# **ORIGINAL RESEARCH ARTICLE**

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# A survey about the awareness among the physiotherapists in the use of Matrix Rhythm Therapy in treating chronic low back pain in post-menopausal women

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## Abstract

**Background** Menopause is a stage in a woman's physiology where several chronic illnesses begin to appear, compromising both the quality and quantity of their life. It has been postulated that a decrease in estrogen levels in women may be important for accelerated disc degeneration in postmenopausal women. The overall prevalence of LBP is 52% higher in perimenopausal women with osteoporosis which is considered to be one of the predominant factors for low back pain in women.

There are many modalities like Interferential therapy, ultrasound therapy, and transcutaneous electrical nerve stimulation, that treat nonspecific back pain with varying results, some advanced electrotherapy modalities like shockwave, low-level laser therapy, Matrix Rhythm Therapy (MaRhyThe) also proved to be effective in reducing the nonspecific chronic low back pain.

Matrix Rhythm Therapy was invented by Dr. Med. Ulrich Randoll (1987–1999) at the University of Erlangen, Germany. Matrix Rhythm Therapy includes a wand with a resonating head that oscillates at the frequency of 8–12 Hz and is connected to the machine with a connecting cable (U.G Randoll p18 The Principles of Matrix Rhythm Therapy – MaRhyThe 3rd edition 2015).

**Objective** The main objective of this survey study is to investigate awareness among physiotherapists in the use of Matrix Rhythm Therapy in treating chronic low back pain in post-menopausal women.

**Methods** For this study, Google Forms were distributed to physiotherapists of diverse area specializations through social media. The survey was carried out between 16th December 2022 to 18th April 2023.

**Results** Out of 103 responses which is 10% of the total sample size, 69.9% of the physiotherapists were aware of Matrix Rhythm Therapy whereas 30.1% were not aware of the same. Meanwhile, when it comes to treating chronic low back pain in post-menopausal women, only 49.5% of the physiotherapists say that the condition can be treated with Matrix Rhythm Therapy, the rest of the 28.2% are not aware and 11.7% are not sure if the condition can be treated with the same.

**Conclusion** In conclusion, these findings show that implementing or using Matrix Rhythm Therapy as a physical therapy intervention in treating chronic low back pain is woefully inadequate, despite Physical therapists and clinicians recognizing the need for or usage of matrix rhythm therapy, they also must maintain a consistent interest and commitment to effectively employ Matrix Rhythm Therapy for clinical conditions and active research.

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Keywords Chronic low back pain, Matrix rhythm therapy, Post-menopausal back pain, Women health

## Introduction

Menopause is a stage in a woman's physiology where several chronic illnesses begin to appear, compromising both the quality and quantity of their life [1]. When women reach hormonal menopause where follicle-stimulating hormone [FSH] > 30 IU/l, estradiol [E2] > 30 pg/ ml, FSH/luteinizing hormone [LH] >1 are primarily in a state of absolute hypoestrogenism and subject to progressive aging. The depletion of sex steroid hormones is a significant effect of natural aging. Female gonadal (ovaries) failure may increase disease susceptibility in hormone-responsive organs such as the brain, bone, and cardiovascular system. The most common complaints in menopause include vasomotor symptoms such as hot flashes, night sweats, and urogenital atrophy. All of these harm women's quality of life [2]. A recent study determined the age of natural menopause in India to be  $46.2 \pm 4.9$  years. The perimenopausal stage, according to recent Indian research is characterized by irregular periods and it seems to be consistent. Other studies conducted in India also show an elevated risk of osteoporosis and heart stroke in postmenopausal women [3]. Surgical oophorectomy causes immediate menopause which in turn could produce low back pain in women irrespective of age [4].

