Physical Therapy Status in Lebanon: How Close is it from Evidence-based Practice?

Claude E Maroun, Marie T Aouad, Rob AB Oostendorp, Maria WG Nijhuis-Van der Sanden.

Abstract

Quality improvement (QI) of educational and health care systems has gained international focus linked to the implementation and evaluation of evidence-based practice (EBP), which is expressed by the development, implementation and evaluation of clinical practice guidelines (CGL) as well as educational processes to promote its application.

The objectives of this paper are to 1) analyze the educational and clinical status of physiotherapy in the Lebanese health care system with emphasis on available resources and on the relationship between different health care professionals; 2) study the current status in relation to evidence-based practice in general and to low back pain in particular; 3) identify priorities for research and policies and advance a vision for quality improvement in Lebanese physiotherapy.

The study outcome may be the basis to exchange information, and share experience and lessons with health care professionals in countries having similarities with the Lebanese health care system.

Keywords. Evidence-based practice, Evidence-based physiotherapy curriculum, Quality of care, Quality improvement.
INTRODUCTION
Quality improvement (QI) of educational and health care systems has gained international focus linked to the implementation and evaluation of evidence-based practice (EBP), which is expressed by the development and implementation of clinical practice guidelines (CGL) as well as educational processes to promote its application. EBP encompasses the incorporation of individual clinical expertise, and the patient’s perspectives and expectations with the conscientious, explicit, and judicious use of current best available external clinical evidence when making decisions about the care of individual patients. [1,2]

CGL are systematically developed statements that assist practitioner and patient in reaching a decision for specific clinical circumstances.[1] The extensive involvement of professional associations in producing guidelines inevitably has led to duplication of effort and resources. [3,4] The quality-promoting purposes behind the development of CGL are obvious in the facts that guidelines are: 1) professional standards and aids that reflect the actual knowledge of professionals and patients, 2) continuing education and quality improvement (QI) audit tools, and 3) means for internal and external control not only for professionals, professional organizations and patients, but also for insurers, governments and healthcare policy makers. [5,6]

OBJECTIVES
The objectives of this paper are to 1) analyze the status of physiotherapy (PT) within the Lebanese health care system (HCS) organization, in relation to other health care professions with emphasis on the relationships among different health care professionals (HCP) within the HCS, and on available resources; 2) study the current educational and clinical status of PT in Lebanon in relation to EBP in general and specifically to low back pain (LBP); 3) provide forward thinking by identifying priorities for research and policy making and, set a vision for quality improvement in PT in Lebanon. The study may provide the basis to exchange information, share experience and lessons with health care professionals in countries having similarities with the Lebanese health care system.

POSITION OF PHYSIOTHERAPY WITHIN THE HEALTH CARE SYSTEM IN LEBANON

Structure of the Lebanese Health Care System
Public and private sectors are key players within the Lebanese HCS, but their non-coordinated efforts fragment HCS services. While the private sector has significant predominance, both sectors primarily finance and provide health services in the absence of a national health strategy that can shape current status and future perspectives. [7] Health care services in Lebanon are mostly curative, provided by over-equipped and understaffed private hospitals. The primary health care (PHC) system, which is essential for the rationing of the HCS, remains relatively weak because of administrative and clinical deficiencies revealed mainly by scarce financial resources to purchase and maintain equipment, absence of written protocols, and improper staff training. [7,8] Non governmental organizations (NGOs) are very active in PHC through a network involving the majority of PHC dispensaries distributed all over the country. Physicians are mainly specialists who work without licensed nurses. [8] PT is not provided regularly in all public and private hospitals, or in PHC dispensaries.

The Ministry of Public Health
Administratively, the Ministry of Public Health (MOPH) functions with three directorates: directorate of preventive health care, directorate of the central laboratory of public health and the directorate of medical care, which holds jurisdiction over the profession of Physiotherapy. [9] The MOPH has three major roles:
1) The providing role whereby the ministry facilitates hospital
care in public and private hospitals and ambulatory care in a large number of private medical and dental clinics, pharmacies and diagnostic facilities.

