of them are executed while making the rehabilitation protocol for frozen shoulder. So, this survey was conducted in which 120 questionnaires were distributed among physiotherapists of Pune fulfilling the inclusion criterion to know their preferred manual therapy technique for treating frozen shoulder. 100 physiotherapists responded, their responses were documented and calculated. It was found that the most preferred manual therapy technique is Maitland and Mulligan whereas the least preferred in Mckenzie and Cyriax. Their reasons for preference are better clinical results and sufficient evidence for frozen shoulder.

KEYWORDS: **Frozen shoulder, Manual therapy techniques, Survey, Physiotherapist**

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INTRODUCTION

Frozen shoulder is a painful and debilitating condition with an incidence of 3% to 5% in the general population and up to 20% in those with diabetes[1,2]. The term 'frozen shoulder' was first introduced by Codman in 1934 to describe a condition that has been of interest to clinicians since the late 1800s[3].It is defined as self limiting condition and patients generally complain of an inability to sleep on the affected side. Restricted glenohumeral elevation and external rotation, together with unremarkable radiographic findings, are also observed [4]. Frozen shoulder involves 3 phases. These include the 'freezing phase' or the 'painful phase' lasting 3 to 8 months, the 'frozen phase' or the 'adhesive phase' lasting 4 to 12 months and the 'thawing phase' or 'resolution/recovery phase', which lasts anywhere from 12 months to 42 months and is characterized by a steady return of shoulder mobility and function[5]. A number of other treatments have been advocated for the management of frozen shoulder. These include rest, analgesia, physiotherapy (exercises & manual therapy techniques), acupuncture, oral and injected corticosteroids, capsular distension, manipulation under anaesthesia and surgical capsular release. But, still the management of frozen shoulder remains controversial. But, during first and second stage the main reason for the patients to seek physiotherapy treatment is pain and restricted range of motion which hampers their activities of daily living. Evidence physiotherapy effectiveness in respect of pain relief and alleviation of restriction of shoulder movement is variable from positive[6] to negative[7].A study by Winters et al. states that manipulation is to be preferred to physiotherapy for treating shoulder complaints originating from the shoulder girdle in general practice[8]. Whereas other studies suggests that physiotherapy is the main stay of the management of frozen shoulder as it is helpful in maintaining the range of motion before and after any medical treatment is done for frozen shoulder[9]. Some researchers have suggested manual therapy techniques are better than the conventional physiotherapy for frozen shoulder[10]. It is also seen that the manual therapy approaches are effective and safe in diabetic patients with frozen shoulder also[11].Manual therapy, manipulative therapy, or manual & manipulative therapy is a physical treatment primarily used by physiotherapists, occupational therapists, chiropractors, and osteopaths to treat musculoskeletal pain and disability; it most commonly includes kneading and manipulation of muscles, joint mobilization and joint manipulation[12].Various manual therapy techniques used for frozen shoulder are Maitland, Mulligan, Mackenzie, Muscle energy technique, Koltanbon, soft tissue manipulation. They all have their evidence for reducing the pain and increasing the shoulder joint range of motion which is the prime concern while treating [13]. But, yet it is seen that only one or two of these techniques are most preferred. The aim of this study is to find out the most preferred manual therapy technique and its reason for preference while treating frozen shoulder.

MATERIALS AND METHODS

After the ethical clearance from Padamshree Dr. D. Y. Patil College of Physiotherapy,Pune ethical committee a questionnaire was structured having open and close ended questions related to their demographic data, years of experience, their most preferred technique for treating frozen shoulder, their reason for preference of technique and reason for discarding other manual therapy techniques. This questionnaire after validated from the College committee was distributed to 120 physiotherapists of Pune. Physiotherapists who have completed their Bachelor of Physiotherapy, who have treated atleast 20 frozen shoulder cases with manual therapy as first line of treatment, who know the concept of all manual therapy techniques which can be used at shoulder joint and who were willing to participate were included in the study. A written informed consent was also taken from the physiotherapists participating in the study. Responses were received from 100 physiotherapists and were recorded and documented.

RESULTS

From the recorded data of 100 physiotherapist individual response were counted even when multiple answers were given to a single question.Table 1 shows that maximum physiotherapist are not certified in any particular technique. Also, if they are certified then Mulligan certified are maximum i.e 39 when compared to other techniques. Maitland technique is preferred by the physiotherapists for the a treatment of frozen shoulder regardless of their certification (Table 2) and their preference is due to better clinical results(Table3).

Table1

Number of physiotherapists certified in various manual therapy techniques

Certified in	Number of physiotherapist
None	49
Mulligan certified	39
Maitland certified	4
Mulligan& Maitland certified	4
MET Certified	1
Cyriax &Mulligan Certified	2
Mckenzie &Mulligan Certified	1
Mulligan, Maitland, MET &MFR Certified	1

Table 2

Various manual therapy technique used for the treatment of frozen shoulder by physiotherapist certified in various manual therapy techniques

TECHNIQUES	No certification (N= 49)	Mulligan Certified (N= 39)	Maitland certified (N=4)	Mulligan& Maitland certified (N=4)	MET Certified (N=1)	Cyriax &Mulligan Certified (N=2)	Mckenzie& Mulligan Certified (N=1)	Mulligan Maitland, MET &MFR Certified (N=1)
Maitland	34	23	4	2	1	1	1	1
Mulligan	24	28	1	4	1	1	1	
MET	14	13	1	-	1	-	-	-
Kaltenborn	9	1	-	-	-	-	-	-
STM	10	7	-	1	-	-	1	-
MFR	6	4	-	-	-	-	-	-
Mckenzie	-	-	1	-	-	-	-	-
Cyriax	-	-	-	-	-	1	-	-