In today's society, lower back pain, particularly in the lumbar area, is a major health concern. Bone mineral density as assessed by dual-energy X-ray absorptiometry is an essential clinical indicator of bone strength and health, and there is a link between low bone mineral density and joint discomfort. Multiple research studies show the incidence and prevalence of musculoskeletal problems such as low back pain, are among the most frequently and reliably reported complaints by peri and postmenopausal women worldwide [5]. All of the research reviewed that women who are going through or have gone through menopause have more joint and spinal pathologies. Low back pain has significant psychological repercussions since it interferes with the women's everyday functioning [6]. Major symptoms present in pre and post-menopausal women include vasomotor trait, urogenital atrophy, osteoporosis, cardiovascular disease, cancer, psychiatric problems, cognitive decline, and sexual decline. Predominant symptoms, such as hot flashes and low back pain are set about in the perimenopausal phase [7].

Low back pain (LBP) is typically defined as pain, muscle tension, or stiffness localized below the costal margin and above the inferior gluteal folds, with or without radiating pain in the legs (sciatica). LBP occurs in about 60-80% of individuals at some point in their lives. Based on the severity and duration of low back pain it is subdivided into the acute phase which lasts less than 4 weeks, a subacute phase which lasts for 4 to 12 weeks, and a chronic phase more than 12 weeks [8]. Chronic low back pain is further subdivided into five categories based on the Movement and Motor Control Impairment (MCI), a classification system by O'Sullivan as (1) flexion pattern (loss of motor control into trunk flexion resulting in excessive abnormal flexion strain), (2) the act of flexion or side-altering pattern (MCI focused on the spine of the lumbar region with an ability to bend and transfer laterally at the painful region). (3) active extension pattern (MCI around the lumbar spine with a tendency to hold the lumbar spine actively into extension), (4) passive extension pattern (loss of lumbar motor control around the lumbar spine with a tendency to passively overextend at the symptomatic segment), and (5) multidirectional pattern (MCI around the lumbar spine in all directions). At all lumbar levels, older female participants demonstrated more severe disc degradation than elderly male participants. It has been postulated that a decrease in estrogen levels in women may be important for accelerated disc degeneration in postmenopausal women [9]. The overall prevalence of LBP is 52% higher in perimenopausal women with osteoporosis which is considered to be one of the predominant factors for low back pain in women [10] and in obesity-related abdominal weight gain [11]. Low back pain can be classified as specific and nonspecific. Specific low back pain can be identified by any underlying pathophysiological mechanism, such as hernia, infection, osteoporosis, rheumatoid arthritis, fracture, or tumor [12]. Female sex hormones have an important role in the etiology and pathophysiology of musculoskeletal degenerative illnesses, hence this is a specific low back pain. Due to the lack of estrogen hormone in post-menopause women, accelerated disc degeneration will be seen, resulting in reduced intervertebral disc space in women than in men of the same age group. Women in their post-menopause also show higher osteoporosis-related spine fractures, particularly at the thoracolumbar junction [13].

Dugan et al. (2006) [14] in a study stated that aches and pain are significantly and independently related to postmenopausal status. Mitchell et al. (2010) [15] conducted a comparative study that concluded that back pain increased in severity as women progressed through the menopausal transition stages. According to Szoeke et al. (2008) [16], the percentage of women experiencing back pain increased from 44 to 59%, and there appears to be a favorable relationship between a higher body mass index and greater spine discomfort. Menopause-related symptoms hurt the quality of life of perimenopausal and postmenopausal women (Poomalar et al.2013) [17]. The spine pain incidence increased with age and the largest increase we observed in women over 65 years. (Manabe et al. 2003) [18]. Women in their post-menopausal phase aged 50-79 with chronic pain tend to worsen their pain due to an increase in BMI ( $\geq$  30) (Brennan Braden et al. 2012) [19]. Mohamad Azhar Gilani. et.al.(2022), performed a cross-sectional community-based study in block Hazratbal, in the field practice area of the department of community medicine, Government Medical College (GMC), Srinagar, with a sample size of 198 women with a mean age group of 53.56 years were included. The results of the study revealed that the frequency of low back pain is found in 77.8 percent which is 154 out of 198. Fifty-five percent of women complained of moderate pain and 16 percent with severe LBA. Late menopausal women had four times the risk of severe low back pain as early menopausal women [20].

