



## RESEARCH ARTICLE

Section: *Literature, Linguistics & Criticism***Breaking language barriers in physiotherapy: Ensuring consistent English-to-Arabic translations for better patient care**Reem Almahasees<sup>1</sup> & Zakaryia Almahasees<sup>2</sup> <sup>1</sup>Department of Physical Therapy, Faculty of Allied Medical Sciences, Aqaba University of Technology, Aqaba, Jordan<sup>2</sup>Department of English Language and Translation, Faculty of Arts and Humanities, Applied Science Private University, Amman, Jordan\*Correspondence: [zmhases@hotmail.com](mailto:zmhases@hotmail.com)**ABSTRACT**

This study examines the issues and implications of inconsistent translation of physiotherapy terms from English to Arabic, with a focus on patient comprehension and clinical communication in Jordanian healthcare centers. A qualitative approach was employed in two phases. In the initial phase, 100 physiotherapy words, most of which were contributed by translation students from the Applied Science Private University, were reviewed, and ten words were selected for in-depth thematic analysis due to their inconsistency. These included core physiotherapy fields such as musculoskeletal, cardiopulmonary, pediatric, and sports physiotherapy. Analysis reported a wide range of Arabic equivalents, resulting in incorrect interpretation or obscurity while explaining rehabilitation. Semi-structured interviews were conducted in the second phase with ten licensed physiotherapists working in private and public environments. Inconsistencies in translation experienced by clinicians, clinicians' coping strategies for presenting specialized terms to Arabic-speaking patients, and views on the standardization of physiotherapy terminology were explored. Participants reported that inconsistent language frequently hinders successful patient compliance and education regarding treatment plans. There was consensus in favor of having a unified Arabic physiotherapy glossary of terms to improve clinical accuracy and patient involvement.

**KEYWORDS:** translation consistency, physiotherapy terms, Arabic language, patient communication, clinical practice

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## **Introduction**

The healthcare sector is currently facing significant change, with an increasing emphasis on inclusivity and patient-centered care. In this respect, language is of prime importance, as it implies professions where contact between healthcare providers and patients is indispensable for therapeutic success, such as physiotherapy (Pereira, Ferreira, Rammal, & Peris-Ortiz, 2023). Most of the physiotherapy resources are translated from English into the Arabic language. However, many inconsistencies in translating specialized terms often create a massive barrier to understanding. Such disparities may lead to misunderstandings, improper use of treatment regimens, and ultimately, a decline in the overall quality of patient care (Schiavone & Ferretti, 2021).

The unique nature of the physiotherapy field, combined with its rapid advancement in knowledge, makes maintaining consistency in translation even more challenging. Unlike other more well-grounded medical fields (Webb et al., 2009). Physiotherapy lacks standardized Arabic glossaries for its specific terminology; therefore, its translations vary significantly depending on the translator's experience and the availability of specialized resources (Almahasees & Husienat, 2024). This inconsistency affects not only health professionals, who may be confused with different terminologies, but also patients, who often find themselves at a loss to understand their condition or treatment alternatives (Bimm & Al-Ozaibi, 2017). This inconsistency, noted by (Almahasees & Husienat, 2024), creates an urgent need to standardize translation practices and bridge such gaps.

Over the last decade, global patient mobility and medical practitioner mobility have created a growing need for precise and uniform medical translation. Physiotherapy, in particular, requires precise terminology, as practitioners rely heavily on descriptive terms to define exercise regimens, body mechanics, and rehabilitation goals (Yaseen, 2013). When such instructions are mistranslated or localized poorly, the risk of patient harm or ineffective treatment increases exponentially. Such patients may be unaware of their diagnosis, the rationale behind specific therapeutic exercises, or the necessity of adhering to their home regimens. Language-based disorientation, therefore, results in non-compliance, frustration, and extended recovery (Bimm & Al-Ozaibi, 2017). Therefore, it is necessary to provide linguistically and contextually accurate translations to enable health equity. This highlights the need to create proper and culture-sensitive English-to-Arabic translation processes in the field.

