

# Perception about the importance and use of therapeutic massage as a treatment modality among physical therapists working in Saudi Arabia

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**Abstract.** [Purpose] To report perceptions about the importance and use of therapeutic massage as a treatment modality among physical therapists working in Saudi Arabia. [Subjects and Methods] A 21-item structured questionnaire was used to assess various domains including the demographic and professional characteristics of physical therapists and their perceptions about the importance and use of therapeutic massage in their daily practice. The questionnaire was uploaded online and the web link was sent to 140 members of the Saudi Physical Therapy Association (SPTA). [Results] The overall response rate was 86%. Among the respondents, 31% reported occasional use of therapeutic massage in their clinical practice, and 55% reported to have received formal training for therapeutic massage. Use of therapeutic massage was more common among female physical therapists. [Conclusion] Many physical therapists working in Saudi Arabia consider therapeutic massage to be an important treatment modality, but its use is relatively limited, either due to the time and effort required to dispense it, or the lack of scientific evidence for its efficacy.

**Key words:** Therapeutic massage, Physical therapists, Perspective

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## INTRODUCTION

Therapeutic massage is described as a soft tissue manipulative technique which stretches connective tissue to restore mobility at the dermis/hypodermis and dermis/fascia interfaces, and also promotes remodeling of collagen<sup>1)</sup>. For many years, it has been researched and used as a treatment modality<sup>2)</sup>. The various types of massage used are stroking, kneading, friction, etc. The effectiveness of any modality depends on the skills and knowledge of the therapists applying it<sup>3,4)</sup>.

There are various studies that discuss the biomechanical, physiological, neurological and psychological effects of therapeutic massage<sup>5)</sup>. These include pain relief, reduction in stiffness, increased blood supply, lymphatic drainage, etc<sup>5, 6)</sup>. However, scientific evidence regarding the efficacy of massage is limited, and the underlying mechanisms are unclear<sup>3, 6)</sup>. In order to provide effective and efficient care, healthcare practice should be driven by research<sup>7,8)</sup>. Despite being widely used, little has been reported about how physical therapists (PT) use and interpret therapeutic massage in

clinical decision making<sup>5)</sup>. In addition, it is not known to what extent PTs believe the use of therapeutic massage is important in their daily practice, or how confident they are about the clinical outcomes arising from its use.

In order to know this, we conducted a cross-sectional study using a self-administered survey questionnaire. Our objective was to describe and explore the use of therapeutic massage by Saudi physical therapists, and the factors associated with their perception about the use of therapeutic massage.

## SUBJECTS AND METHODS

A 21-item structured questionnaire was designed based on similar studies<sup>9–11)</sup>, to explore various domains including demographic and professional characteristics, the use of therapeutic massage in daily practice, and the perceived importance and confidence related to therapeutic massage outcome. Respondents had to rate their perceived importance of therapeutic massage and confidence over its use on a ten-point scale. Lastly, an open-ended question was included inviting respondents to describe their feelings and social beliefs associated with therapeutic massage in general. The study was designed so that it would take respondents only 3–5 minutes to answer. The language of the questionnaire was English and its summary is described in Table 1.

The questionnaire was first presented to a group of 5 local senior PTs in a pilot study. After receiving the results, minor changes to the structure and language were made so that it

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**Table 1.** Questionnaire consisting of 21 items divided into 3 domains

Domain	Points
1. Demographic and professional characteristics	<ul style="list-style-type: none"> <li>• Gender</li> <li>• Age</li> <li>• Last degree obtained</li> <li>• Duration of patient contact per week</li> <li>• Work experience</li> </ul>
2. Use of therapeutic massage in daily practice	<ul style="list-style-type: none"> <li>• Most frequent patients' conditions encountered in clinical settings</li> <li>• Use of therapeutic massage: frequency, technique type and region</li> <li>• Scales used for categorization and outcome measures</li> </ul>
3. Perceived importance and confidence related to the use of therapeutic massage	<ul style="list-style-type: none"> <li>• Importance of therapeutic massage in treatment</li> <li>• Formal training during studies</li> <li>• Need and importance of therapeutic massage during training</li> </ul>