All the above studies justify that women with higher menopause symptoms may be the most vulnerable population for chronic back pain [13]. Despite this, there is only a little attention has been paid to pain in the spine/ low backache and various problems of peripheral joints which are equally prevalent in this menopausal period of women's life [14]. The pain in the spine also hurts the patient's mental well-being because it affects the everyday activities of the women's life [21].

Conservative treatment for persistent low back pain in menopausal women includes medication, kinesiotherapy, and physical therapy. The dynamic growth of biomedical engineering leads to new technical solutions used in the creation of new medical equipment. The technologies that are now employed in physical therapy treatments supplement, and sometimes even replace, pharmacological treatment approaches. Furthermore, because of their infrequent side effects, physical therapy treatments shorten treatment time, increase quality of life, and lower therapy expenses.

Electrical therapy is one of the most often utilized physical therapies for back pain problems. The primary purpose of employing electrical stimulation in the treatment of low back pain syndromes is to alleviate both pain and inflammation, as well as to reduce muscular tension in the afflicted areas. Several electrophysiotherapy modalities like interferential current, therapeutic ultrasound, TENS, and high voltage help in relieving chronic low back pain [22]. High-intensity laser therapy (HILT) [23], low-level laser [24], extracorporeal shock wave therapy [25], and Matrix Rhythm Therapy [26] are some of the recent advances in electrotherapy currently employed in pain management.

Matrix Rhythm Therapy (MaRhyThe<sup>®</sup>) is a non-invasive treatment protocol invented by Dr. Ulrich Randoll which has a probe with a resonating head that oscillates in the frequency between 8 and 12 Hz. It is attached to the machine by a connecting cable. The machine has a speed control knob to adjust the speed of the oscillations. According to the Matrix Rhythm Therapy Concept, diseases occur on the cell biological level as processes that have gotten derailed, or "off track." Matrix Rhythm Therapy tries to improve the underlying "logistics" of the cells to restore normal physiological circumstances. This is required for the body's inherent self-organizing and self-healing mechanisms to work properly, restoring the organism to healthy, symptom-free functioning from the "cellular level" [27].

The fundamental principle behind Matrix Rhythm Therapy is that every cell in the body has its own rhythmic frequency (8–12 Hz) These alpha oscillations are vital for cellular function and overall health. When cells lose their natural rhythmic movements due to injury, inflammation, or other factors, it can lead to various health problems.

Matrix Rhythm Therapy aims to restore these natural rhythms by using gentle mechanical oscillations through the resonating head. Practitioners synchronize these oscillations to the muscle cells pertaining to a deeper level thereby to the affected areas of the body. The therapy is non-invasive and is often used to treat musculoskeletal disorders, pain, injuries, and wound healing.

## Objective

The main aim of the survey is to find the awareness among physiotherapists of the use of matrix rhythm therapy in treating chronic low back pain in post-menopausal women.

## Methods

The study was entirely done online with a convenient sampling as the physical therapists' population throughout India is huge and exceeds more than 1000. Hence, 1000 was taken as the sample size and the expected responses can be 10% of the total participants. Cross-sectional survey research was done with Google Forms which has been shared with the physical therapists through WhatsApp groups. The survey questionnaire had 22 questions validated by the guide. The questionnaire consists of 2 primary questions as consent for participation and valid email ID respectively. The following 7 questions were about demographic details, highest educational qualification, area of specialization, and years of experience by the participating physiotherapist. The rest of the 13 questions are about Matrix Rhythm Therapy which includes confirming the participant as a certified practitioner for Matrix Rhythm Therapy, indications for Matrix Rhythm Therapy given by the individual participant, different techniques and electrical modalities that are used along with Matrix Rhythm Therapy or apart from it and awareness among the physiotherapists in treating chronic low back pain in postmenopausal women with Matrix Rhythm Therapy, its cost-effectiveness, and duration in bringing the recovery.

