

Professional Development of Physical Therapy and Frame work of Clinical Expertise in Pakistan

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Abstract

Clinical expertise constitutes a core competency for quality patient care. It is an area of consideration for both patient and physical therapist. In an evidence-based world, one needs to know more about physical therapist's approach for professional development especially in developing country like Pakistan. The process of being expert is not a naturally evolved process but rather it is a consciously learned process that involves meaningful engagement in purposeful activities acquired by experience over time. It is very important to establish the framework of the process of being clinically expert for establishing professional recognition to its standards. We will discuss this process with the models of professional development and clinical expertise for physical therapy profession. There is need of understanding on how to be an expert as an individual physical therapist as well. To frame the process of clinical expertise, we will also explain different phase of learning towards the clinical decision making skills in physical therapy as an essential component of EBP.

Key words: Clinical decision makings, Clinical expertise, Clinical reasoning, EBP, Evaluation & Prognosis.

Introduction

Background: Physical therapy is concerned with maximizing quality of life and movement potential within the sphere of promotion, prevention, treatment/intervention, habilitation and rehabilitation¹. The physical therapy is a profession which adds to the quality of life. Therefore, the main focus of various steps in professional development is “Quality improvement which attempts to change clinician behavior. Those changes lead to more consistent, appropriate, and efficient application of established clinical interventions, resulting in improved care and patient outcomes”.² Quality reflects the standard and integrity of pathways of effort for the achievement of those standards in every day practice. The process of quality improvement is emphasized as a necessary part of good clinical practice. Defining standards and ensuring quality assurance within profession is a challenging task. In order to enhance the role of profession to its maximum level there must be an intact regulatory system for help and support of professionals.

There is no regulatory council to represent physical therapy profession in Pakistan. However at official level efforts are on the go for the legislation of physical therapy

council. A framework has been proposed for the establishment of governing body as Pakistan Physical Therapy Council (PPTC). At present, Pakistan Physical Therapy Association (PPTA) is acting as an advisory body to that proposed council.² The main function of PPTA is to make guidelines for proposed PPTC. In the absence of PPTC, PPTA is to providing a platform to physical therapist for representation and promotion of Physical Therapy profession. The international recognition and affiliation of PPTA with World Confederation for Physical Therapy (WCPT)³ opened up new avenues for PPTA. It has helped it to gain a status of a platform for national representation of physical therapist in Pakistan.

PPTA’s mission is to suggest the most appropriate map for professional development and to suggest steps to enhance the competency of physical therapist in the evaluation and treatment of the patients requiring rehabilitation and management of physical problems⁴. This advisory body is committed to suggest the layouts to promote a culture of learning in physical therapy professional among its members through evidence based approach. PPTA has synthesized American Physical Therapy (APTA)’s 2020 Vision and Banner’s five

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step model of Professional excellence to find its way of professional development and recognition in Pakistan. The advisory effort of PPTA to promote physical therapy in Pakistan needs to be recognized by all stake holders, local as well as international. It is high time for physical therapist especially in developing countries to know international standard of professional excellence which might enable them to be effective physical therapy professional and practitioner.

PPTA's Model of Professional Development in Pakistan: PPTA is working on (American Physical Therapy Association) APTA's Vision 2020 for physical therapy professional development. This Vision has the following significant elements: autonomous physical therapist practice, direct access, the doctor of physical therapy degree and lifelong education, evidence-based practice, practitioner of choice, and professionalism⁵. Massey BE Jr, President APTA during annual address in 2003 said that “we need a physical therapy culture that cultivates and promotes activism. If we are to achieve our Vision — a vision of becoming an autonomous Profession—we must focus our efforts on 5 key areas: Professionalism, Direct Access, Doctor of Physical Therapy (DPT),

Evidence-Based Practice, and Practitioner of Choice.”⁶

In Pakistan, since 2005 direct access and autonomy of profession were core issues. However the concept of professional development groomed in 2007 after inception of Doctor of physical therapy (DPT) program. It became a milestone achievement in 2011 after approval of uniform curriculum by Higher Education Commission (HEC) for entry level DPT as physical therapy graduation. The curriculum was designed to international standards with focus on the vision of autonomous practice and enhanced clinical decision making skills.