**Table 2.** Demographic data: Percentage (n)

	Females	Males	Total
Valid responses	37 (31)	63 (52)	100 (83)
Place of work			
Government hospital	65 (20)	63 (33)	60 (57)
Private hospital	16 (3)	23 (12)	16 (15)
University	16 (6)	23 (11)	18 (17)
Other	10 (3)	6 (3)	6 (6)
Clinical experience (years)			
<2	13 (4)	12 (6)	12 (10)
2–5	35 (11)	21 (11)	27 (22)
6–10	10 (3)	38 (20)	23 (23)
11–15	16 (5)	12 (6)	11 (11)
>15	26 (8)	39 (20)	28 (28)
Specialization			
General practice	35 (11)	40 (21)	26 (32)
Musculoskeletal/orthopedics	58 (18)	44 (23)	33 (41)
Neurology	23 (7)	33 (16)	19 (23)
Cardiopulmonary	16 (5)	6 (3)	7 (8)
Pediatrics	19 (5)	4 (2)	6 (7)
Geriatrics	13 (3)	6 (3)	5 (6)
Other	13 (4)	4 (2)	5 (6)
Patient contact (hours /per week)			
<10	29 (9)	19 (10)	23 (19)
10–19	10 (3)	27 (14)	20 (17)
20–30	26 (8)	21 (11)	23 (19)
>30	35 (11)	33 (17)	34 (28)

would be well received by the respondents, and its outcome would fulfill the aims and objectives of the study.

The questionnaire was uploaded online and its link was sent to the 140 members of the Saudi Physical Therapy Association (SPTA). Potential respondents were requested to complete the questionnaire within one month. After three weeks, a reminder e-mail was also sent. This study fully complied with the ethical standards for human research as per university review board.

**Table 3.** Conditions treated by respondents in their clinics

Condition	Percentage (n)
Post traumatic conditions	15 (18)
Musculoskeletal conditions	50 (60)
Spastic condition	17 (21)
Post burn	2 (2)
Scar tissue mobilization	9 (11)
Others	7 (9)

## RESULTS

The overall response rate was 86%, as 120 of the 140 therapists responded to the questionnaire. However, out of these 120 respondents, only 83 (69%) had completed the questionnaire. The remaining respondents either did not complete the questionnaire or indicated that they did not want to participate in the survey.

The data show that the respondents were experienced PTs (Table 2) since the majority of them had been working in government hospitals for more than 5 years. At least 60% (50) of the respondents had completed their bachelor degree in physical therapy, while 14% (12) also had a master's degree and 11% (9) were PhD degree holders.

Around 34% of the respondents had a patient load of more than 30 hours/week (Table 2). The majority of the respondents (50%) indicated that musculoskeletal pain including soft tissue, bone and joints, and plantar fasciitis were the most common conditions treated in their clinics. Other conditions such as spasticity 17% (21), post traumatic edema 15% (18), scar tissue mobilization 9% (11) and burns. 2% (2) were also reported (Table 3).

Twenty six respondents (31%) reported that they used therapeutic massage to treat their patients occasionally, while twenty-two respondents (27%) reported that they never used massage to treat their patients. However, only 10% (8) reported using it routinely, and 33% (27) chose to use it depending on a patient's condition (Table 4). Seventeen respondents (12%) reported using therapeutic massage for conditions of the face such as Bell's palsy, and 40% (58)

**Table 4.** Use of therapeutic massage by respondents

Use of therapeutic massage	Percentage (n)
Routinely	10 (8)
Occasionally	31 (26)
Never	27 (22)
Depends on patient condition	33 (27)

**Table 6.** Popular techniques of massage used by respondents: Percentage (n)

Massage technique	Females	Males	Total
Stroking	26 (8)	24 (13)	16 (21)
Kneading	26 (10)	15 (8)	14 (18)
Petrissage	16 (5)	7 (4)	7 (9)
Clapping	26 (8)	12 (6)	11 (14)
Friction	48 (15)	52 (27)	33 (42)
Others	36 (12)	24 (13)	19 (25)