## Inclusion criteria

Physiotherapists having at least an undergraduate professional degree were part of the study.

## **Exclusion criteria**

The poll excluded physiotherapy students and diploma holders as they were not qualified physical therapists.

## Results

With 103 opinions, the data collection was halted. The needed information for the survey research is collected from 16th December 2022 to 18th April 2023 which comes to 124 days. This study confirms that all the participants 100% agreed and gave consent for participation, and all the 103 participants responded genuinely to the 22 questions which was included in the survey questionnaire. The data collected through google form was analysed by statistician and the results were summarized with tabular column, pie charts and bar graphs based on the questions answered by the participants. Accordingly, (Table 1) [28] represents number of physiotherapists participated in the survey and their responses in percentage with respect to demographic details were explained. This survey included 69 female physical therapists and 34 male therapists which accounts for 66.99% and 33.01% respectively. Irrespective of gender the physiotherapists below 30 years of age who participated in the study were 46 that accounts for 44.66%, in the age group of 31-40 years were 24 that was 23.30%, within the age group of 41-50 were 30 which was 29.13% and above 50 were 3 in numbers that was 2.91%. To Sum up with the eligibility for participation in the survey qualified Physiotherapists with a basic qualification of BPT and above were included in the study, in this regard 47 participants in head count that was around 45.63% were physiotherapists who have completed their under graduation, 50 Physiotherapists that is 48.54% have completed their post-graduation with various field specializations and 6 of them were PhD's that accounted 5.83%. In this survey 71 participants were clinical practitioners i.e., 68.93%, 14 academicians as 13.59% and 18 participants as 17.48% were mentioned in other categories of practice in the field of physiotherapy. Around 48 physiotherapists, a percentage of 46.60% had a work experience of less than 5 years, 12 of them 11.65% with 6-10 years of experience,14 physios 13.59% with 11-15 years of experience and 29 participants 28.16 % with more than 15 years of experience. The physiotherapists who have participated in this survey research were specialized in various fields like Musculoskeletal physiotherapy-48 Physiotherapists as 46.60%, Neurology Physiotherapy-13 physiotherapists as 12.62%, OBG Physiotherapy-9 Physiotherapists as 8.74%, Sports Physiotherapy-5 physiotherapists as 4.85%, Geriatric Physiotherapy-7 physios as 6.80%, Community Based Rehabilitation-9 physiotherapists as 8.74%, Pediatric Physiotherapy- holds 3 participants accounting 2.91%, Cardiopulmonary Physiotherapy-9 physios as 8.74%. All the above data were collected from 103 physiotherapists and the results presented were 100% with respect to the 103 responses. Figure 1 is a pie-chart represents the Gender wise distribution

**Table 1**Number of physiotherapists participated in the surveyand their responses in percentage with respect to demographicdetails

Demographic characteristics	Number	Percentage	
Gender			
Male	34 33.01		
Female	69	66.99	
Age groups			
Under 30 years	46	44.66	
31–40	24	23.30	
41–50	30	29.13	
Above 50	3	2.91	
Qualifications			
BPT	47	45.63	
MPT	50	48.54	
PhD	6	5.83	
Nature of work			
Clinical practitioner	71	68.93	
Academician	14	13.59	
Other	18	17.48	
Years of experience			
Less than 5 years	48	46.60	
6–10 years	12	11.65	
11–15 years	14	13.59	
More than 15	29	28.16	
Specialization/area of interest			
Musculoskeletal physiotherapy	48	46.60	
Neurology physiotherapy	13	12.62	
OBG physiotherapy	9	8.74	
Sports physiotherapy	5	4.85	
Geriatric physiotherapy	7	6.80	
Community-based rehabilitation	9	8.74	
Pediatric physiotherapy	3	2.91	
Cardiopulmonary physiotherapy	9	8.74	
Total	103	100.00	

of the survey. The percentage of female physiotherapists to male physiotherapists ratio was 66.99% : 33.01%. Figure 2 represents a pie chart with age groups wise distribution in varying percentages. Figure 3 is a pie chart representing the qualifications wise distribution of the participating physiotherapists. Figure 4, a pie chart that represents the nature of work wise distribution among the participants. Figure 5 is also a pie chart which represents the years of experience of the participating physiotherapists in percentage. Figure 6 is a bar graph which represents the number of years of experience of the participating physiotherapists with specific specialization in Physiotherapy.