Clinical decision making is a very complex, scientific process.⁷ The strategies for professional development are focused to make decisions that include all aspects of expert practice, including knowledge, core values, clear clinical reasoning, and excellent clinical practice skills emphasized on providing high-quality, patient-centered care⁸. The application of these clinically enabling strategies can greatly enhance the clinical competencies of PT particularly in the development countries like Pakistan where physical problems are generally

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overlooked by the population. Clinical decision making (CDM) skills are the hallmark of autonomous physical therapy practice. The APTA's vision 2020 emphasized on evidence based practice (EBP) as a necessary component of clinical expertise. Sackett D et al ⁹ have presented the concept of EBP and commented that "evidence based medicine is the integration of best research evidence with clinical expertise and patient values." It simply means that the practice of evidence-based physical therapy requires integration of physical and cognitive abilities of the physical therapist. These abilities are, individual clinical expertise in implementation of one's therapeutic skills (physical ability) with the best available up to date clinical reasoning, evidence and psychosocial understanding of patient's need (cognitive ability).

According to Sackets D et al, "By individual clinical expertise, we mean the proficiency and judgment that individual clinicians acquire through clinical experiences and clinical practice. Increased expertise is reflected in many ways, but especially in more effective and efficient diagnosis and in the more thoughtful identification and compassionate use of individual patients'

predicaments, rights, and preferences in making clinical decisions about their care".⁹ According to the APTA's guidelines, as an autonomous clinician, the competency of a physical therapist lies in diagnosis and designing plan of care that is confirms to expertise in assessing the cause of problem and design a purposeful and effective rehabilitation protocol which ideally should comprise of various interventions on the basis of best available evidence in the best interest of patient. This whole process is characterized by decision making skills and is termed as evaluation process. In this process, the fundamental skills of the physical therapist which forms the basis of clinical expertise in evidence base practice (EBP) is to analyze, identify and solve problems related to mobility dysfunction.

In Our Point of View, the metaphor of relationship between Clinical decision making skills, evidence based practice and professional expertise is an umbrella (Figure 1) which serves a physical therapist a protection and safety within field of practice. The word *umbrella* came from the Latin word *umbra*, meaning shade or shadow. The domain of EBP is comparable with circumference of Umbrella. The expertise of physical therapist within this

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domain is the quality of umbrella's canopy which offers protection and gives benefit of safe actions. In the clinical settings, evaluation process has range from presentation of patient with complaint to achievements of possible outcome for resolution of complaint. The process is centered on making diagnosis which is considered strength of an expert physical therapist and focus for clinical evaluation. If we consider this umbrella around a central axis, it comprises of two half i.e. one from patient presentation up to making a functional diagnosis and other from diagnosis to achieving outcomes. The first side constitutes "Clinical Examination

Process" while the other side is "Therapeutic Interventional Process". "The point of Diagnosis" serves as the centre of Umbrella. The Examination Process consists of three components⁸:

- 1) History
- 2) Systems review
- 3) Tests and measures.

Similarly there are three component of a physical therapy intervention⁸.

- 1) Application of one or more direct Interventions
- 2) Patient-related Instruction
- 3) Coordination, Communication and Documentation

