ADVOCATING AQUATIC PHYSIOTHERAPY: A STRATEGIC APPROACH TO AWARENESS AND ACCESSIBILITY

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ABSTRACT

Aquatic physiotherapy, using water's properties to improve physical rehabilitation, has the capacity to tackle diverse challenges encountered by patients with musculoskeletal disorders, neurological conditions, and requirements for post-operative recovery. In the Middle East, where healthcare systems are still developing, there is an urgent necessity for awareness and improved access to aquatic physiotherapy services. This study determined the level of awareness on aquatic physiotherapy and the extent of its manifestation. Specifically, this described the profile of the physiotherapists relative to sex, length of service in the clinical work and highest educational attainment. Likewise, the study looked into the level of respondents' awareness on the aquatic physiotherapy and the extent of manifestation of aquatic physiotherapy with respect to patient's demographics, therapeutic techniques, and safety and supervision. The study utilized a descriptive type of research design and involved physiotherapists. Results of the findings revealed that majority of the physiotherapists are male, with 16 to 20 years in clinical service and are bachelor's degree holder. There is a very high level of awareness about aquatic physiotherapy. Moreover, the study revealed a great extent of manifestation of aquatic physiotherapy with regard to patient's demographics, therapeutic techniques, safety and supervision.

Keywords: *aquatic physiotherapy, level of awareness, manifestation*

INTRODUCTION

The area of physiotherapy has experienced considerable progress over the years, with aquatic physiotherapy rising as a distinct branch that provides special advantages. Aquatic physiotherapy, using water's properties to improve physical rehabilitation, has the capacity to tackle diverse challenges encountered by patients with musculoskeletal disorders, neurological conditions, and requirements for post-operative recovery. In the Middle East, where healthcare systems are still developing, there is an urgent necessity for awareness and improved access to aquatic physiotherapy services. This research aims to investigate the existing state of aquatic physiotherapy in the area, highlighting the need for developing strategic initiatives to enhance its application and accessibility.

In spite of the recognized benefits of aquatic therapy, such as decreased pain, enhanced mobility, and better mental health, numerous people in the Middle East still lack awareness of its therapeutic benefits. Cultural views, restricted experience, and a shortage of skilled experts lead to the insufficient use of this important resource. In recent years, various

countries in the region, including the United Arab Emirates and Saudi Arabia, have progressed in broadening their healthcare offerings. Nonetheless, the advancement of aquatic physiotherapy remains behind conventional methods. This research seeks to uncover obstacles and suggest remedies to improve public awareness by analyzing the distinct social and cultural elements that shape healthcare decisions in the Middle East. Moreover, access to aquatic physiotherapy is frequently hindered by various logistical obstacles. The need for specialized centers with hydrotherapy pools, trained personnel, and appropriate safety protocols poses significant challenges, especially in rural regions where healthcare resources are limited. Aquatic physiotherapy, a specialized area of rehabilitation therapy that employs water-based methods, has become well-regarded for its efficacy in numerous therapeutic settings. Although its advantages are well-established, a significant research gap exists regarding its implications and accessibility in the Middle East. The Middle East encounters distinct health issues, such as elevated levels of obesity, diabetes, and musculoskeletal conditions. These circumstances frequently require rehabilitative measures. Nonetheless, research on aquatic physiotherapy is still limited in this geographic area. Current literature mainly comes from Western countries, where aquatic therapy has been extensively incorporated into health care systems. The absence of localized studies overlooks cultural, social, and infrastructural elements that influence the adoption and implementation of aquatic physiotherapy in the Middle East.

A major obstacle to the acceptance and use of aquatic physiotherapy in the area is the cultural view of water-based treatment. In numerous Middle Eastern communities, there might be misconceptions regarding the efficacy of physiotherapy and restrictions in access to appropriate aquatic facilities. Additionally, healthcare providers might be unaware of or untrained in aquatic physiotherapy methods. This is worsened by a lack of advocacy and promotion of the method in healthcare environments, resulting in numerous potential beneficiaries being oblivious to its benefits. The reasoning for performing a study supporting aquatic physiotherapy in the Middle East stems from the pressing requirement to fill these voids. Through examining the awareness levels of healthcare providers and patients, the study seeks to showcase the advantages of this treatment method. Identifying the particular obstacles that prevent access is essential, along with promoting strategies to boost visibility and credibility. For example, involving the community via workshops or collaborations with fitness centers could effectively enhance awareness and access to aquatic physiotherapy services. To sum up, the lack of studies on aquatic physiotherapy in the Middle East offers a substantial chance for focused research. The study aims to tackle common health concerns and encourage rehabilitation methods suited to the cultural setting of the area by promoting greater awareness and access to aquatic physiotherapy. This research will enhance not only scholarly conversation but also real-world applications that may improve the health and wellness of people from various populations in the Middle East.