Table 2 is presented as tabular column for the question wise responses; it is summarized as follows. With respect to the awareness of Matrix Rhythm Therapy 31 participants said they were not aware whereas 72 physiotherapists responded that they were aware of the treatment. The percentage of the awareness about Matrix Rhythm Therapy to the unawareness among Physiotherapists accounted for 69.90% and 30.10%. it means more physiotherapists are aware of the treatment MaRhyThe©. All 103 participating physiotherapists have answered if they have attended any workshop or seminar on Matrix Rhythm Therapy. 48.54% of the participants that is 50 people said that they have attended the workshop for learning MaRhyThe© and 51.46% that is 53 physiotherapists told they have not attended any workshop. Out of this 43.69% that is 45 physiotherapists out of 103 participants were certified as MaRhyThe practitioners whereas 56.31% that is 58 physios out of 103 participants were not certified as Matrix rhythm Therapy practitioners. Though they were certified, the practicing percentage of Matrix Rhythm Therapy were 40.78% only and non-practitioners were 59.22%. The head count the certified practitioners were 42 and the non-practitioners were 61. When the question about the practicing years as a Matrix Rhythm Therapy practitioner, 20 physiotherapists responded that they were practicing for 0-2 years, 9 physiotherapists were practicing for 3-4 years and 11 physios more than 5 years. Rest of the participants around 63 physios said that it is not applicable for them. Out of 100% participants 61.20% were not practicing MaRhyThe© at all. 19.40% for 2 years, 8.70% for 3 to 4 years and 10.70% for 5 years and above.

Since the primary goal of our survey is to ascertain whether physiotherapists are knowledgeable about using Matrix Rhythm Therapy to treat chronic low back pain in post-menopausal women, this question was asked directly of the participants. Within the 103 physiotherapists who responded, 57.2% or 59 physios said that they are aware of using matrix rhythm therapy," 32 physiotherapists or 31.1% of the total population, said "no" or did not practice, 12 physiotherapists or 11.7% said "maybe," matrix rhythm therapy can be used to treat chronic low back pain in post-menopausal women. Among the users group three physiotherapists used only Matrix Rhythm Therapy to treat chronic LBA, while five physiotherapists stated using Matrix Rhythm Therapy in addition to other techniques.

58 physiotherapists or 56.31% of the total participants responded that the result/impact of treating chronic LBA in post-menopausal women with Matrix Rhythm Therapy was better than conventional techniques and 45 physiotherapists said that they were not at all using matrix rhythm therapy which accounts for 43.69% of the total participants. When the question about the duration it takes to get positive results in treating chronic low back ache with matrix rhythm therapy, 46 physiotherapists or 44.66% said that it took less duration than conventional techniques, whereas 8 physios or 7.77% said it takes more duration to show positive results than conventional techniques and 49 participants or 47.57% said that they are not at all using matrix rhythm therapy.

Also 47 participants or 45.63% said that handling Matrix Rhythm Therapy on post-menopausal women









Fig. 3 Qualifications wise distribution



Fig. 4 Nature of work wise distribution



Fig. 5 Years of experience of the participating physiotherapists in percentage



Fig. 6 Years of experience with specific specialization in Physiotherapy

with chronic low back pain was easy, whereas 7 physios or 6.80% said it was difficult in handling matrix rhythm therapy and 49 physiotherapists or 47.57% were not at all using matrix rhythm therapy.