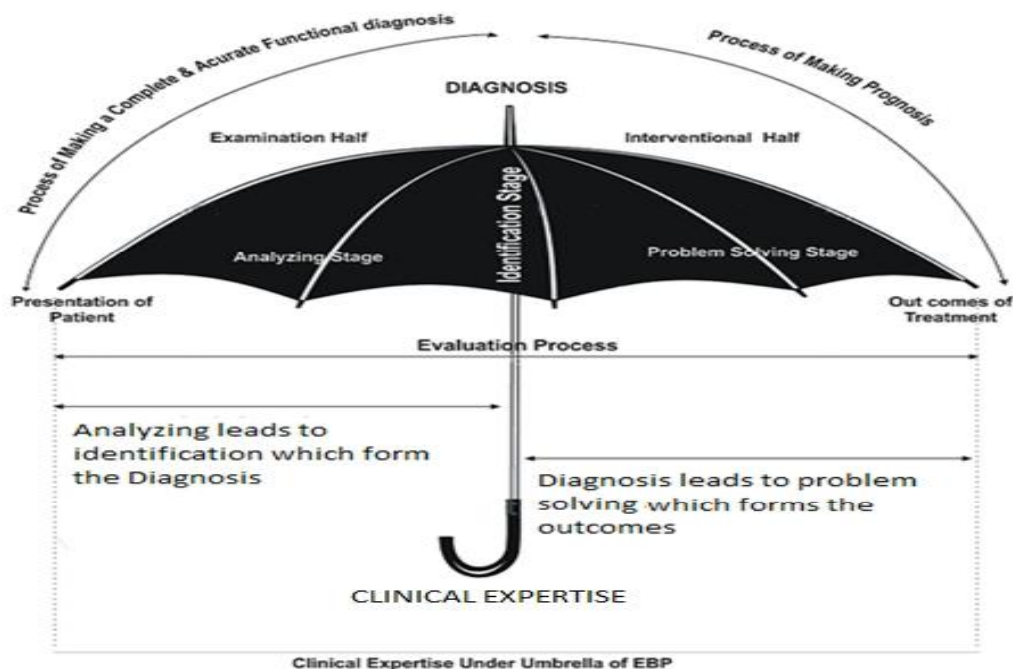
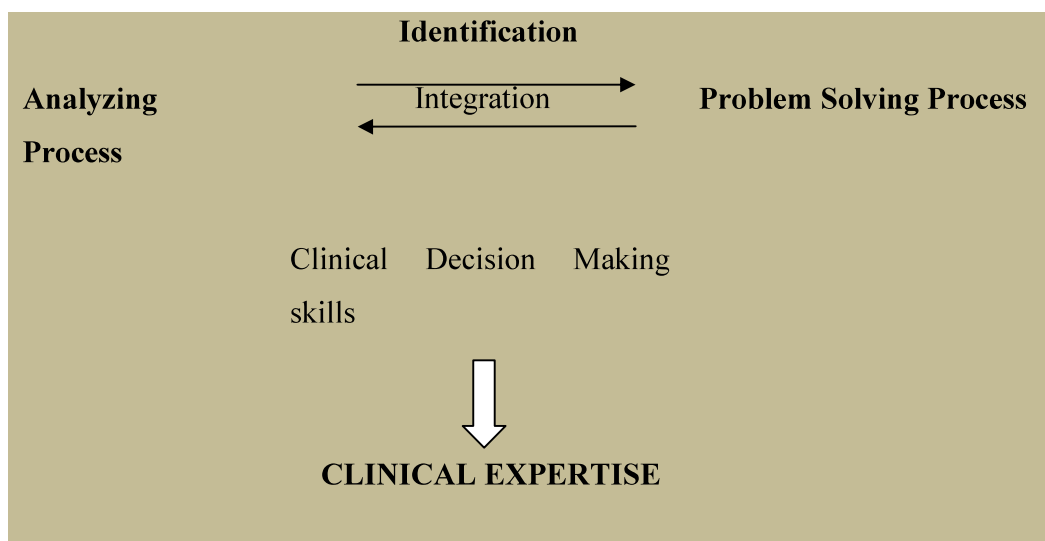


Figure 1 Umbrella of EBP, a metaphor of clinical expertise

These components represent the infrastructure for clinical expertise and serve as network of wires (CDM skills) that stretch out to make umbrella (EBP) functional. These components channelize findings in the evaluation process from observation to diagnosis in first half and than from diagnosis to outcomes in second half. The quality of canopy of umbrella is comparable with the level of expertise of physical therapist. This canopy (Clinical Expertise) covers and adheres to the infrastructure (all components of clinical evaluation process) to be effective and purposeful (in making valid clinical examination and prognosis). We can say that the focus in clinical evaluation process is to attain competency in clinical expertise. This leads to the conscious learning process of developing clinical expertise in the physical

therapist. The loci of clinical evaluation process are to arrive at make functional diagnosis. This requires two half components of the whole process to be integrated through a structural network of various subcomponents within each component under a mechanism of decision making.