2) The financing role through the support of public and private hospitals contracted with the MOPH. While the MOPH covers inpatient treatments only, health care is also financed by six employment-based social insurance funds publicly managed, all providing coverage of PT sessions for hospitalized and ambulatory care. Clinical and/or epidemiologic databases are not available at the MOPH or in any other center. A plan was developed to set up databases for beneficiaries in different public funds that would be linked electronically to the MOPH, allowing MOPH and other public funds to share information about coverage eligibility, thus preventing overlapping and double coverage and promoting efficiency. [8]

3) The regulating role, which focuses on ensuring quality of care, and preventing medical negligence through appropriate laws. The monitoring processes are left to professional associations. MOPH is working with the Order of physicians only for the elaboration of clinical protocols based on consensus and not necessarily scientific evidence. [8]

Private insurance companies cover PT in acute care according to patient class admission rate and in ambulatory care according to a flat rate agreed upon with the Order of Physical Therapists in Lebanon (OPTL). As gate keepers, these companies limit the number of sessions and discourage chronically ill patients, such as those affected by diabetes mellitus, heart diseases and renal failure, from joining insurance plans by exorbitant premiums.[8] Preventive PT sessions related to these conditions are not covered. To address the issue of insurance companies’ coverage, a pilot questionnaire was distributed to two managing insurance companies in Lebanon. Though clearly not generalizable, the answers reflect a general trend of Lebanese medical insurance industry. The answers received are summarized in three categories:

a- basis of coverage: one company covers PT sessions based on the company’s physician approval upon the request of the treating physician; the other covers PT based on its specific guidelines classified by type of pathology and including minimum and maximum number of sessions. One company covers PT sessions for LBP after receiving an imaging report; the second covers PT treatment for the same condition after surgery only.

b- fees: one company pays the National Social Security Fund (NSSF) rate in hospitals and in private offices. Specific agreements are made with specific hospitals. While insurance companies value PT centers that apply evidence-based practice, they do not restrict referrals to these centers as per their policy. Applying EBP does not motivate to increase the amount of fees because of the lack of official classification of PT centers.

c- length of coverage: both companies approve the first five physiotherapy sessions upon request and five additional sessions if sanctioned by the company’s physician. In Lebanon, out of pocket expenditures for PT are rare.

Quality Improvement in the Lebanese Health Care System

To foster QI in healthcare service, the MOPH launched a national accreditation program to ensure similar quality standards in all health care institutions. The accreditation framework considers three levels of interventions with related quality indicators: structural indicators to focus on organizational aspects of service provision, process indicators to gauge the actual care provided and negotiated with patients along with the communication with patients; outcome indicators that specify the optimal goal of the care given relating to health status or to patient evaluation of
In relation to hospital care, MOPH uses accreditation as an incentive-based regulation by implementing a payment system that links reimbursement to accreditation. A set of basic standards related to care, facilities and human resources is required from ambulatory institutions; payment for ambulatory care is not linked to accreditation.

Quality Improvement in Physiotherapy

The MOPH accreditation office sets specific QI standards for PT, similar to those set by the World Confederation for Physical Therapy (WCPT), covering the administrative, educational, post graduate continuing education activities and clinical aspects of physiotherapy, including safety of physical facilities. Evidence for all activities, measured by key performance indicators is required. The MOPH physiotherapy standards are summarized in Box 1.