54 participants or 52.43% responded that learning Matrix Rhythm Therapy was easy, while 7 participants or 6.80% responded that it was difficult for them to learn and 42 physios or 40.78% of the total participants responded that it was not applicable for them. Out of 103 responses 44 physiotherapists or 42.72% conveyed that the charges for matrix rhythm therapy was more than conventional techniques or modalities, on the other hand 51 physios or 49.51% said that they were not practicing matrix rhythm therapy, whereas 5 physiotherapists or 4.85% said that the charges were similar to that of the conventional techniques and 3 physiotherapists or only 2.91% of the total participants said that it was lesser than the conventional techniques [28].

The following is a description of the corresponding figures that follow Table 2.

Figure 7 represents the responses by the physiotherapists based on their awareness, if they have attended

## Table 2 Question-wise responses

Questions	Number	Percentage
Are you aware of Matrix Rhythm Therapy?		
No	31	30.10
Yes	72	69.90
Have you attended any workshop or seminar on Matrix Rhythm Therapy?	103	100.00
No	53	51.46
Yes	50	48.54
Are you certified in Matrix Rhythm Therapy?		
No	58	56.31
Yes	45	43.69
Are you practicing Matrix Rhythm Therapy?		
No	61	59.22
Yes	42	40.78
If yes, how many years have you been practicing Matrix Rhythm Therapy?		
0–2 years	20	19.40
3–4 years	9	8.70
5 years and above	11	10.70
Are you aware that Matrix Rhythm Therapy can be used to treat chronic low back pain in post-menopausal women?		
No	32	31.10
Yes	59	57.20
May be	12	12.70
What is the result/impact of treating chronic LBA in post-menopausal women with Matrix Rhythm Therapy?		
Better than conventional techniques	58	56.31
Not at all using the Matrix Rhythm Therapy	45	43.69
How much duration does it take with Matrix Rhythm Therapy to get positive results in chronic LBA?		
Not using the Matrix Rhythm Therapy	49	47.57
Less duration than conventional techniques	46	44.66
More duration than conventional techniques	8	7.77
Handling Matrix Rhythm Therapy on post-menopausal women with chronic low back pain is		
Not using Matrix Rhythm Therapy	49	47.57
Easy	47	45.63
Difficult	7	6.80
Learning Matrix Rhythm Therapy is		
Not applicable	42	40.78
Easy	54	52.43
Difficult	7	6.80
If you are practicing Matrix Rhythm Therapy, then treatment charges are		
Not practicing Matrix Rhythm Therapy	51	49.51
Lesser than conventional techniques or modalities	3	2.91
Similar to conventional techniques	5	4.85
More than conventional techniques or modalities	44	42.72
Total	103	100.00

any workshop or seminar or certified in and practicing Matrix Rhythm Therapy. Figure 8 demonstrates responses based on the number of years of practicing Matrix Rhythm Therapy by the physiotherapists participated in the survey, Figure 9 depicts the responses about awareness of Matrix rhythm Therapy usage to treat chronic low back pain in post-menopausal women. Figure 10 queries about the result/impact of treating chronic LBA in post-menopausal women with Matrix Rhythm Therapy to the participants. Figure 11 mentions the handling Matrix Rhythm Therapy on post-menopausal women with chronic low back pain by the physiotherapists was easy, difficult or not applicable. Figure 12 picturizes that the learning Matrix Rhythm Therapy was



Fig. 7 Responses on awareness, attended any workshop or seminar, certified in and practicing Matrix Rhythm Therapy?



Fig. 8 Responses on If yes, how many years you been practicing Matrix Rhythm Therapy?



Fig. 9 Responses on Are you aware that Matrix rhythm Therapy can be used to treat chronic low back pain in post-menopausal women?



Fig. 10 What is the result/impact of treating chronic LBA in post-menopausal women with Matrix Rhythm Therapy?