One specific problem in English-Arabic medical translation is the lack of a standardized lexicon, particularly within specialized domains such as physiotherapy. Unlike general medical terminology, where comparatively broad, standardized vocabulary sets exist, physiotherapy involves very wide-ranging, usage-specific, anatomical, and functional vocabularies that have no direct, similar Arabic equivalents. This resultant lexical void compels translators and bilingual specialists to approximate or conflate meaning with variable potential for patient comprehension and outcomes (Aldaihan, 2019).

## **Statement of Problem**

Physiotherapy is a highly specialized line of therapy, and ideas, terms, and treatment modalities must be communicated precisely. However, it is essential to acknowledge that the inconsistent translation of physiotherapy terminology from English into Arabic is one of the significant barriers that health professionals and patients encounter when seeking to understand physiotherapeutic care in Arabic-speaking regions. This inconsistency creates confusion among physiotherapists, may result in inaccuracies in patient education, and leads to a reduction in the quality of care. This, therefore, means that there is no standard way of translating terms in physiotherapy; hence, this is a gap that the study aims to fill, bringing clarity and uniformity to such translations for effective health delivery.

## **Significance of Research**

This study is important because it attempts to address one of the most significant obstacles to proper healthcare in Arab-speaking countries: consistency in terminology in physiotherapy. The research identifies the current state of translations from English into Arabic, outlines those that are inconsistent, and explains why this inconsistency occurs, aiming to improve the quality of communication between practitioners and patients.

Ultimately, it is hoped that the results provide standardized translation guidelines that can be used in the future to enhance understanding and adherence to treatments, ultimately leading to better outcomes. Additionally, the study highlights modern technologies developed for translation, which could be a step toward facilitating easy and accurate communication in healthcare.

### **Research Questions**

1. How consistent are the translations of key physiotherapy terms from English to Arabic across various resources?
2. What are the primary factors contributing to inconsistencies in the translation of physiotherapy terminology?
3. How do inconsistencies in translation impact the communication and understanding of healthcare professionals and patients in Arabic-speaking physiotherapy settings?

### **Literature Review**

Several studies have highlighted that language barriers in healthcare settings result in delays in care, poor patient compliance, and an increased risk of adverse events. (Elderkin-Thompson, Silver, & Waitzkin, 2001; Olswang & Prelock, 2015). This means that patients with poor proficiency in the dominant language experience poorer quality of care, and this challenge is particularly acute in physiotherapy, which is essentially a setting where interaction between patients and providers requires precise instruction. For Arabic-speaking patients, the problem is further exacerbated by the lack of standardized Arabic terminologies for medical instructions, resulting in inconsistent comprehension and adherence to prescribed physical exercises.

Woodberry et al. (2024) investigated the experiences of pediatric physical therapists working with Middle Eastern patients who required interpreter services. Therapists identified the following as key themes: creating therapeutic relationships, being culturally sensitive in care, engaging in purposeful interaction, addressing challenges in identification, and tailoring personalized care plans. Regardless of language and cultural backgrounds, therapists emphasized the importance of self-awareness and adherence to developing effective therapeutic relationships, stressing the need for cultural sensitivity and proper use of interpreters in physiotherapy practice.

(Al-Yateem et al., 2023) discussed the language challenges faced by non-Arab healthcare professionals practicing in the United Arab Emirates. Findings indicated that language problems negatively impacted clinical practice, with professionals being dissatisfied due to the failure to transmit clear medical information. The research recommended employing professional medical translators and urged practitioners to learn basic medical terms in Arabic to facilitate effective communication. It also highlighted the importance of cultural competency and effective collaboration with interpreters to improve patient outcomes.

Anaf and Sheppard (2010) conducted a study to determine the perceptions of emergency department patients regarding physiotherapy practice in Australian metropolitan and regional hospitals. Using an open-ended questionnaire, the researchers obtained feedback from 80 patients—40 from a Melbourne emergency department and 40 from a regional hospital in North Queensland. The results, analyzed thematically using NVivo and manual methods within an interpretivist framework, revealed that patients possessed general but limited knowledge of the function of physiotherapy in acute emergency care. Six broad areas were revealed consistently in both sites: sporting injury management, musculoskeletal management, rehabilitation and mobility, pain management, respiratory management, and elderly patient care. While participants were able to identify these core functions as applicable to both general and emergency settings, there was ongoing confusion regarding the more prolonged and non-traditional roles of physiotherapy, in particular cardiorespiratory and rehabilitative interventions in emergency settings. The findings underscore the importance of increasing public awareness and education about the expanding scope of physiotherapy as it becomes more established in acute and non-traditional healthcare settings.