Demographic Transition

Epidemiologic and demographic transitions are occurring in the country. Currently, 28% of the population falls under age 15 years and 10% over 60; the population of productive age is emigrating seeking work opportunities. Twenty years of war resulted in a huge number of physically challenged people who had sustained spinal cord injury, head trauma, amputations or other damages resulting in activity limitations and participation problems that require rehabilitation. Eight out of the 10 top causes of morbidity (back pain, hypertension, arthritis and rheumatoid arthritis, dyslipidemia, heart disease, diabetes mellitus and asthma) are directly related to physiotherapy in their prevention and therapeutic aspects. Moreover, a recent population-based cross sectional study showed a point prevalence of current musculoskeletal pain (31.2%), the most commonly reported location of pain being the shoulder (52.6%), knee (51.7%), back (44.5%) and neck (41.5%). Female gender, full-time house worker and advancing age were the factors associated with pain. Nearly 16% of respondents experience current activity limitations and those who reported lifetime pain from the muscu-
loskeletal system reported not coping well with their pain.[15]
All the above cited conditions require physiotherapy at a certain point in the disease progression.

Health Resources
The Lebanese HCS lists an oversupply of hospitals, physicians and high medical technology, along with a shortage of allied health professionals and mal-distribution of these resources, which are concentrated mainly in urban areas. MOPH data and studies relay information on physicians, pharmacists, dentists and nurses; no significant information related to physiotherapy or other rehabilitative disciplines in human resources, education or clinical practice strategy and standards of practice are available within these data. Yet, all medical and allied health care professionals are granted a Permit of Practice from the MOPH before they can register in their respective associations or “orders” of specialty [7, 8].

Table 1. Assessment of Educational Status of Physiotherapy in Lebanon (n=6).

<table>
<thead>
<tr>
<th>QUESTIONS</th>
<th>Number</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teaching methods</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Didactic</td>
<td>5</td>
<td>(83%)</td>
</tr>
<tr>
<td>EBP Education</td>
<td>1</td>
<td>(16%)</td>
</tr>
<tr>
<td>Research based</td>
<td>2</td>
<td>(33%)</td>
</tr>
<tr>
<td>Problem-based learning</td>
<td>3</td>
<td>(50%)</td>
</tr>
<tr>
<td>Readiness to shift education to EBP</td>
<td>5</td>
<td>(83%)</td>
</tr>
<tr>
<td>Perceived barriers</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lack of knowledge</td>
<td>3</td>
<td>(50%)</td>
</tr>
<tr>
<td>Difficulty to operate change</td>
<td>3</td>
<td>(50%)</td>
</tr>
<tr>
<td>AI not ready yet</td>
<td>3</td>
<td>(50%)</td>
</tr>
<tr>
<td>Time constraint</td>
<td>3</td>
<td>(50%)</td>
</tr>
<tr>
<td>Financial problem</td>
<td>3</td>
<td>(50%)</td>
</tr>
<tr>
<td>Educators not ready to change</td>
<td>4</td>
<td>(66%)</td>
</tr>
<tr>
<td>Practical training sites in hospitals do not apply EBP so there is no continuity of education</td>
<td>1</td>
<td>(16%)</td>
</tr>
<tr>
<td>Perceived Facilitators</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Affiliation to international AI applying EBP</td>
<td>4</td>
<td>(66%)</td>
</tr>
<tr>
<td>Training of faculty members</td>
<td>5</td>
<td>(83%)</td>
</tr>
<tr>
<td>Budgetary allowances</td>
<td>1</td>
<td>(16%)</td>
</tr>
<tr>
<td>Advantages of shifting to EBP education</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Insure solid education to students and educators</td>
<td>1</td>
<td>(16%)</td>
</tr>
<tr>
<td>International opening/improving the development of the profession</td>
<td>1</td>
<td>(16%)</td>
</tr>
<tr>
<td>Individual career development</td>
<td>1</td>
<td>(16%)</td>
</tr>
<tr>
<td>Disadvantages of shifting to EBP education</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Financial problem</td>
<td>3</td>
<td>(50%)</td>
</tr>
<tr>
<td>Willingness to promote research in AI</td>
<td>3</td>
<td>(50%)</td>
</tr>
</tbody>
</table>