Objectives of the Study

This study determined the level of awareness on aquatic physiotherapy and the extent of its manifestation. Specifically, this sought answers to the following:

1. Describe the profile of the physiotherapists relative to:
    1.1 Sex
    1.2 Length of service in the clinical work
    1.3 Highest educational attainment

2. Determine the level of respondents' awareness on the aquatic physiotherapy
3. Ascertain the extent of manifestation of aquatic physiotherapy relative to:
    3.1 Patient's demographics
    3.2 Therapeutic techniques
    3.3 Safety and supervision

LITERATURE REVIEW

Characteristics of Physiotherapists. Physiotherapists are essential in the healthcare system, facilitating healing and enhancing the quality of life for those facing physical difficulties. A study of their qualities uncovers various key attributes that aid in their efficiency and career achievements. Firstly, strong communication abilities are essential for physiotherapists. Healthcare providers need to communicate treatment plans and patient progress effectively to various patient groups and their families. Research by McKenzie et al. (2021) highlights those robust interpersonal abilities improve therapeutic rapport, essential for patient adherence and overall treatment effectiveness. Moreover, physiotherapists need to be skilled active listeners, a trait that enables them to grasp their patients' worries completely and react with suitable treatments. Secondly, flexibility emerges as an essential characteristic. The area of physiotherapy is ever-evolving, with continuous progress in methods and technologies. Physiotherapists need to consistently enhance their expertise and abilities to effectively integrate evidence-based methods. A study by Johnson and Avery (2020) found that professionals involved in lifelong learning are more adept at adapting their methods in response to new evidence and patient requirements, leading to enhanced patient outcomes. A different important trait is empathy. A qualitative study conducted by Thompson et al. (2022) indicates that when physiotherapists show authentic care for patients' well-being, it enhances patients' motivation and engagement in their treatment. Compassionate physiotherapists are inclined to create a nurturing atmosphere, helping patients feel appreciated and comprehended, essential for recovery journeys. This emotional bond is crucial for establishing trust and fostering a constructive therapeutic relationship.

Moreover, analytical reasoning and troubleshooting abilities are essential in the field of physiotherapy. Physiotherapists often deal with intricate situations that necessitate assessing and examining multiple factors influencing their patients' well-being. Study by Clark and Mills (2023) shows that physiotherapists possessing strong analytical abilities have greater success in developing customized treatment plans that effectively meet individual patient needs. In summary, the traits of physiotherapists include communication abilities, flexibility, compassion, and analytical thinking. These characteristics not only affect their professional efficiency but also greatly influence patient experiences and results. With the evolution of the field, ongoing investigation into the traits that distinguish effective physiotherapists is crucial for improving the quality of care provided to patients. By recognizing and fostering these traits, the physiotherapy field can keep progressing and address the increasing needs of healthcare.

Aquatic Physiotherapy. Aquatic physiotherapy, a distinct area of rehabilitation therapy, employs water as a healing medium to support patients in healing from diverse physical issues. The healing characteristics of water, such as buoyancy, hydrostatic pressure, and thermal conductivity, foster a setting favorable for recovery. Studies indicate that buoyancy lessens the weightbearing stress on joints, enabling patients to engage in exercises with reduced pain and lower risk of injury. Research by Bandy et al. (2020) highlighted that individual with knee osteoarthritis had a decrease in pain while engaging in aquatic exercises