Fig. 11 Handling Matrix Rhythm Therapy on post-menopausal women with chronic low back pain is



Fig. 12 Learning Matrix Rhythm Therapy is



Fig. 13 If you are practicing Matrix Rhythm Therapy, then treatment charges are

easy, difficult or not applicable with the participating physiotherapists. Figure 13 gives the reader an idea of the treatment charges for Matrix Rhythm Therapy by the participating practitioners [28].

## Discussion

According to the scriptures, physiotherapy dates back to 460 B.C., when physicians such as Hippocrates and Galenus, who are thought to be the earliest specialists of physical therapy recommended massage, manual therapy techniques, and hydrotherapy to heal individuals [29], modern physical therapy evolved near the end of the nineteenth century as a result of global occurrences that demanded significant improvements in physiotherapy treatment. Physical therapists are highly trained in the prevention, evaluation, diagnosis, and treatment of medical disorders or health-related diseases that may restrict or influence a person's ability to move and perform functional everyday activities. Because the general focus of services is on health maintenance, rehabilitation, and prevention, physical therapist services are known to have a positive impact on an individual's health-related quality of life. Physiotherapists play critical roles in healthcare delivery systems and frequently serve as leaders in professional and community organizations by promoting fitness, health, and wellbeing. Diversified fields of physical therapy include sports, neurology, integumentary, cardiopulmonary, geriatrics, orthopedics, pediatrics, women's health, palliative care, rehabilitation physical therapy, and clinical electrophysiology [30]. Furthermore, physical therapists play an important role in developing physical therapy practice standards; therefore, as a physiotherapist being aware of current therapeutic and technological advances not only contributes to augmenting skills but also helps in accelerating the healing process for individuals suffering from multiple ailments.

Hence this survey is done to know how far the physical therapists are aware of the recent practices of matrix rhythm therapy in treating chronic low back pain in post-menopausal women. The questionnaire was sent to qualified physiotherapists practicing around the world through social media and the responses were collected through Google form. The survey was done with the consent of the participants. Even though a higher number 72 out of 103 or 69.90% of the total participants were aware of Marhythe©, only 45 physiotherapists, or 43.69% were certified as matrix rhythm therapy practitioners. When it comes to the awareness of treating chronic LBA with matrix rhythm therapy in post-menopausal women, 59 physiotherapists, or 57.2% agreed that they were aware of it and 32 participants, or 31.1% denied and 12 physios, or 11.7% were skeptical about using matrix rhythm therapy in treating chronic low back pain in post-menopausal women. Overall the responses derived from this survey proved that physiotherapists irrespective of their highest qualification practicing either as an academician or a clinical practitioner or both were not completely aware of matrix rhythm therapy and its clinical significance in treating chronic low back pain in post-menopausal women.

## Strengths of survey research

Survey research is a widely used method to collect data and gain insights into various phenomena. Here are some of the strengths of this survey research:

1. Efficiency: Surveys are an efficient way to collect data from a large number of respondents simul-taneously. This can save time and resources com-

pared to other data collection methods like interviews or observations.

- 2. Standardization: The questions, response options, and data collection procedures can be uniform, ensuring consistency in data collection.
- 3. Anonymity: Respondents can answer survey questions anonymously, leading to more candid responses, especially on sensitive topics.
- 4. Quantitative Data: This Survey has generated quantitative data, making it easy to analyze statistically.
- 5. Generalizability: With a properly designed and representative sample, this survey research has provided generalizable insights to a larger population. This is important for making inferences about broader trends or characteristics.
- 6. Cost-Effective: This survey was done cost-effectively for data collection, especially in large populations.
- 7. Versatility: This survey has been conducted through social media , including in-person, mail, phone, and online. This helped to reach the target audience in a more versatile way.
- 8. Ease of Administration: This survey was easily administered, and conducted over large geographical areas without the need for the physical presence of the researcher.
- 9. Flexibility: This survey was flexible both for the participants and the researcher.
- 10. Accessibility: Advances in technology have made it easier for this survey to reach a broad and diverse audience, as well as collect data from hard-to-reach populations.