The competency for mechanism of clinical decision making skill requires an integrated approach to process information between the already discussed two components of clinical evaluation process. Each component is applied in its domain as a complete process while as a phase during the execution of whole clinical evaluation process.



The clinical decision making skill also involves a physical therapist in the process of integration of his or her therapeutic knowledge and the information provided to

him or her by patient through effective communication skills coupled with sound clinical reasoning and attitudinal judgment .⁷

<p>Therapeutic Knowledge of physical therapist (Knowledge based clinical skill)</p>	<p>(Phase of Clinical judgment)</p> <p style="text-align: center;">→ Integration process →</p> <p>through</p> <p style="text-align: center;">← clinical reasoning</p> <p>critical judgment</p> <p>creative decision-making</p>	<p>Effective communication skills and cultural sensibility to interact with the patient (Skilled based clinical expertise)</p>
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We can say that developing clinical expertise is an ongoing process which requires integration of two phases of evaluation in everyday practice of physical therapy.

The therapeutic skills in analytic process are characterized by attributes of clinical analysis, judgment and clinical reasoning. The professional expertise in this phase of clinical evaluation leads to successful physical *examination and ultimately to purposeful diagnosis*. The clinical evaluation requires background knowledge of anatomy and functions of musculoskeletal system. The physical therapist need to interpret the effects of traumatic or biological stresses on different components

of musculoskeletal system in term of mechanism of trauma or underlying pathology of a physical problem. The therapeutic skills in problem solving process are characterized by integration of attributes of clinical reasoning along with enhanced physical and cognitive capabilities of physical therapist. This leads to implementation of learned skills in analytic process into clinical practice. This ability of continuous up gradation of knowledge through recent available evidence and understanding the circumstances is basic requirement of any interventional strategy in a clinical situation.

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In addition, Continuing educational courses related to critical thinking and clinical reasoning are needed to improve the accuracy of diagnosis. The attitude of Clinical reasoning in the practice through Clinical reflection and mentorship are routinely recognized as important components of professional development¹⁰

Jones & Rivett (2004)¹¹ referred Clinical reasoning as thought processes used in patient diagnosis and management. This technique is universally applied by clinicians. Clinical reasoning includes the application of cognitive and psychomotor skills based on theory and evidence. The reflective thought process is significant part of clinical inference to direct individual changes and modifications called for in specific patient situations.¹² Current research in clinical reasoning suggests that the process of applying therapeutic skills integrated with the intuitive ability to vary among clinicians. However an affective clinical examination followed by outcome based treatment based is deeply shaped by clinician's reflection and interaction with individual patient.¹²⁻¹⁴

Reasoning includes integration of knowledge, experience and emotions. The clinical reasoning involves integration of objective or goals of treatment and desired

clinical outcomes. Clinical reasoning is a multidimensional approach. It is based on clinician's way of thinking on ground of therapeutic knowledge, previous clinical practice and its interpretation in term of therapeutic response or measure of outcome of any clinical intervention. Clinical reflection is a powerful tool in developing clinical reasoning skills and professional growth^{10,15} Reflection is a necessary skill in learning and metacognition.¹⁶ Metacognition is defined as an "awareness or analysis of one's own learning or thinking processes."¹⁷ This "thinking about thinking" has been linked to the cultivation of clinical reasoning strategies.^{10,16} Schon described reflection as occurring either "in action," during the event, or "on action" after the event.¹⁸ Both processes require metacognitive ability. This ability can be enhanced by special instructive techniques. Mentorship is a cornerstone of professional development. In the practice of health care, many disciplines have written about the importance of the mentoring relationship in professional growth and development.^{19,20} Likewise, from a physical therapy perspective, mentorship is a key element in the advancement of clinical decision making skills, the promotion of both reflection in and on action, and professional development .