Bientzle, Cress, and Kimmerle (2013) investigated how physiotherapy students handle conflicting health information, mainly when it is consistent or inconsistent with their own therapeutic beliefs. In a 2

× 2 design experiment, seventy-six students were presented with the interaction of information consistency (consistent vs. inconsistent) and congruence of therapeutic ideas (congruent vs. contradictory) to observe how this affected knowledge gain and information processing. Students were asked to rewrite a passage about the effectiveness of stretching, each student receiving one of four potential versions of the passage randomly. The findings revealed that students learned more from contradictory passages, mainly when the contradictory information supported their pre-existing beliefs. Conversely, when therapeutic principles conflicted with the students' understanding, they would instead alter or discredit the information to fit their own beliefs. The refusal to consider discrepant information was found to hinder learning because learners rejected or disregarded information that did not fit within their accepted framework. The study highlights a core issue in medical education: when future medical professionals prioritize personal beliefs over evidence-based knowledge, it can compromise the quality of care they provide. The presence of intentional knowledge conflicts within the learning environment may therefore encourage more active participation and allow students to develop more flexible, critical learning and practice approaches.

Lee, Lansbury, and Sullivan (2005) explored the beliefs, opinions, and sentiments of physiotherapists regarding the use of healthcare interpreters in clinical settings. Interviews and observational processes were conducted in three hospitals with six physiotherapists who had regular contact with patients from non-English speaking backgrounds. The study found that interpreters were not always used during consultations, even when patients had limited proficiency in English. The principal conclusions were that physiotherapists overwhelmingly held negative attitudes towards the healthcare interpreter service. The main themes present in the interviews were suspicion and distrust of interpreters, time pressure, and concerns about the perceived cost of the service. These acted to constrain cooperation between physiotherapists and interpreters, which in turn might affect the quality of patient care. The study highlighted the need for increased awareness among physiotherapists regarding legal and ethical concerns related to circumventing interpreter services, particularly in cases where accurate communication is crucial for obtaining informed consent or conveying clinical instructions. Without cooperation with interpreters in such situations, practitioners risk legal action and may also reduce the overall efficacy of care received by linguistically diverse patient populations.

## Methodology

A qualitative research approach was employed to investigate the issues associated with translating English physiotherapy terms into Arabic and their impact on communication between physiotherapists and Arabic-speaking patients in Jordan. In the first step, 100 physiotherapy terms from various categories, including musculoskeletal, cardiopulmonary, pediatric, and sports physiotherapy, were selected for analysis. These terms were specifically chosen due to the variability in their translations, as established by various sources, including clinical reports, medical dictionaries, and online forums. These terms were analyzed in depth thematically to probe the variance and inaccuracies of their translation into Arabic. The aim was to highlight the ways in which such contradictions can undermine effective communication in clinical practice, particularly in the area of patient understanding and treatment compliance.

The second phase consisted of semi-structured interviews with a purposive sample of ten registered physiotherapists working in public and private healthcare organizations in Jordan. The therapists were selected in order to represent a broad range of clinical specialties and years of experience. Interview questions were also pilot-tested and refined based on feedback from a three-member expert jury to make them concise, pertinent, and comprehensive. The final interview protocol included open-ended questions, such as: "What are the challenges you face in explaining physiotherapy terminology to Arabic-speaking patients?" and "How do translation inconsistencies affect treatment compliance or patient understanding?" "Arabic or English interviews were conducted in line with participants' preferences, digitally recorded with consent, and transcribed. Thematic analysis was used to analyze the answers, identifying prominent themes and trends related to translation inconsistencies, professional experience, and potential solutions. The dual approach—assessing translation inconsistencies and seeking professional opinions—provided a balanced

view of physiotherapy practice issues within the Arabic-speaking context.