**Table 8.** Basis on which respondents choose therapeutic massage as a treatment modality

Reason	Percentage (n)
Text book knowledge	17 (22)
Previous research literature	15 (19)
Personal clinical experience	30 (39)
Patient request	4 (5)
Condition of patient	23 (29)
Others	11 (14)

used it for conditions of the spine. With respect to the limbs, 24% (34) of the respondents used it to treat conditions such as tennis elbow, sprains, and strains (Table 5).

Friction was reported as the most commonly used technique of therapeutic massage with 33% (42) of respondents reporting its use in the treatment of their patients. Other techniques reported were stroking, kneading, petrissage and clapping (Table 6).

Majority of the respondents, 56 (33%) reported administering therapeutic massage for pain relief. Other reasons given for using massage were: reducing stiffness, increasing the blood supply, lymphatic drainage and placebo (Table 7). In response to the question about the basis of the selection of this treatment method, 30% (39) of respondents said their personal clinical experience, 23% (29) the area and condition of the patients to be treated, while 17% (22) attributed to textbook knowledge. Other reported reasons included previous research literature, 17% (22), and at the request of a patient, 4% (5) (Table 8).

Only 35% (29) of the respondents said they used some scale or other outcome measure to document their patients' progress, while 65% (54) reported that they did not document their treatment outcome at all. Respondents preferred to use other treatment modalities together with therapeutic massage such as heat and cold, 24% (49), active exercises,

**Table 5.** Body regions treated with therapeutic massage by respondents

Region	Percentage (n)
Face	12 (17)
Neck	19 (28)
Shoulder	17 (24)
Lower back	21 (30)
Thighs/calves	8 (12)
Foot	8 (12)
Others	15 (21)

**Table 7.** Objective of using therapeutic massage

Objective	Percentage (n)
Pain relief	33 (56)
Reducing stiffness	17 (28)
Increased blood supply	17 (28)
Lymphatic drainage	12 (20)
Psychological benefit	8 (14)
Placebo	4 (7)
Other	9 (16)

**Table 9.** Importance of therapeutic massage among respondents on ascale of 0 to 10

Scale	Percentage
<3	20
3-7	50
>7	30

21% (44), joint mobilization and manipulations, 18% (38), postural advice, 15% (31), and electrotherapy, 13% (27).

Forty six respondents (55%) reported that they received formal training in therapeutic massage, and 84% (70) respondents said it was part of their syllabus at bachelor degree level. In another response, sixty-one respondents (73%) considered therapeutic massage techniques to be an important subject during undergraduate studies.

Only 17% (14) of the respondents perceived therapeutic massage to be a very important treatment modality, while 59% (49) said it was an important part of physical therapy. However, 24% (20) of respondents did not find it important at all. On a scale of 10, 0 being not important and 10 very important, half of the respondents, 50%, marked massage therapy between 4 and 7 (Table 9).

Twenty-six female respondents (88%) reported therapeutic massage as important. Out of these, 71% (18) said it was very important. However, among male respondents, only 50% (39) believed that massage therapy was an important modality in the treatment of patients (Table 10). Only 19% (6) of female and 32% (17) of male respondents reported that they did not receive any formal training in massage therapy. However, 80% of male (42) and female (25) respondents claimed that massage therapy was part of their syllabus dur-

**Table 10.** Therapeutic massage as a treatment option based on gender of respondents: Number

	Females	Males
Very important	6	8
Important	18	31
Not important at all	8	12

ing their under graduate study.

The largest group respondents (33%) had orthopedics as their specialization, and all of them reported massage as an important treatment option. However specialists from neurology and cardiopulmonary differed. Only 20% of neurology specialists reported massage to be important, and limited its use to Bell's palsy. Also, 25% of cardiopulmonary specialists reported use of massage, especially the clapping technique, as important for chest mobilization along with other techniques such as vibration and postural drainage (Table 11).