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It is well recognized, that the development of physical therapy residency and fellowship programs have allowed for structured mentorship experiences.²¹ During residency or fellowship programs, practicing clinicians receive a planned learning experience designed to significantly advance their preparation to provide patient care in a defined area of practice. The post professional clinical education programs may more quickly develop an advanced practitioner. This can potentially accelerate the process of professional development.²² The structured reflection and mentorship is fundamental to the success of these programs.

Model of Professional Excellence in Pakistan: The Process of developing clinical expertise in EBP practice requires therapeutic knowledge and clinical practice. The physical therapy academic should create real life clinical context in order to enhance the professional therapeutic skills of the new learners. The stages of clinical competency for professional development can be explained by using Benner's Novice to Expert Continuum (1984)²³. She described 5 levels of clinical competency as description of professional development as:

- Novice
- Advanced Beginner
- Competent
- Proficient
- Expert

Recently, PPTA laid out a proposal of professional service structure in Pakistan on the basis of this model²⁴. The actual structure of PPTA's proposal is different from the model presented below and is based on number of years spend as a practitioner as marker of clinical expertise (available in the appendix section). Clinical expertise is an outcome of integrated chain of events taking place in the approach of Clinician therefore time frame alone is not a good indicator of individual's expertise in term of professional development. From our Point of view, on the basis of PPTA's proposal we can categorized Benner's continuum of clinical competency into level of academic qualification, level of skills in practice and level of experience in the professional practice .This Model presents a much broader picture of Banner's continuum of clinical expertise and its applicability in physical therapy profession in Pakistan.

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Level of Qualification	Level of Skills	Level of Experience	Stage of Professional Development	Professional Recognition in Pakistan ²⁴	
Basic Academic Level (Graduation Level) DPT / B.S.PT	Novice	Physical Therapist as Just Begginer in Profession	Practitioner without Clinical Experience	Clinical	Physical Therapist
				Academic	Demonstrator / Lecturer
				Admin	Admin Officer
				Research	Research Officer
Basic Academic Level (Graduation Level) with Advance Learning DPT / B.S.PT	Advanced Beginner	Physical Therapist as Skilled Begginer in Profession	Practitioner with 3-5 years Of Clinical Experience	Clinical	Senior Physical Therapist
				Academic	Senior Lecturer
				Admin	Assistant Director
				Research	Senior Research Officer
Post Professional Academic Level (Master / M. Phill /PP-DPT)	Competent	Physical Therapist as Skilled in Profession	Practitioner with Academic Level and advanced Clinical Experience	Clinical	Supervisor Physical Therapist
				Academic	Assistant Professor
				Admin	Deputy Director
				Research	Research Supervisor
Post Academic Professional Level (Master / M. Phill /PP-DPT or PhD)	Proficient	Physical Therapist as Experienced in Profession	Practitioner with or Without Academic Level and Skilled Clinical Experience. (Involved in Physical Therapy Residency and Fellowship Programs mentor ship Courses	Clinical	Consultant Physical Therapist
				Academic	Associate Professor
				Admin	Director
				Research	Principal Research Officer
Professional Practice Level (Master / M. Phill /PP-DPT or PhD)	Expert	Physical Therapist as Expert in Peofession	Practitioner with quality of a Mentor and leader	Clinical	Chief Physical Therapist
				Academic	Professor
				Admin	Executive Director / Managing Director
				Research	Chief Research Officer

Table 1 Modal Based on Proposed physical therapy Service Structure of PPTA

This five step model of excellence provides stages of professional competency. Every level has its own significance. The professional development through different level of competency reflects changes in 3 aspect of physical therapy performance²⁵:

Movement from relying on abstract principles to using past concrete experiences to guide actions. (Beginner to Skilled)

Change in learner's perception of situation as whole part rather than in separate pieces. (Skilled to Experienced)

Passage from detached observer to an involved performer, no longer outside the situation but now actively involved in participation. (Experienced to expert).