## **Limitations of Survey Research**

Despite these strengths, it's important to note that survey research also has limitations, such as potential for response bias, limited depth of information, and the reliance on self-reported data. Researchers should carefully consider these strengths and weaknesses when designing and interpreting survey results.

## Conclusion

In conclusion, the survey responses show that only a limited percentage of physical therapists are aware of implementing or using Matrix Rhythm Therapy as a physical therapy intervention in treating chronic low back pain in post-menopausal women when compared to the physiotherapists' population as a whole. Despite physical therapists and clinicians recognizing the need for or usage of Matrix Rhythm therapy, they must also maintain a consistent interest and commitment to effectively employ MaRhythe<sup>®</sup> as a physical therapy intervention for clinical conditions and active researches Learning matrix rhythm therapy (MaRhyThe©) can be considered important for physiotherapists for several reasons, though it's important to note that the significance may vary based on individual perspectives and clinical needs. Here are some reasons why learning Matrix Rhythm Therapy might be valuable for physiotherapists:

- 1. Holistic Approach to Treatment: MaRhyThe<sup>®</sup> is designed to address not just the symptoms of a condition but also the underlying cellular and tissue dysfunctions. Physiotherapists who are trained in MaRhyThe<sup>®</sup> may appreciate its holistic approach to rehabilitation.
- 2. Cellular Level Understanding: Matrix Rhythm Therapy focuses on the cellular and extracellular matrix level, providing a unique perspective on the functioning of tissues. Physiotherapists who understand these micro-level dynamics may be better equipped to tailor their treatments to address fundamental issues.
- 3. Complementary to Conventional Therapies: Physiotherapists often use a variety of modalities and techniques to address musculoskeletal issues. Matrix rhythm therapy can be seen as a complementary approach that can be integrated into a broader treatment plan.
- 4. Postoperative Rehabilitation: In postoperative settings, where tissue healing and recovery are critical, MaRhyThe© may be employed to promote optimal healing conditions. Physiotherapists trained in MRT may find it beneficial in the rehabilitation process after surgeries.
- 5. Sports Rehabilitation: For physiotherapists working in sports rehabilitation, matrix rhythm therapy might offer an additional tool for addressing injuries, promoting tissue recovery, and enhancing athletes' performance.
- 6. Patient-Cantered Care: Learning MRT provides physiotherapists with a diverse set of skills, allowing them to offer individualized and patient-centered care. It enables practitioners to tailor treatments based on the specific needs and responses of each patient.
- 7. Evidence and Research: While more research may be needed, there are some pieces of evidence suggesting positive outcomes with MaRhyThe<sup>©</sup> in certain conditions. Physiotherapists who are familiar with the therapy can contribute to the evidence base and help refine its application in clinical practice.
- 8. Professional Development: Continuing education and expanding one's skill set are essential for professional development. Learning matrix rhythm therapy can contribute to a physiotherapist's toolkit, enhancing their ability to address a wide range of conditions.

Hence physiotherapists need to approach additional therapies and techniques with a critical mindset, ensuring that any new approach aligns with evidence-based practice and complements their existing knowledge and skills. Additionally, compliance with local regulations and professional standards is crucial when incorporating new therapeutic modalities into clinical practice. Furthermore, physiotherapists must stay up to date on the most recent advancements and research in matrix rhythm therapy since this is necessary for in-depth understanding and learning of the principle of matrix rhythm therapy and application of the same for the target group or patient population.

#### Abbreviations

MaRhyThe	Matrix Rhythm Therapy
LBA	Low back ache
NA	Not applicable

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#### Availability of data and materials

https://docs.google.com/forms/d/1zoyElWPWB9KE956dn5cf96\_AX-UuxWj TCe5DuQ76ljE/edit. Accessed 18 Apr 2023. Attached as annexure.

## Declarations

#### Ethics approval and consent to participate

This study has been approved by the ethical committee of Garden City University.

#### Consent for publication

I as a corresponding author and all the participants have given our consent for publication.

#### Competing interests

The authors declare that they have no competing interests.

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