Range of Motion (ROM)	مدى الحركة	نطاق الحركة	حدود الحركة
Manual Therapy	العلاج باليد	المعالجة اليدوية	العلاج اليدوي
Soft Tissue Mobilization	تنشيط الأنسجة الرخوة	تحريك الأنسجة العضلية	تحريك الأنسجة الرخوة

In musculoskeletal physiotherapy, terms such as “Range of Motion,” “Manual Therapy,” and “Soft Tissue Mobilization” are often marred by inconsistent translations, which can cause confusion for both patients and physicians. For example, “Range of Motion” is translated into مدى الحركة (extent of movement), نطاق الحركة (range of movement), and تفرجلا دودح (limits of movement), with حدود الحركة having the potential to mean a limitation, but نطاق الحركة implying a boundary. These minor fluctuations in translation can create confusion among patients regarding the reasons for treatment, whether to improve flexibility or address a restriction, which can then affect their level of understanding in the rehabilitation process and their ability to comply with prescribed exercises. Similarly, “Manual Therapy” becomes العلاج اليدوي (hand therapy) or المعالجة اليدوية (manual manipulation), both of which may, or may not, accurately reflect the nature of the individual techniques employed within the therapeutic procedure. The word «المعالجة اليدوية» (manual manipulation), for instance, may raise the expectation of a more intense or invasive procedure, when, in fact, manual therapy is actually viewed as applying milder procedures to restore motion and alleviate pain.

The title Soft Tissue Mobilization also highlights these inconsistencies, with titles such as الأنسجة الرخوة تحريك (soft tissue manipulation) and تنشيط الأنسجة الرخوة (soft tissue activation), both of which fail to describe the treatment. Utilizing كيرحت (manipulation) might lead to the patients having an incorrect expectation of more force being used. In contrast, soft tissue mobilization is a discreet treatment that increases tissue pliability and minimizes muscle looseness. On the other hand, طيشنت (activation) could suggest an exercise-based approach, which would be contradictory to the inactive action of mobilization interventions. This kind of translation discrepancy causes uncertainty in the quality of the care the patients are receiving and eventually to uncertainty about the intensity or specificity of the intervention. This openness is decreased, resulting in reduced compliance on the part of patients and a lack of proper communication between patients and physiotherapists, influencing the efficiency of the healing process.

Proprioception	الاستشعار الموضع	الإدراك الحركي	الإحساس بالموقع
Gait Training	تدريب السير	تدريب المشية	تدريب المشي

The term الإحساس بالموقع (sense of position) is commonly used as a translation for proprioception, but it falls short of conveying the richness of the concept. Proprioception is not only the perception one has regarding the position of his body in space, but also the perception of movement and change in posture. الإحساس بالموقع is primarily focused on positional perception and fails to convey the rich sensory content of proprioception. الإحساس بالموقع is primarily focused on positional perception and does not encompass the rich sensory aspects of proprioception. حركي الإدراك (kinesthetic perception) is more appropriate as a translation because it describes both movement perception and body perception; however, patients may not be familiar with it, which could make them less receptive to the word if used in a therapeutic context. Position sensing, also known as position detection, is more of a medical term, but it may be intimidating for patients or certain medical personnel due to its technical nature. These differences in translation may lead to confusion, particularly in rehabilitation settings where exercises that target balance or joint position sense are crucial. Patients may struggle to fully comprehend the concept, which can impair their ability to engage in exercises that enhance proprioception.

The term **تدريب المشي** (Gait training) is familiar and understandable, but a common and non-specific term that may not capture the precise nature of the therapy for improving walking mechanics. Gait training (**تدريب المشية**) is a more formalized term that refers to the rehabilitation of the gait cycle and walking mechanics, particularly within clinical settings where specific attention is given to how one walks. However, **تدريب المشية** may not be commonly known by the general public or by non-clinician health practitioners and therefore can be a hindrance to clear communication. Training for walking is a more informal and conversational term, which can cause confusion between practitioners and patients. The term may not accurately convey the therapeutic focus on correcting or improving specific gait abnormalities, particularly in recovering patients from neurological disorders. The variation in such translations may confuse and complicate patients' understanding of the therapy's specific purpose, which is crucial in managing rehabilitation outcomes, especially among individuals with mobility impairments.