Abbreviations: EBP: Evidence-based practice. AI: Academic institution.
ing human resources supply, the ratio of physicians per 1000 inhabitants is 2, whereas nurses account for one per 1000 inhabitants. The 2005 statistics showed a shortage in physiotherapists in Lebanon, one per 3375 inhabitants, compared to a ratio of one per 836 inhabitants in The Netherlands and one per 1318 in France. Ratios are greater in the Scandinavian countries, one physiotherapist per 471 inhabitants in Norway and one per 576 inhabitants in Sweden. [17,18]

STATUS OF PHYSIOTHERAPY EDUCATION IN LEBANON

By law, a physiotherapy undergraduate program is restricted to University level. [19] Seven universities, all accredited by the Ministry of Higher Education, and mainly concentrated in Greater Beirut area, provide a four-year program of basic professional education, where physiotherapists graduate with a Bachelor of Science (Bsc) degree. One of the programs is preparing for foreign accreditation. The national Lebanese University has five sections that cover all districts in Lebanon. Three out of the seven universities started their program recently, between the academic years 2006 and 2008. The official teaching language is French or English. Only one institution provides post graduate courses leading to a Professional Masters degree in three subspecialties: musculoskeletal disorders and diseases, neurology, and research. PhD degree in physiotherapy is not yet offered by Lebanese academic institutions.

According to Davies, evidence-based education operates at two levels: first by “utilizing existing evidence from worldwide research and literature on education and related subjects”; second by “establishing sound evidence where existing evidence is lacking or of a questionable, uncertain, or weak nature”. [20] The learning objectives are to articulate a rationale for teaching evidence-based care, develop goals and objectives for learners and strategies to help students/residents learn about evidence-based physiotherapy. [21] Although physiotherapy education evolved from college training and a “Technique Supérieure” degree of a three-year study based on “year system” to a four-year program with credit system, it does not apply evidence-based education yet as envisioned by Davies. Only the two new universities have introduced, in addition to the applied didactic and inductive methods, problem-based and evidence-based learning. Research activities are only included at the end of the study cycle when students present their “Mémoire”.

We sent a questionnaire, through email, to all academic institutions (AI). Six of the seven replied. All have an average of 15 students per year; the number of master degree students is 30 in the three subspecialties. The two newest AI have not graduated their first classes yet. The alumni of the remaining four AI work in hospitals, private offices, wellness centers and in the esthetics area; they also provide home care therapy. Graduates from two AI work in Arab countries and one institution listed alumni who work in Europe and North America. No exact figures on the workplaces were provided. One of the responding institutions requires educators to have a PhD, and another requires them to have either a Master or a PhD degree. Results of the questionnaire are summarized in Table 1.

In summary, EBP education is still not implemented in Lebanese physiotherapy schools. The management of low back pain (LBP) course outline retrieved from one of these institutions best illustrates the teaching method and corresponding curriculum (Table 2).