Model of Clinical Expertise as a clinician: Both guidelines adopted for professional growth in Pakistan (APTA's Model of professional development and

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Banner's Model of Professional excellence) incorporate evidence based practice (EBP). They have a sharp focus on clinical expertise of physical therapists. Clinical expertise is a progressive change in approach which by our point of understanding emerges through 4 integrated phases of clinical decision making skills. The journey of a physical therapist towards clinical expertise should pass through a sequence of integrated phases which are described as:

- Phase of Analysis & Judgment
- Phase of Reasoning
- Phase of Expertise

Clinically oriented knowledge & experience is the hallmark of clinical decision makings. Each Phase is characterized by different step of clinical practice and integrated with each other to attain level of clinical expertise (Figure 2). We can describe these phases in terms of their characteristics as:

- Phase of Thinking & Understanding

Phases of developing

knowledge based Skills for understanding clinical scenario

(Phase of Clinical thinking & Understanding)



Phases of developing

skilled knowledge based clinical decision makings

(Phase of Clinical Analysis & Judgment)



Phases of developing

skilled knowledge based clinical expertise

(Phase of Clinical Reasoning)



Phase of developing

Evidence based skilled clinical expertise in clinical practice

Figure 2 (Phase of Clinical Expertise)

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The professional development refers to skills based on concepts and practices attained for both personal development and career advancement 26. We can say that the achievement of professional development within scope of clinical practice is emphasized throughout the phases in the process of developing

clinical expertise. The clinical reasoning is an extensive process which has its roots in the whole process. The reasoning skills are enhanced by reflection and mentorship therefore clinical reflection, supported by mentorship, is a core element in developing clinical decision making skills. (Figure 3)