### Cardiopulmonary Physiotherapy

<b>Breathing Exercises</b>	تمارين التنفس العميق	تمارين الجهاز التنفسي	تمارين التنفس
<b>Respiratory therapy</b>	العلاج الرئوي	علاج التنفس	العلاج التنفسي

The most general term is the phrase **سفن نالتا نيرامت** (breathing exercises), which is often applied to a broad set of techniques used for improving respiratory function. This, however, may not accurately convey the full scope of techniques applied in respiratory therapy, as these can vary depending on the underlying condition being addressed. Respiratory system exercises (**تمارين الجهاز التنفسي**) is a more accurate term, correctly indicating exercises directed toward the respiratory system in general. While this name is correct, it may be too medical for patients, making it more difficult for them to understand the type of treatment fully. On the other hand, **تمارين التنفس العميق** (deep breathing exercises) can mean only the exercise of the deep, diaphragmatic breath, and that is a primary practice in respiratory rehabilitation. However, using this as a synonym for general breathing exercises could be misleading, since it narrows the practice to a single type that may not encompass other significant skills, such as pursed-lip or controlled breathing. This difference in understanding can lead patients not to fully realize the variety of procedures involved in their respiratory treatment, and therefore, develop misconceptions about the treatment's aims and their role in it.

The most accurate and widely used definition of respiratory therapy (**العلاج التنفسي**) encompasses all forms of treatment related to respiratory care, including breathing training, lung rehabilitation, and airway clearance. This is a comprehensive description of the broad spectrum of respiratory physiotherapy, which can treat diseases such as chronic obstructive pulmonary disease (COPD), asthma, and postoperative respiratory conditions. Breathing treatment is a less formal term that may be used to refer to any type of treatment involving the control of breathing, including nebulizer treatments or simply breathing exercises. The name is misleading in the hospital environment because it does not encompass all of the interventions that occur in respiratory therapy. Pulmonary therapy is a more appropriate name that pertains specifically to lung-based treatment. Although this might be appropriate for some cases, it leaves other areas of respiratory care, such as those involving the upper airways or diaphragm, outside its scope, thereby limiting the overall comprehension of respiratory physiotherapy. This discrepancy between the translations has the potential to confuse, especially for patients who are not fully informed about the extent of respiratory therapies they can benefit from, and this can impact their engagement in the rehabilitation process.

## Pediatric Physiotherapy

Developmental Milestones	النمو الحركي	المرحلة التنموية	المعالم التنموية
Pediatric Physical Rehabilitation	إعادة التأهيل الجسدي للأطفال	إعادة التأهيل الجسدي للأطفال	إعادة التأهيل البدني للأطفال

The nearest and most fitting definition of the word is *تطوير من تلامل اعمل* (developmental milestones), which refers to the overall physical, mental, and social developmental milestones that children typically undergo. The term refers to the overall developmental process that includes developmental landmarks such as walking, talking, and socialization. However, the stage of development can confuse patients and therapists too by implying a universal, overall development stage rather than definite milestones that pediatric physiotherapy tries to intervene. Such might confuse areas of intervention. Additionally, motor development is a more clinical term, focusing on physical movement milestones, such as crawling, walking, and running. Although this is a central part of child physiotherapy, it does not encompass other essential elements of child development, such as cognitive and social development. The imbalance in terminology could lead to confusion regarding the comprehensive nature of pediatric physiotherapy, thereby affecting how practitioners and parents perceive and engage in the therapy process.

Both *إعادة التأهيل البدني للأطفال* (bodily rehabilitation for children) and *إعادة التأهيل الجسدي للأطفال* (physical rehabilitation for children) are technically correct translations; however, *إعادة التأهيل البدني للأطفال* is the more commonly used term in clinical practice. Not only does it encompass the physical recovery of the child, but it also implies a more comprehensive approach that may include aspects such as developing mobility, strength, and coordination. Conversely, *إعادة التأهيل الجسدي للأطفال* places more emphasis on the physical aspects of recovery and may be narrower in scope, potentially excluding the emotional and psychological components of rehabilitation that are often at the core of children recovering from illness or injury. The distinction might confuse both practitioners and patients about the full range of services provided under pediatric rehabilitation. The use of either label can influence how patients and caregivers perceive the degree of rehabilitation, which is reflected in their expectations and engagement in the rehabilitation process.