CLINICAL PRACTICE STATUS OF PHYSIOTHERAPY IN LEBANON

Distribution

The Physiotherapy profession is regulated by the OPTL since its establishment in 1987. Mandatory registration at the Order is required of physiotherapists for a license to practice, unlike the licensing process in the Netherlands and France for example. The number of registered phys-
<table>
<thead>
<tr>
<th>Diagnostic Process</th>
<th>Course</th>
<th>CGL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Referral of Patient</td>
<td>-Physician’s diagnosis: Contact physician in case of insufficient information related to medical diagnosis. -Prescription: Contact physician in case of disagreement with treatment prescribed</td>
<td>-Contact physician in case of insufficient information related to medical diagnosis. -Contact physician in case of disagreement with treatment prescribed</td>
</tr>
<tr>
<td>History taking</td>
<td>-Medical/surgical history to assess any comorbidity or any contra indication to treatment</td>
<td>Medical/ Surgical history to: -Assess course of symptoms and -Identify red / yellow flags -Assessment of patient’s request for help -Assessment of patient’s coping strategy -Checking impairments, disabilities and participation problems according to ICF -Conduct neurological exam according to patient’s condition when needed</td>
</tr>
<tr>
<td>Patient’s profile</td>
<td>-Assessment of patient’s profile -No clinical triage is being performed</td>
<td>-Assessment of patient’s profile -Clinical triage -Contact physician in doubt of specific LBP</td>
</tr>
<tr>
<td>Examination goals</td>
<td>Set goals according to assessment findings</td>
<td>Set goals according to assessment finding</td>
</tr>
<tr>
<td>Examination of patient</td>
<td>Examination aims systematically at finding physical causes to LBP. -Pain (intensity, location, behavior…) -ROM of lumbar spine -MMT of abdominal and lumbar muscles -Adjacent upper and lower parts to the lumbar spine and pelvis -Neurological examination</td>
<td>According to examination goals and patient’s profile</td>
</tr>
<tr>
<td>Analytical thinking process</td>
<td>Plan for treatment according to findings and to physician’s prescription</td>
<td>-Prognosis -Indication for PT? YES start treatment / NO refer patient back to physician</td>
</tr>
<tr>
<td>Treatment Process</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Treatment plan</td>
<td>-Plan treatment to fit patient’s profile</td>
<td>-Plan treatment to fit patient’s profile -Patient shares in decision-making and signs informed consent</td>
</tr>
<tr>
<td>Treatment</td>
<td>-Analgesic and electrotherapeutic modalities -Pain controlled? YES: start flexibility and strengthening exercises NO: Refer patient back to physician</td>
<td>-Treatment strategies fitting treatment goals -Active treatment is performed -Number of treatment sessions restricted to one or two sessions in normal course</td>
</tr>
<tr>
<td>Patient’s education</td>
<td>-Give adequate information and advice based on proper body mechanics -In acute pain, have rest</td>
<td>-Encourage patient to have active lifestyle -Change Patient’s attitude and behavior to be time-bound and not pain-bound</td>
</tr>
<tr>
<td>Evaluation</td>
<td>-Regular evaluation of progress/no changes -Change treatment modalities according to patient’s progress -Refer patient back to physician if no progress -Final evaluation compared to initial evaluation findings and goals of treatment</td>
<td>-Regular evaluation of progress/no changes -Change treatment modalities according to patient’s progress -Refer patient back to physician if no progress -Final evaluation compared to initial evaluation findings and goals of treatment</td>
</tr>
<tr>
<td>End of treatment</td>
<td>-Provide patient with a home exercises program</td>
<td>-Provide patient with a home exercises program -Provide physician with discharge summary</td>
</tr>
</tbody>
</table>

Physiotherapists is 1232; females account for 55.2%. Geographical distribution over the mohafazats (local administrations) shows a concentration of PTs in Mount Lebanon (54.13%), the capital Beirut (18.83%), and North Lebanon (15.66%), the remote areas having the scarcest numbers (6% in the South, 2.6% in Nabatiyeh, 2.75% in the Bekaa). [17]

The Order of Physical Therapists in Lebanon

The OPTL has been instrumental in getting legislation for the regulation of the profession, the implementation of ethical and technical standards and ensuring continuing education for practicing physiotherapists. [13,19,22-27] As per law, the Order’s main responsibilities are to 1) protect the rights, the financial and moral interests of physiotherapists, 2) improve the quality of practice 3) take disciplinary actions against members who violate professional ethics and regulations 4) give suggestions concerning PT rules and regulations 5) coordinate with MOPH and other medical professions the setting of national health policies 6) offer insurance plans to physiotherapists and their families and help the needy among them. 7) solve problems among physiotherapists or between physiotherapists and their patients 8) ensure the post graduate continuing education of members. To this end, the “National Institute of Physiotherapy” was established in 2004 to provide educational activities in collaboration with local and international professionals, universities and organizations. Educational activities are distributed over physiotherapy clinical and administrative courses, such as “Management in Physiotherapy”, “The McKenzie Method”, seminars and workshops. Continuing education units (CEU) with a certificate of attendance are provided to attendees who include both physiotherapists and physicians. [28]

Practice categories

Graduated therapists engage in different categories of work, mainly (65%) in clinical practice (including hospitals, private practice, rehabilitation centers, nursing homes and home services), esthetics (11%), wellness centers (5%), and to much lesser extents in education (4%), pharmaceutical and insurance companies (3%) as medical representatives and insurance claim adjusters. Nearly 4% work in the Gulf countries.[17] Eight % are non employed, compared with 5% in The Netherlands, 1% and 1.5% in Norway and Sweden respectively, and 0% in France.[18] Needs assessment studies have never been conducted to gauge the number and qualifications of required physiotherapists, and needed geographical distribution to serve the Lebanese people.