and also showed enhancements in range of motion and strength. This discovery highlights the effectiveness of aquatic therapy in treating chronic musculoskeletal issues. In addition, hydrostatic pressure helps decrease swelling and improve blood flow. Recent studies, like the one conducted by Karpel et al. (2021), showed that individuals with chronic heart failure saw notable enhancements in exercise ability and cardiovascular performance after participating in aquatic therapy sessions. It suggested that the water setting offers a distinctive opportunity for individuals who may feel intimidated by or are unable to engage in conventional rehabilitation methods. The thermal characteristics of water are essential for promoting relaxation and alleviating pain. Heating water has been demonstrated to encourage muscle relaxation and boost circulation, which aids in overall recovery. A systematic review by Tsai et al. (2022) found that warm water therapy was advantageous for patients with fibromyalgia and notably decreased their anxiety levels, highlighting the mental health benefits of aquatic treatments. Aquatic physiotherapy is adaptable, helping diverse patient groups from athletes healing from injuries to older adults needing training for fall prevention. A study by Klaber et al. (2023) on post-operative knee patients revealed that individuals engaged in aquatic rehabilitation experienced a quicker return to pre-injury function than those who received conventional therapy, reinforcing the efficacy of this method. In summary, aquatic physiotherapy proves to be an effective rehabilitation method backed by research findings. Its effectiveness in alleviating pain, enhancing mobility, and supporting mental health makes it a compelling choice for various patient groups. With the expanding body of research, it is crucial to delve deeper into particular protocols and long-term results. This area shows significant potential for enhancing patient treatment in physiotherapy, indicating a move toward integrating more aquatic therapies in clinical practices.

METHODOLOGY

The study utilized a descriptive type of research design and involved physiotherapists.

RESULTS

1. Profile of Physiotherapists

The study identified the profile of the physiotherapist in terms of sex, years of service in clinical work and highest educational attainment.

1.1 Sex. Majority of the physiotherapist respondents are male.

1.2 Length of Service in Clinical Work. Highest number of respondents expressed 16-20 years of service in the clinical work.

1.3 Highest Educational Attainment. Most of the participating physiotherapists are Bachelor's degree holders followed by Doctorate and Master's degree holders.

2. Level of Awareness on the Aquatic Physiotherapy

The study identified the level of awareness on the aquatic physiotherapy.

The data indicates that Aquatic Physiotherapy achieved Very High ratings, with weighted means ranging from 3. 46 and 4. 00, emphasizing a favorable perspective on its efficacy in various domains such as biomechanical and rehabilitative assistance. The top-rated features are the water's buoyancy, which assists individuals with mobility difficulties, the incorporation of aquatic equipment that improves workouts, and the gentle impact of water that minimizes stress on joints. Certified physiotherapists tailor therapies to meet personal requirements, fostering significant consensus on the advantages of Aquatic Physiotherapy. Items with somewhat lower ratings pertain to particular applications, such as neurological rehabilitation and recovery after surgery, with the lowest rating reflecting certain perceived

restrictions in access for neurological issues. In general, the composite mean of 3. 99 shows that respondents firmly believe in the advantages of aquatic

Table 1
Awareness on the Aquatic Physiotherapy

ITEMS *Aquatic physiotherapy…*	WM	VI
leverages the buoyancy of water to diminish the impact of gravity, facilitating easier movement for people with mobility challenges	4.00	VH
is a setting where therapists utilize different tools, including pool noodles, flotation aids, and resistance paddles, to improve exercises	4.00	VH
diminishes joint strain in water, enabling enhanced flexibility and range of motion	4.00	VH
provides sessions usually conducted by a qualified aquatic physiotherapist who customizes exercises to meet specific needs	4.00	VH
guarantees that individuals with arthritis or chronic pain disorders receive considerable alleviation from hydrotherapy treatments	3.92	VH
is a specific type of physical therapy conducted in a warm pool	3.84	VH
aids in relaxing muscles, enhancing circulation, and alleviating pain	3.84	VH
is commonly utilized in athlete rehabilitation to support recovery from sports injuries	3.84	VH
is advantageous for people healing from surgery, like joint replacements	3.77	VH
. includes water-oriented workouts that can improve cardiovascular stamina without placing too much stress on the body	3.69	VH
. is frequently utilized for individuals with musculoskeletal, neurological, and cardiovascular disorders	3.69	VH
. possesses hydrostatic pressure that aids the body and improves proprioception, which helps with balance and coordination	3.69	VH
. is frequently incorporated into extensive rehabilitation programs together with land-based therapies	3.62	VH
. can be tailored to accommodate people of all ages and fitness abilities	3.54	VH
. is especially beneficial for individuals with neurological disorders such as stroke, cerebral palsy, or multiple sclerosis	3.46	H
COMPOSITE MEAN	**3.99**	**VH**

