

Editorial

The Importance of Research in the Practice of Physical and Rehabilitation Medicine

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One of the fundamental pillars of any medical specialty is the base of scientific knowledge that supports the specialists. In this context, the medical specialty of physical and rehabilitation medicine (PRM) is not different than other medical specialties. The future survival of a medical specialty depends on the strength of the evidence supporting its practice and the relevance of its contribution to the health and quality of life of the population in general. This much needed and valuable scientific knowledge and evidence is generated through the responsible conduct of scientific research. All those interested in the future of PRM should pay attention to this conversation because to ignore the need for research is the academic equivalent of self-destruction.

There are many good reasons to support the conduct of research in PRM. One of the most important reasons is the need to understand the causes, modifiers, and consequences of disability. Better and more effective interventions can only make sense in the context of an enhanced appreciation of the problem. Further, it is important, and professionally responsible to demonstrate that rehabilitative interventions have the intended beneficial effects on those receiving the services. Although not the primary reason, scientific evidence is also needed to justify the payment of these services by insurance companies and third-party payers. Finally, research that intends to address questions relevant to the field of PRM may result valuable for other medical specialties and may represent a contribution to medicine and health care in general.

I am sure that the readers of this editorial will agree with the observation that research in PRM is full of challenges. For example, the nature of the subject of study is too often very difficult to define. Further, the

heterogeneity of the patient population under study makes it difficult to achieve an appropriate sample size in the absence of a research network including various institutions. The coordination of such a network adds to the complexity of the research and the administration of research protocols. Most interventions in PRM are multidimensional and do not match well the analytical, and many times unidimensional, approach used in randomized control trials testing the effectiveness of pharmacologic agents. Although significant progress has been made recently in the development of metrics specific to PRM, it is still not easy to measure such outcomes as function, participation, or disability. In many scientific fields, observations are based on our senses; i.e., visual images using electron microscopy. This approach is not that useful in many relevant types of research in PRM or rehabilitation. In fact, an active area of research in rehabilitation in general is the development and evaluation of measurement methods and technologies. The specialty of PRM is not traditionally based on a molecular and cellular approach to therapy. Thus, it has not been easy to take advantage of the dramatic scientific revolution of the last 20 years or so in genetics, nanotechnology, and tissue engineering. But, how can we not?

Despite the above discussion I would argue that this is the best time for research in PRM. Our medical specialty is no stranger to difficult challenges; in fact specialists in PRM face tough situations every day in the clinic. The amount of scientific research in PRM appears to be on the rise. The number of PRM journals in the world has increased in the last decade and the number of reported submissions to some of these journals is also higher now than a decade ago. Estimating the number of active research projects related to the field is a very difficult task. However,

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one type of research study design, the clinical trial, is now being registered and monitored by several entities. One such registry (www.clinicaltrials.gov) shows a dramatic increase in the last 2 years in the number of trials in the rehabilitation category (approx. 50%) and in the more specific PRM category (approx. 300%). Clearly, the impact of many of these trials is unknown yet, but these numbers represent a very encouraging sign. What is more encouraging, research in PRM is being conducted in all continents of the world. The research future does look bright!

The promotion of research should not be seen as an optional activity but rather as a necessity and an obligation. It is not the exclusive duty of academicians but also of clinical practitioners. We, specialists in PRM, should be supportive of research efforts even if we do not act as principal investigators of such efforts. By doing so, we will contribute to the field we care so much about and to the health of the population we serve.