To obtain a preliminary appraisal of EBP awareness among Lebanese physiotherapists, we randomly distributed a questionnaire to 55 practicing therapists. Only 2% of them reported knowledge of EBP but do not implement it mainly because of lack of resources and cultural issues.

Public Perception

The Lebanese public at large confuses physiotherapy with “massage”. The professional image is not yet linked to exercise and science and its role in the health care process is still not valued. Patients follow their physician’s prescription of physiotherapy. [29] Direct access is not allowed yet as PT depends on a physicians’ prescription.

In summary, significant national informative data are lacking in PT along with gaps in the education and clinical practice systems. MOPH registries are deficient on all aspects related to active physiotherapists. Except for specific institutions, PT education and clinical practice are not driven by evidence-based principles. Current figures show a shortage in physiotherapists’ supply, paradoxically contrasting with 8% unemployment. Immediate needs include a SWOT (strengths, weaknesses, opportunities and threats) analysis, and needs as-
essment related to the number of required physiotherapists, their subspecialties and distribution over primary and secondary care, and community based rehabilitation in remote areas.

**DISCUSSION AND FORWARD THINKING**

**Health Care System and Healthcare Needs**

War casualties, demographic transition and recent research findings impact the status of physiotherapy by the necessity to widen its scope from curative to preventive and consultative. Together with the underdeveloped role within the general panorama of HCS, education and clinical practice, the present assessment should provide an opportunity to reflect on current and future growth of the profession as prioritized in Box 3.

**a**-Integrated care and education are required to respond to epidemiological and prevention needs. Evidence-based standards should flow from MOPH's announced vision and mission to permeate all health care providers through professional organizations (Orders, Associations), stakeholders, academic institutions and policy makers.

**b**-Reinforcement of Policies and Procedures, accountability of institutions and individuals, the establishment of a national strategy to develop effective workforce policies, competencies and performance are required as recommended by the Health Workforce Decade launched by the World Health Report. [30,31]

**c**-Conduct a SWOT analysis summarized in Box 2, to identify barriers and potential facilitators for the implementation of EBP in relation to PT. The purpose is to set a strategy (Box 3) for the improvement of the PT profession with short and long term objectives.

**d**-Introduce a clinical database that facilitates research and international comparison, fastens administrative processes,[32] and serves as an efficient means to explore topics that are still ambiguous in the rehabilitative disciplines.[33,34]

The same process applies to electronic medical records.[32]

**e**-Demand for physiotherapy is expected to escalate because of the demographic changes; yet the elements affecting this demand have not been explored, unlike the information available in local and international literature on larger health disciplines (medicine and nursing). [33,34]

Study of the optimal number of physiotherapists is required to meet the needs of the country and accordingly to set the appropriate education of health care professionals in primary and secondary prevention, in health care delivery and in community-based rehabilitation. [33]

**f**- Evidence-informed physiotherapy in Lebanon should address 21st century contemporary health priorities based on epidemiological information. The evidence emanates from the definition of health by the World Health Organization and the International Classification of Functioning, Disabilities and Health (ICF).[35,36] Physiotherapists would address effective non-invasive interventions by focusing on the prevention, cure, or management of fatal and disabling conditions in every patient.[37] With a health-focused strategy, physiotherapists can lead in the area of lifestyle conditions and global health care priorities and align with public health strategies. To this end professional clinical core competencies must be developed and promoted, including assessment of health, lifestyle health behaviors and risk factors. Hence, the severity of illness and disability are prevented, delayed or decreased. [37,38]