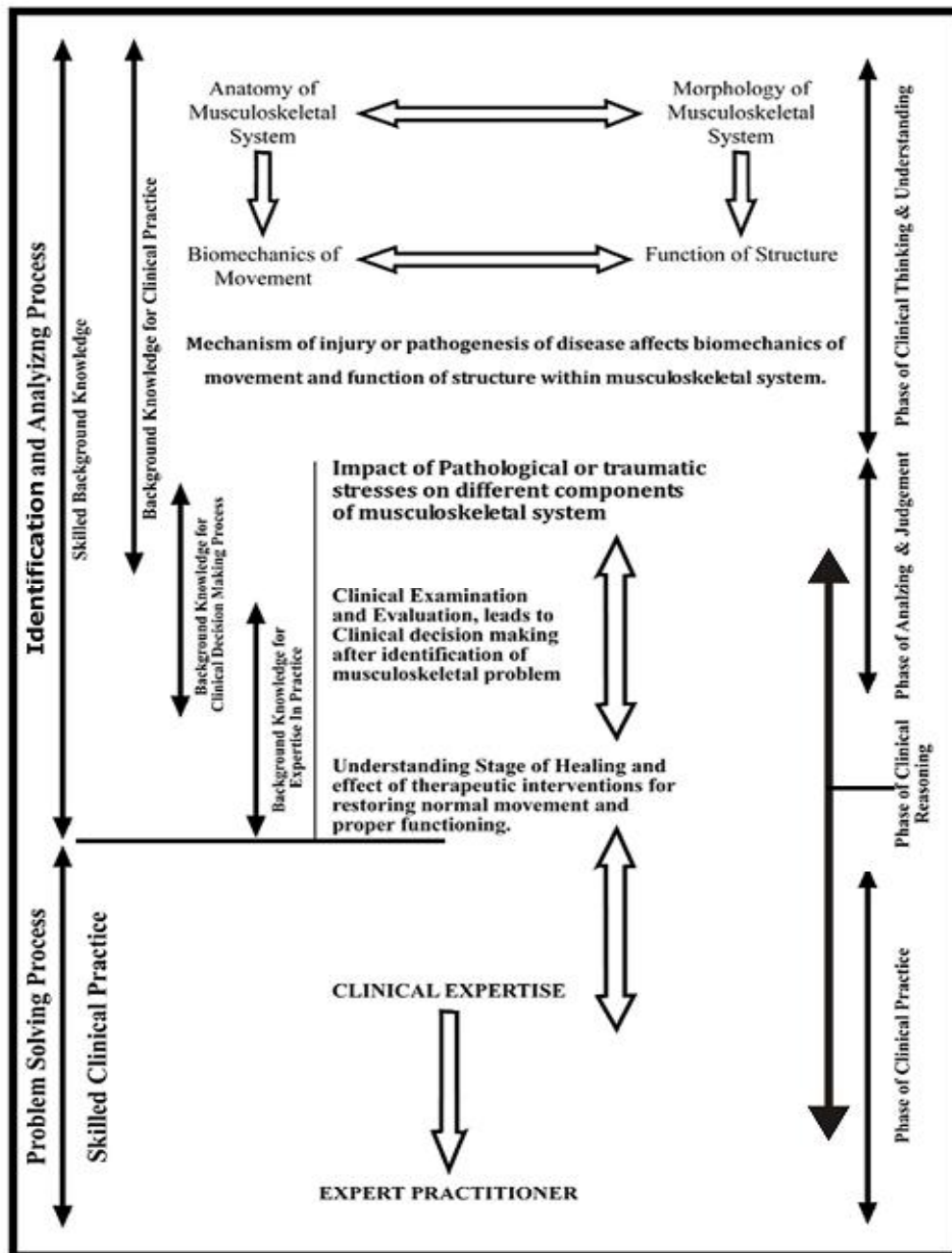


Figure 3 Model of Clinical Expertise

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The clinical oriented knowledge forms the basis of clinical skills. The clinical expertise of a physical therapist relies on these clinical skills. In the field of practice e.g. Musculoskeletal Physiotherapy, the most important skill of physical therapist is to understand biomechanics of movement and functions of different components of musculoskeletal system. This clinical skill enables physical therapist to rationalize the impact of pathological or traumatic stresses on these components of musculoskeletal system. These stresses disturb the biomechanics and affect the movement pattern. The capability to identify musculoskeletal problem leads to successful clinical decision making. This forms cornerstone in the approach of clinical reasoning. It helps problem solving and ultimately clinical expertise in the scope of clinical practice.

Discussion

The physical therapy has a long way to go as an autonomous profession in Pakistan .The PPTA is committed to establish internationally recognized framework of actions for physical therapy development in Pakistan. After 2007, the journey of professional development in the country was facilitated by taking measures to implement APTA's vision. The emphasis

was being placed on enhancing skills in the process of clinical decision making and professional education in order to achieve Doctor of Physical Therapy (DPT) as graduate level education and Evidence-Based Practice in the field.

The next goal is to establish layouts of steps for recognition of professional excellence within profession. Banner's model explains the hierarchy of clinical competency and fills the gap between professional development and recognition. The level of professional excellence (Banner's Model) marks aims and objective be achieved within profession by physical therapist by doing effort along the lines recognized for its growth and development (APTA's Vision). In the absence of regulatory council, PPTA has its limitation to implement its mission in Pakistan but it is doing its job of an advisory body by laying out standardized roadmap for upcoming structured council.

It is responsibilities of physical therapists to achieve standards of practice required for the efficient results. There is a lot of effort and professionalism involved to understand the process of being expert as a physical therapist. Advanced clinical decision making skills are characteristic of an expert and evaluation process is the domain of decision makings in clinical

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practice. The clinical expertise in practice throughout evaluation process requires integrated approach of working background knowledge and evidence based clinical practice and consequently this integrated approach leads towards clinical expertise in the field of practice. The first three phases of learning clinical skills are focused on developing background knowledge i.e. clinical thinking & understanding (Phase 1), analyzes & judgment for examination and prognosis (Phase 2), clinical reasoning for planning intervention & re-evaluation (Phase 3). The integration of skills acquired through these phases into clinical practice (constitute the phase 4). It leads to

the stage of expertise in practice with the element of time coupled with empirical evidence (Research) and experimental evidence (clinical practice). It can be concluded that clinical expertise is an outcome of reflective practice with an ability to take skills learned from knowledge and experience into clinical practice on the basis of clinical reasoning. It is a sequential, ongoing interactive journey by through a process of professional development i.e. from “Novice Practitioner” to “Skilled Practitioner” to “Experienced Practitioner” to ultimately “Expert in the field of Practice”.

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