## Sports Physiotherapy

Sports Injury	الإصابة الرياضي	إصابة في الرياضة	إصابة رياضية
Strain/Sprain	تمدد العضلات/التواء المفاصل	شد عضلي/التواء	تمزق العضلات/التواء المفاصل

The term *إصابة رياضية* (sports injury) is the most suitable and familiar translation, directly referring to the injuries sustained while playing sports. It is most frequently used in clinics, and both the clinicians and patients are accustomed to it. *إصابة في الرياضة* (injury in sports) would be a less direct term, which might imply a less immediate or more indirect association with the specific physical trauma typically involved in sports. This subtlety may be confusing, particularly when characterising the nature of the injury or its treatment. **The sports injury** (*الإصابة الرياضية*) is less common, but it carries the same meaning. However, it is less adaptable for general use and might be considered too narrow in certain situations. The variations between these words can impact communication between practitioners and patients, mainly when precise terms are necessary for treating and diagnosing injuries, which could lead to confusion regarding the severity and nature of the injury.

The terms *تمزق العضلات* (muscle tear) and *شد عضلي* (muscle strain) are commonly used interchangeably to refer to injuries to the muscles; however, there is a possibility of confusion when used in association with *التواء المفاصل* (joint sprain). They are used to refer to various types of injury: muscle strains

and sprains occur in soft tissues, while sprains most frequently affect ligaments. When both are utilized in the same setting, they can lead to confusion about the nature of the injury, its severity, and the treatment regimen. The term "تمدد العضلات" (muscle extension) used for muscle strain is less common and less familiar, which can make patient education and communication more challenging. Also, التواء (sprain) by itself may be non-specific, as it can be used to describe multiple joint injuries without distinguishing between mild and severe sprains. The inconsistency in the translation of these words may hinder patients' comprehension of their injuries, thereby affecting their recovery process and compliance with rehabilitation.

### Structured Interview

*Question 1: What challenges have you encountered when explaining physiotherapy terms to Arabic-speaking patients?*

The replies to this query indicate some of the most relevant issues for physiotherapists when communicating with Arabic-speaking patients. A significant one is that most of the technical terminology used in physiotherapy is not directly translatable. For instance, terms like joint mobilization and proprioception do not have precise equivalents in Arabic; thus, therapists have no option but to use defining descriptions or borrow words not too divergent in meaning. This can be particularly confusing in sophisticated therapeutic environments, where precision is crucial for patient comprehension. The use of a multi-meaning word, such as the various definitions of a sports injury, also contributes to higher confusion in patients. The terminological variation is also contributed to by variations in the degree of education and familiarity with medical terminology, especially in rural environments. Some patients may not be capable of comprehending the intended meaning, and therefore, their treatment compliance and exercise prescribed will be less.

The difference in language ability and understanding among the Arabic-speaking patients is another obstacle. While some patients easily grasp general terms like "breathing exercises," others may misunderstand more complicated instructions, such as those given for complex rehabilitation interventions. Therapists noted that cultural differences are also involved, as some words are more familiar to urban patients and less familiar in rural areas. All of these are part of a broader communication gap that can lead to nonadherence with treatment or to incorrect execution of rehabilitation exercises. The challenges presented in these responses underscore a clear need for more standardised and culturally sensitive translations of physiotherapy terms, thereby facilitating better patient understanding and enhancing treatment outcomes.