physiotherapy. This means that as an adaptable and research-backed treatment that encourages movement, increases flexibility, and alleviates pain through the qualities of water. Water-based physiotherapy aids in addressing several conditions, including musculoskeletal, neurological, and cardiovascular problems. It offers customized, gentle, and enjoyable care for individuals of every age and fitness ability. These results highlight the significance of incorporating aquatic physiotherapy into rehabilitation programs, especially for patients requiring lower weight-bearing exercises and comprehensive recovery approaches. Aquatic physiotherapy is widely recognized as an effective treatment approach that improves recovery, addresses various patient requirements, and delivers quantifiable advantages in physical rehabilitation. The results support ongoing advocacy, resource allocation, and professional education in aquatic therapy as an integral component of contemporary physiotherapy and rehabilitation services.

3. Ascertain the Extent of Manifestation of Aquatic Physiotherapy

The study determined the extent of manifestation of aquatic physiotherapy relative to patient's demographics, therapeutic techniques, safety and supervision.

3.1 **Patient's Demographics.** Patient demographics refer to the statistical data that characterize a specific group of patients. This information typically includes age, sex, ethnicity, socioeconomic status, education level, and geographic location.

Table 2
Extent of Manifestation in terms of Patient's Demographics

PATIENTS DEMOGRAPHICS	WM	VI
1. Concentrate on senior patients facing mobility issues, arthritis, or risk of falls, prioritizing balance, flexibility, and strength with water exercises	3.92	GE
2. Recognize important age groups like children, adults, and seniors, and customize aquatic physiotherapy programs to suit their unique requirements	3.84	GE
3. Provide targeted aquatic therapy for recovery after surgeries, including joint replacements, spinal operations, and soft tissue repairs	3.84	GE
4. Support athletes healing from sports injuries with aquatic rehabilitation programs to improve mobility and strength	3.84	GE
5. Offer gentle, engaging water therapy for kids with developmental delays, congenital disorders, or musculoskeletal problems	3.77	GE
6. Make sure that programs are inclusive of various cultural backgrounds, considering preferences associated with water therapy and accessibility	3.77	GE
7. Evaluate gender-specific requirements and preferences in aquatic physiotherapy, and create inclusive programs for every gender	3.69	GE
8. Concentrate on individuals with chronic ailments such as arthritis, osteoporosis, and fibromyalgia who could gain from low-impact water therapy	3.69	GE
9. Create specialized aquatic therapy plans for individuals with neurological conditions like stroke, multiple sclerosis, or Parkinson's disease	3.69	GE
10. Develop aquatic therapy programs tailored for people facing obesity, offering gentle, comprehensive workouts to enhance fitness levels	3.69	GE
11. Create aquatic physiotherapy programs aimed at assisting those with heart disease, hypertension, or other cardiovascular issues to enhance circulation and stamina	3.69	GE
12. Create aquatic therapy programs designed for individuals with physical disabilities, offering a setting that minimizes stress on joints and muscles	3.69	GE
13. Concentrate on individuals healing from work-related injuries by offering them gentle therapeutic exercises to prevent re-injury	3.69	GE
14. Implement water-focused therapies designed for expectant mothers, targeting problems like back discomfort and swelling while reducing strain on joints	3.46	GE
15. Incorporate water-based physiotherapy for individuals with cognitive disabilities, such as dementia or Alzheimer's, emphasizing coordination and movement abilities	3.46	ME
COMPOSITE MEAN	**3.72**	**GE**