## DISCUSSION

Our survey found that PTs working in Saudi Arabia frequently use therapeutic massage in their clinical settings to treat pain relief, restriction of range of motion, etc. The important part of physiotherapy, and they can rely on its outcome based on their personal experience as the literature on its efficacy is limited. These perceptions were reflected across gender, specialization and the work experience of the respondents. To the best of our knowledge, this is the first study to report the perception and use of therapeutic massage among PTs.

Respondents seemed to be confident about using therapeutic massage in their clinics. Nevertheless, evidence of its efficacy is gradually accumulating but at present, there are no definitive conclusions about its efficacy<sup>6)</sup>. The majority of respondents reported only treating musculoskeletal pain (including soft tissue, bone, joints, and plantar fasciitis) using different techniques of therapeutic massage. All the respondents with orthopedic specialization rated therapeutic massage as an important treatment modality. This shows a perception that massage therapy is only effective for orthopedic conditions. However, some studies have reported its efficacy in a variety of other conditions such as burns, various kinds of edema, sports injury prevention and rehabilitation, and neurological conditions such as spasticity<sup>3, 5, 12-15)</sup>. The psychological benefits of therapeutic massage have been reported more than its physiological effects<sup>6, 16)</sup>.

The majority of respondents who reported having used therapeutic massage in their clinics, use it for the lower back region. Some studies on management of low back pain have reported that therapeutic massage is an effective treatment option<sup>17, 18)</sup>, but strong evidence is still missing<sup>19)</sup>. Studies like ours are needed to ascertain the perception of therapists about the importance of massage as a treatment option, and to encourage PTs to report their findings.

Therapeutic massage was found to be more popular among the female respondents. Patients may be more com-

**Table 11.** Perception of therapeutic massage as a treatment option based on specialty of respondents: Number

	Very important	Important	Not important at all
General practice	7	15	10
Orthopedics	8	30	3
Neurology	1	4	18
Cardiopulmonary	0	10	7
Pediatrics	1	2	3
Geriatrics	3	2	1
Others	1	2	3

fortable with female therapists. This experience may vary from culture to culture. However, it is noted that in daily practice, unlike male patients, who can accept treatment from both male and female therapists, female patients do not prefer males as their therapists in Saudi Arabia.

Although the majority of the respondents reported therapeutic massage to be an important modality in clinics, they still failed to document its results, either due to high patient load or a lack of support staff, because treatment with therapeutic massage is of longer duration. Although the relaxation effects are quick<sup>3)</sup>, other therapeutic effects, like removal of blood lactate<sup>2, 6)</sup> take more time. Literature on the specific effects of different types of massage techniques is also limited. This may be another reason why some respondents chose to use other electrotherapy modalities for treatment.

Many respondents expressed concern about the different terms being used to describe therapeutic massage in the literature and daily practice. It seems to suffer a lack of uniformity in terminology. Some report it as soft tissue manipulation, massage therapy, or soft tissue technique<sup>3)</sup> and it is often confused with conventional massage. Therapists should be encouraged to use common technical terms like 'therapeutic massage' which are easy to use and report in the literature. Another concern raised by respondents was that no study has reported specific outcome measures for identifying improvements in clinical findings after using therapeutic massage. This is an area which needs more research.

Regarding limitations, this is a first study of its kind with a relatively small sample. Perceptions about therapeutic massage may vary from culture to culture. Hence this study should be repeated by therapists in different countries. A self-reported questionnaire was used, and this could have encouraged respondents to overestimate their responses.

Many PTs in Saudi Arabia consider therapeutic massage to be an important treatment modality, but its use is relatively limited, either due to the time and effort required to dispense it, or the lack of scientific evidence for its efficacy. Although evidence of its efficacy is gradually accumulating, we need more research on its underlying mechanisms. The results of this survey should encourage further research in this area. Formal training along with underlying neurophysiological biomechanical and psycho-physiological mechanisms is recommended during the undergraduate training of the PTs.

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