*Question 2: How do translation inconsistencies affect treatment adherence and patient comprehension?*

Inconsistencies within translations were found to influence patient understanding and adherence to treatment procedures directly. It was found through the therapist's report that when patients misconstrue critical terms, they will fail to adhere to the intended treatment procedures or poorly execute prescribed exercises. For example, if a patient is unsure about what "mobilisation" entails, they will not adhere to the planned procedure, and rehabilitation will not be successful. This ambiguity could be compounded if various practitioners utilise a range of different terminology within the same clinic or across various health institutions. Patients become confused with the alteration of terminology and diminish their trust in the treatment process, and ultimately destroy the treatment relationship. When patients are unclear about what is expected of them, there is a lower willingness to consent to treatment.

Furthermore, translation inconsistencies may affect patients' trust in their physiotherapist and the treatment they receive. When patients find the terms used to be vague or inconsistent, they may question the therapist's competence or the effectiveness of the treatment program. This kind of vague perception can be particularly detrimental when patients are in pain or discomfort, as it could enhance anxiety and resistance to adherence to exercises prescribed. As pointed out by therapists, vagueness not only disables short-term treatment but can also result in long-term failure to adhere to rehabilitation protocols. The consequences of



such translation errors emphasize the need for systematic, unambiguous words to build confidence and enhance patient outcomes by ensuring that patients are adequately informed about the treatments they receive.

**Question 3: “*Would a standardized Arabic glossary for physiotherapy be beneficial in your practice?*”**

The overwhelming majority of the answers to this question indicated that a standardized Arabic glossary for physiotherapy would make a valuable contribution to clinical practice. Therapists emphasized that such a glossary would increase uniformity and understanding of terminology across different healthcare settings, which is essential in ensuring that everyone uses the same language when communicating. A standardised glossary would reduce language variation, making it easier for therapists to explain concepts to patients and thereby improving patients’ understanding of their treatment. As a therapist described, a common language would mean that, regardless of where one went to see a clinic or practitioner, patients would be offered the same message. This would make things easier and decrease misunderstanding, especially in multi-disciplinary settings where various specialists might be using different languages.

In addition to improving consistency in practice, therapists also emphasized the value of a standardized glossary for educational purposes. It would serve as a point of reference for trainees and new graduates, familiarizing them with the correct terminology as they begin practice. It would also make learning easier and improve communication among healthcare providers, especially those working in large, multi-disciplinary teams. Many therapists also stated that such a tool would help unite new and existing practitioners under a single plan for physiotherapy practice in Jordan. By creating a shared understanding of key terms, a standard glossary would enable all stakeholders—therapists, patients, and educators—to communicate effectively regarding the practice of physiotherapy, leading to improved communication and better patient outcomes.

**Question 4: “*What suggestions do you have for improving the translation and understanding of physiotherapy terms in Arabic?*”**

The therapists provided some valuable suggestions on how to enhance the translation and understanding of physiotherapy terms in Arabic. One of the most outstanding suggestions was that linguists, as well as medical practitioners, should be consulted so that physiotherapy terms are properly translated within the relevant cultural context. As one therapist explained, linguists would help refine technical jargon, and medical doctors would ensure that the translation does not betray the original context and meaning. This would enable bridging the gap between technical jargon and layman-friendly language for patients. Another idea was to have translations specifically tailored for patients, taking into account their particular disease and cultural background. As therapists pointed out, a word that works in one therapeutic environment might not work in another, and patient-specific translations would make them easier to read.

Therapists also suggested the inclusion of patient education in treatment plans, where physiotherapy jargon can be simplified into simpler Arabic. This is possible through the utilization of educational materials, such as brochures, videos, and visual aids, through which patients can get used to the language they are being treated with. Visual aids, above all else, were considered to be a significant method of closing language gaps and preventing patients from understanding neither the vocabulary nor the procedural elements of their rehabilitation. These approaches would not only enhance the accuracy of physiotherapy vocabulary but also provide the means for devising a more patient-centered model of care, whereby patients are enabled to become active participants in their treatment process. By addressing both linguistic and cultural problems, such guidelines would enhance the overall standard of physiotherapy practice within Arabic-speaking contexts.