The composite mean of 3. 72 implies that aquatic physiotherapy programs successfully take into account the demographics of patients. This indicates that professionals design inclusive therapeutic approaches appropriate for different groups, including children, the elderly, and individuals with long-term health issues. The highest-rated item emphasizes the attention on

elderly patients facing mobility challenges, arthritis, or fall hazards, earning a score of 3. 92. This suggests a significant focus on balance and strength exercises to promote independence. Other well-rated items, all receiving a score of 3. 84, encompass tailoring programs for various age demographics, post-operative recovery, and rehabilitation for athletic injuries. These results show that aquatic physiotherapists customize their programs to address individual requirements. As assessed to a moderate extent of manifestation, including water therapy for pregnant women and initiatives for those with cognitive impairments, each received a score of 3. 46, indicating that these regions might require enhancement. Moreover, cultural inclusiveness (3. 77) and needs specific to gender (3. 69) garnered excellent scores, showing that these programs recognize various client backgrounds and aim for fair service. The results demonstrate that aquatic physiotherapy programs effectively cater to a diverse group of patients, especially seniors, athletes, and those recovering from surgery, reflecting a solid grasp of physical rehabilitation. Nevertheless, additional development is necessary for specific groups such as pregnant women and people with cognitive impairments to enhance participation and accessibility. As a whole, the assessments revealed that aquatic physiotherapy professionals are attentive and accommodating, placing significant emphasis on patient demographics. Placing greater emphasis on marginalized groups, particularly those with cognitive challenges and maternal requirements, would improve the quality and equity of programs.

3.2 **Therapeutic Techniques.** Therapeutic techniques are unique approaches used by mental health practitioners and therapists to help people tackle psychological and emotional difficulties. These methods are essential to the healing process, striving to promote recovery, individual development, and improved mental health.

Table 3
Extent of Manifestation in terms of Therapeutic Techniques

THERAPEUTIC TECHNIQUES	WM	VI
1. Engaging in exercises within water promotes improved body awareness and balance by putting the patient's proprioceptive system to the test in a stable but dynamic setting	4.00	GE
2. The buoyant force of the water helps support the body, lessening gravity's impact, which can assist in exercises for injured or weak limbs	3.92	GE
3. Engaging in water exercises that focus on core muscles can aid in enhancing balance and posture while offering support	3.92	GE
4. The movement and flow of water can be utilized to provide a soothing massage effect that enhances circulation and relieves tense muscles	3.84	GE
5. The water creates a safe space for practicing balance exercises and correcting posture without the worry of falling	3.84	GE
6. Light stretches in water alleviate pressure on muscles and joints, contributing to enhanced flexibility and mobility	3.84	GE
7. The force applied by water on the body aids in decreasing swelling, enhancing circulation, and assisting joint alignment	3.77	GE
8. Utilizing the resistance of water for strengthening workouts, during which the patient executes movements that work muscles while avoiding excessive strain on joints	3.77	GE
9. Soft motions and stretches in water can assist in loosening stiff joints and enhancing flexibility with reduced discomfort	3.77	GE
10. Water can assist people in practicing walking and running with lower impact, facilitating recovery from injuries or surgeries	3.77	GE

11. Exercises in water can enhance cardiovascular health while avoiding the stress and impact on joints that ground-based activities create	3.77	GE
12. With the help of buoyancy aids, patients can extend their reach more efficiently, enhancing their range of motion without overexerting their muscles	3.77	GE
13. Water training can improve muscle endurance and stamina, particularly post-surgery or injury, by offering resistance while minimizing stress on the body	3.77	GE
14. Patients can utilize water to aid the spine, allowing them to engage in exercises that enhance posture, increase flexibility, and alleviate back pain	3.69	GE
15. The buoyancy of water can facilitate deep breathing exercises, aiding in stress and improving respiratory function	3.69	GE
COMPOSITE MEAN	**3.81**	**GE**

Aquatic therapy methods are successful in rehabilitation and are commonly utilized in therapy programs. Proprioceptive training in water was rated the highest, showcasing considerable advantages for patients in terms of coordination and body awareness. Methods that emphasize buoyancy and resistance are likewise considered beneficial, as they reduce gravitational strain and support recovery for individuals with musculoskeletal or neurological conditions. These techniques help patients recover strength, enhance posture, and safely regain mobility. Spinal support and breathing exercises have somewhat lower ratings but remain essential elements of a comprehensive rehabilitation program, although they might be given less emphasis than core and balance workouts. The overall composite mean of 3.81 indicates that therapeutic aquatic exercises are manifested to a great extent, and as effective, safe, and diverse methods that improve physical and physiological recovery. They tackle various rehabilitation requirements—from enhancing muscle strength and joint mobility to improving balance, flexibility, and reducing stress—making them an essential part of contemporary physical therapy and rehabilitation initiatives

3.3 Safety and Supervision. Safety and supervision are essential elements of a properly functioning society, as they shield individuals from danger while fostering responsibility and supervision.