Table 3

Number of responses by physiotherapists certified in various manual therapy techniques as reason for their preference towards particular manual therapy technique while treating frozen shoulder

Reasons marked	No certification (N= 49)	Mulligan Certified (N= 39)	Maitland certified (N=4)	Mulligan& Maitland certified (N=4)	MET Certified (N=1)	Cyriax &Mulligan Certified (N=2)	Mckenzie& Mulligan Certified (N=1)	Mulligan Maitland, MET &MFR Certified (N=1)
Clinically better results	41	34	3	2	1	2	1	1
Certified in that particular tech.		11	1	1	--	1	--	1
Convenient to perform	19	9	1	1	--	1	1	--
Proper evidence is available	16	12	1	2	--	2	1	--
Good carry over effect	24	14	2	1	--	--	--	--
Less no. of sitting required	11	9	1	1	--	--	--	--

Table 4
Number of response by physiotherapists certified in various manual therapy techniques as reason for discarding other manual therapy techniques other than their preference while treating frozen shoulder

Reasons marked	No certification (N= 49)	Mulligan Certified (N= 39)	Maitland certified (N=4)	Mulligan& Maitland certified (N=4)	MET Certified (N=1)	Cyriax &Mulligan Certified (N=2)	Mckenzie& Mulligan Certified (N=1)	Mulligan Maitland, MET &MFR Certified (N=1)
Don't know the other technique properly	17	20	1	2	--	2	1	1
Not much evidence is available	18	9	1	1	--	2	1	1
Patient's cooperation and comfort	16	14		1	--	--	1	1
Less carry over effect	17	15	3	2	--	2	--	--
Inconvenient to perform	11	7	--	--	--	2	--	--
More no. of sitting are required	12	12	2	2	1	--	--	1

DISCUSSION

Our study states that the most preferred technique for treating frozen shoulder among physiotherapists is Maitland than Mulligan than Muscle energy techniques. The least preferred is Mckenzie, Cyriax. 91% Physiotherapists participated in this study stated that they had treated frozen shoulder cases with manual therapy as first line of treatment.Table 1 state that majority of physiotherapists did not do any certification course in any manual therapy technique. But, out of all techniques most of the physiotherapists are certified in Mulligan concepts in Pune, India. Mulligan, Maitland, Mckenzie and Cyriax have a proper regulating body or have certified trainers worldwide but in case of MET, MFR and STM it is not so. Mulligan course is easily available under the supervision of Mulligan Concept Certified Trainer in India. The eligibility criterion is mostly successful completion of Bachelor of Physiotherapy. But, in Mckenzie and Cyriax certification a therapist needs to have experience in clinical practice. Most of the physiotherapist learns MET, MFR and STM in workshops, referring books and internet material which provides the basic knowledge of these techniques but there is no proper certification of these courses as they are not under any regulating body.We can see from table 2 that regardless of the certification in any manual therapy technique majority of physiotherapist uses Maitland technique as their choice of treatment for frozen shoulder. Their main stated reason for this is clinically better results which can only be obtained when they will perform the technique properly. This may be due to the reason that the Maitland mobilization is taught mostly during third or final year of Bachelor of physiotherapy in most of the universities in India, and, it is covered as a part of their curriculum with specific practical hours. As, this technique is acquired during their graduation, physiotherapists have ample time to practice under supervision before completing their degree. This makes them confident in their skills in Maitland mobilization. There second preference is Mulligan techniques. Firstly many of them were certified in Mulligan and those who were not certified and using Mulligan reported that due to good pool of evidence and easy availability of material they prefer Mulligan. MET, MFR and STM were also used but in combination with Maitland/Mulligan. Even if a physiotherapist is certified in these techniques they use Maitland also. Same was seen in Mulligan certified also. Only 9% Mulligan certified physiotherapists uses Mulligan alone, others all i.e. 30% physiotherapists choose Maitland along with Mulligan to treat the frozen shoulder.On the other hand, Mckenzie and Cyriax are mainly used for Spine and least used in treating frozen shoulder. Due to this very few physiotherapists find it effective for peripheral joints. Even though, there concepts are not only therapeutic but also diagnostic in case of shoulder joint [14,15]. Their main reasons reported for their preference was mostly clinically better results, good carry over

results, proper evidence and convenient to perform. Clinically better results can only be obtained by performing the technique in right method. For this the physiotherapist need to be skillful in manual therapy which can only be obtained by practicing under supervision. And, their main reasons to discard/not to use other techniques were that they don't know about techniques properly other than their preference, not much evidence is available, less carry over effect. In order to enhance quality physiotherapy treatment, first, the practical knowledge of all manual therapy techniques is mandatory. All these techniques should be taught during graduation or should be made compulsory to attend while the course of graduation. Also, research should be carried out for effectiveness of various manual therapy techniques at various joints.The limitation of our study is that there was not equal number of physiotherapists trained in various manual therapy techniques. There were 39% physiotherapists trained in Mulligan alone and only 4% in Maitland, 1% MET, 2% Cyriax and 1% in Mckenzie. Also, we did not include the electrotherapy for management of frozen shoulder. The same study can be carried out in survey the preferred manual therapy technique for management of Low back pain in which all these techniques have sufficient evidence.

CONCLUSION

From our study we conclude that the most preferred manual therapy technique for treating frozen shoulder is Maitland and Mulligan whereas the least preferred is Mckenzie and Cyriax. Their reasons for preference are better clinical results and sufficient evidence for frozen shoulder.

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