## **Discussion**

The qualitative analysis of physiotherapy terms and the results of interviews with ten registered physiotherapists identify the primary issues arising from the inaccuracy and inconsistency of Arabic translations of key

physiotherapy terms. The majority of the terms, such as proprioception, gait training, and musculoskeletal mobilization, do not have direct or widely accepted Arabic translations. Thus, therapists are forced to utilize "الإحساس بالموقع" or descriptive translations. For example, proprioception was most frequently rendered to (sense of position), which fails to convey the compound sensory and neurological contexts of the term. Such inaccuracies in translation can confuse patients and therapists, leading to miscommunication of interventions and exercises. Interviews revealed that therapists were often compelled to improvise or modify their language, which creates inconsistencies in how information is conveyed, ultimately affecting treatment adherence and rehabilitation outcomes.

Moreover, translational discrepancies in other healthcare institutions exacerbate the problem. A lack of consistency in terminology was experienced even among practitioners from the same institution or regulatory body, such that different therapists used the same entities with varying terminologies. Respiratory therapy and breathing exercises, for example, were sometimes swapped, although they are distinct. The lack of consistency was challenging for patients who were unable to understand the specific kind of therapy administered to them. Physiotherapists reported that the absence of a standardized vocabulary made communication challenging, which is essential throughout the rehabilitation process, where concise instructions and a clear understanding of the treatment process are vital to success. The treatment process is also made more complicated by patients' variation in education and understanding of medical terminology, particularly in rural communities, where education on health topics may be less adequate.

Another issue of utmost significance that physiotherapists pointed out was that terminological inconsistency negatively affects treatment adherence. Several therapists pointed out that patients who had no idea of the terms that were used for their treatment were found to be poorly adherent to exercises or rehabilitation activities that they were prescribed. For example, if the patients were unaware of terms such as joint mobilisation or gait training, they would focus on trying to learn how to perform the exercises, which would lead to ineffective participation in the recovery process. In essence, the effectiveness of the treatment was highly compromised. This emphasizes the necessity of using standardized and understandable terms when operating in the field of physiotherapy, as patient compliance and treatment outcomes are significantly dependent on effective communication. Therapists highlighted that when patients understand the terminology appropriately, they become more compliant with treatment, thereby improving adherence and rehabilitation outcomes.

The therapists also supported firmly the creation of a standardized Arabic glossary of physiotherapy terminology. All agreed that using a standardized glossary, the communication between the health professionals and the patients would be highly improved. This is because all the practitioners would have been working using the same terminologies, meaning that everybody would be singing from the same hymn sheet. A shared glossary would reduce confusion and allow for consistency across different clinical settings, improving communication not only between healthcare teams but also with patients. Therapists also reported that an official reference would be helpful for training new physiotherapists since it would help them learn proper terms. Therapists also reported that linguists, medical professionals, and practitioners' feedback would be required to develop proper and culturally suitable translations. By closing knowledge gaps between these fields, it would be feasible to create translations that are both clinically accurate and comprehensible to Arabic-speaking patients, thereby improving the overall quality of care.

## Conclusion

The variations in the English-Arabic translation of physiotherapy terms create insurmountable challenges for patients and physiotherapists alike. The lack of standard, accurate translations of important terms such as proprioception, gait training, and musculoskeletal mobilization can lead to confusion, disrupt effective communication, and ultimately impact treatment outcomes. As therapists have pointed out, inconsistency of translated terms across healthcare facilities not only makes the therapy process more difficult for providers to comprehend but also undermines patient comprehension and adherence. The use of such improvised or incorrect translations further exacerbates the gap, misinforming patients about the precise location of their

therapy. This highlights the imperative for immediate use of proper and standardized terminology to facilitate better patient care and adherence to rehabilitation protocols.

Creating a comprehensive Arabic physiotherapy glossary would greatly aid in resolving these issues. Both qualitative term analysis and the findings from the interviews confirm that a standardized, accurate translation mechanism would facilitate better communication between patients and therapists, prevent misunderstandings, and lead to improved outcomes. Therapists were highly interested in such an undertaking, as they perceived it as a way to normalize practice and provide Arabic populations with a better understanding of physiotherapy. With a strategy that covers the opinions of practicing clinicians, linguists, and professionals themselves, it would be possible to devise a culturally suitable and clinically accurate system of translation. It would facilitate better communication and contribute to overall improvement in physiotherapy practice among Arabic-speaking populations.

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