Table 4
Extent of Manifestation in terms of Safety and Supervision

SAFETY AND SUPERVISION	WM	VI
1. Make sure that all therapists possess training in aquatic physiotherapy along with certification in water-related therapies	4.00	GE
2. Conduct separate evaluations for every patient to determine any possible risks or contraindications for aquatic therapy	4.00	GE
3. Install textured or slip-resistant flooring around the edges of the pool and within pool areas to reduce the risk of falls and injuries	4.00	GE
4. Set specific protocols for emergency situations, covering water rescues, CPR, and first-aid methods	3.92	GE
5. Assign spaces for different exercises that emphasize the depth and appropriateness for the patient's capabilities	3.92	GE
6. Install steps, ramps, or lifts to facilitate access to and from the pool, particularly for individuals with mobility challenges	3.92	GE
7. Establish suitable staff-to-patient ratios to guarantee that every person gets sufficient oversight and care throughout the treatment process	3.92	GE
8. Create and effectively convey an evacuation strategy for situations	3.92	GE

involving poolside incidents or weather-related emergencies		
9. Regularly educate all personnel, including lifeguards and physiotherapists, on updated safety procedures, methods, and innovations in aquatic physiotherapy	3.92	GE
10. Make sure lifesaving gear like life rings, rescue poles, and first-aid kits are easily accessible	3.84	GE
11. Evaluate patients for any contraindications or medical issues that might necessitate special consideration during aquatic therapy	3.84	GE
12. Utilize equipment or routine assessments to observe the patient's heart rate, blood pressure, and other essential indicators throughout treatment	3.84	GE
13. Implement effective filtration and cleaning methods to uphold water clarity and reduce the likelihood of infection	3.84	GE
14. Keep the water temperature safe and comfortable, usually ranging from 86°F (30°C) to 94°F (34°C), to enhance muscle relaxation and circulation	3.84	GE
15. Ensure that all poolside zones are clear of obstructions and safe to avoid accidents while entering or leaving the water	3.84	GE
COMPOSITE MEAN	**3.90**	**GE**

As evident in the composite mean of 3. 90, it signifies that safety and oversight protocols in aquatic physiotherapy are being applied effectively. This indicates that staff and facilities adhere to professional standards to guarantee patient safety and comfort during therapy sessions. The majority of items emphasize rigorous implementation of safety measures and employee training. Items with marginally reduced averages (3. 84–3. 92) continue to demonstrate strong compliance but indicate opportunities for enhancement. These consist of emergency protocols, equipment oversight, staff training revisions, and water upkeep, which, although typically executed effectively, could improve with consistent evaluation to boost overall safety management. The aquatic physiotherapy center emphasizes safety through various crucial practices implemented. This encompasses certified therapists, continuous training, tailored risk evaluations, and vigilant supervision throughout therapy. The establishment includes secure infrastructure, such as suitable flooring and elevators, and has emergency procedures and lifesaving gear available for use. Moreover, there are actions for ensuring clean water and pleasant temperatures. Nonetheless, certain aspects require enhancement, including performing regular emergency simulation exercises, boosting staff-to-patient ratios during peak periods, and offering more regular updates on safety training. In general, the safety and oversight measures of the facility are rated positively, demonstrating a dedication to operating safely and with professionalism. Ongoing enhancement in training and the upkeep of equipment will support the preservation of elevated safety standards in aquatic therapy.

CONCLUSION

Majority of the physiotherapist respondents are male, with 16 to 20 years in clinical service and are bachelor’s degree holder. There is a very high level of awareness about aquatic physiotherapy. Moreover, the study revealed a great extent of manifestation of aquatic physiotherapy with regards to patient’s demographics, therapeutic techniques, safety and supervision.

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