**Education in Physiotherapy and Education Needs**

**a**- Although teaching, practice and research are separate entities, they are “intimately related pillars of one holistic system. [39] Despite the challenge, AI must review their curriculum and shift to a culture of evidence-based teaching to minimize the vulnerability of education and transfer it to student-centered, self-directed learning and prob-
Box 2. SWOT Analysis of the Physical Therapy Status in Lebanon

**Strengths**
- Restriction of physiotherapy study to a university level
- Availability of a Master program in three areas in physiotherapy
- Availability of a continuous development program at the National Institute for Physiotherapy
- Availability of laws, at the OPTL, regulating the physiotherapy profession
- Availability of a code of ethics and quality standards for clinical practice at the OPTL

**Weaknesses**
- Unavailability of governmental strategy related to the required number of physiotherapists for Lebanon's needs
- Increased number in academic institutions offering physiotherapy program
- Unavailability of a PhD program in physiotherapy
- Unavailability of evidence-based teaching
- Unavailability of evidence-based practice
- Unavailability of local clinical practice guidelines due to lack of human and financial resources
- Unavailability of database for physiotherapy related to education, clinical practice and human resources
- Unequal geographical distribution of physiotherapists over the mohafazats
- Shortage in the number of practicing physiotherapists versus
- Unemployment of a number of physiotherapists
- Lack of a scientific image of the profession

**Opportunities**
- Epidemiologic and demographic transitions to chronic diseases and to diseases requiring physiotherapy management
- Willingness of academic institutions to shift to evidence-based teaching
- Willingness of academic institutions to start research
- Possibility to introduce direct access to physical therapy
- Possibility to adopt and adapt international clinical practice guidelines
- Availability of international recommendations requiring evidence-based practice as a standard of practice
- Full support of the OPTL for the introduction of evidence-based practice

**Threats**
- Unavailability of funds for local research
- Cultural issues related to confusing physiotherapy with massage
- Shifting physiotherapists towards the work in esthetics

**Abbreviations:** SWOT: Strength, weakness, opportunity and threat. OPTL: Order of physical therapists in Lebanon.
Box.3. Strategy for the Improvement of Physiotherapy Education and Clinical Practice in Lebanon

1-In Health Care System
• Integrated care and education where evidence-based standards flow from the MOPH vision to health care institutions and academic institutions, to professional orders and associations, stakeholders and policy makers.
• Reinforcement of policies and procedures and accountability of institutions and individuals.
• Introduce clinical database for administrative processes, for epidemiologic statistics and for research.
• Conduct studies for the optimization and the projection of the number and specialty of physiotherapists required for local and epidemiological needs.

In Education
• Introduce evidence-based teaching and instate it as a culture
• Review curriculum in light of international recommendations for teaching based on EBP
• Review curriculum in light of local epidemiological prevalence and needs
• Introduce PhD degree in physiotherapy
• Introduce research as a core academic activity setting hypothesis and research questions to answer local needs.
• Continuously evaluate academic activities and make required adjustments.

In Clinical Practice
• Develop the current CPD at the OPTL to answer three perspectives: the professional and legal perspectives as well as patient’s empowerment
• Link the available CPD to the renewal of registration to the Order to make continuous professional development an individual commitment
• Require EBP as a standard of practice
• Implement clinical guidelines in different fields in physiotherapy, evaluate implementation and make required changes
• Introduce “direct access” to physiotherapy after careful training of physiotherapists
• Address cultural issues in relation to introducing the scientific image of the profession and educating lay people and other professionals about the role of physiotherapy in the management of various diseases, disorders and ailments

Abbreviations: MOPH: ministry of public health. CPD: Continuing professional development. OPTL: Order of physical therapists in Lebanon EBP: Evidence-based practice.

The items are enumerated in each category in order of priority.
lem-solving; new and distinct curricular components should then address critical gaps. [38,39] The effectiveness of EBP teaching was measured and reported to improve knowledge, skills, attitudes and behavior of postgraduate healthcare professionals. [40]

b- Al should help align learning opportunities with health priorities and professional development goals. Educators must ensure a clinical learning environment that facilitates for students the construct of individual frameworks of patient care by referencing past and theoretical learning to actual experiences and patient condition, as well as sensitizing students to local and international cultures. [41-43]

c- Research in PT should be varied in design transcending case reports and case studies to cohort studies and randomized controlled trials according to diseases, diagnoses, etiologies and prognosis and expected answers from the studies. [44] Efficiency, efficacy and effectiveness of clinical, educational and administrative activities and quality of care must be studied, building up through the evidence pyramid by starting with designs relevant to the actual state of the research base. [44] Clinical and functional outcome measures must be sought helping reach greater treatment satisfaction.[44-49] Achieving cost-effectiveness is highly required when coordinating implementation of research findings. [50]

To help improve communication among professionals and interpretation of clinical and research outcome, a common vocabulary based on ICF terminology should be used, and quality indicators must be developed as part of an improvement strategy for which comparison feedback is often used. [51]

Clinical Practice and Needs: Role of the Order of Physical Therapists in Lebanon

a- The CPD program instituted by the OPTL for practicing physiotherapists must be supported by the government, developed to fit a quality improvement plan and set according to three perspectives: the professional development based on a clear definition of the profession, the evaluation of the provided care and the requirement of EBP as a standard of practice. The second perspective is geared to empower the patient by involving patients and family in healthcare decisions and requires providing them with transparent evidence-based information. The third legal perspective aims at advancing the quality of professionals and protecting patients from negligence, through protocols and evidence-based clinical guidelines, and the structuring and sustainability of the healthcare process. [52]

b- Integrate PT within the medical community and improve physiotherapists’ analytical, diagnostic and therapeutic skills hence their competence. [46] Specialization and implementation of CGL in different PT areas can serve this purpose. Adoption and adaptation of CGL are proven to be feasible and effective, obviating the need to develop new guidelines.[29] The experience of the American University of Beirut in EBP is clearly limited in scale but may be translated to a national level because, aided by the imperatives of American norms of clinical and educational accreditation, it improved the skills and competence of therapists while providing effective care. [29]

d- Introduce and develop the concept of Direct Access (DA). Professional autonomy is crucial but requires careful training of physiotherapists for sharpened competence and skills in differential diagnosis, clinical triage and clinical reasoning. More importantly, DA would require all physiotherapists to hold a PhD degree in PT and implies the need to foster the cultural dimension of ethics in physiotherapy practice. [54] DA also implies the need to foster interprofessional education to promote complementarity of care and prevent contradictory information to patients. [43,53, 55]

e- Cultural adaptation is needed. The implementation of guidelines locally highlighted the
public unawareness of the role of PT in the management of clinical conditions, mainly low back pain, and the role of interprofessional education. [29] The cultural change requires the education of lay people, physicians and health care stakeholders about the scope of PT and its role in the prevention and management of diseases such as diabetes, hypertension, low back pain, and geriatrics. [43,53]

CONCLUSION

The position and role of PT is still marginalized in the available local studies, in the MOPH database and the organization of care. Quality of care in PT is advocated by the MOPH by the implementation of a set of standards covering all aspects of PT including the safety of physical facilities but excludes implementation of EBP. Demand for PT services is projected to escalate because of demographic and epidemiologic transitions, which require the coordinated efforts of clinical, educational and regulatory bodies to address and attend to local needs and to advance the profession on the basis of EBP to join the advanced norms of the 21st century. Gaps can be filled by the implementation and evaluation of clinical guidelines.

References

22. Ministerial decree No 1/ 33; Establishment of a Syndicate for Physical Therapy. 23/03/1978.
the parliamentary committee of public health.


42. Portney L. Evidence-Based practice and clinical decision making: It's not just the research course anymore. JOPT 2004;18(3):46-51.


