

EDITORIAL VIEW

PAIN MANAGEMENT

Time to move towards subspecialties (or super-specialties) of pain medicine

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Summary: The last one century has seen tremendous advancement in the field of medicine. In fact, the pace of this development has been so rapid, that each basic specialty had to be diversified into many new subspecialties to encompass the rapidly evolving technology, expertise and even newly identified diseases in the mankind. Pain medicine is unique, that this specialty has yet to be recognized as an independent specialty in many parts of the world, yet the development in this field has been exponential. Pain and pain medicine are an ocean, and it is impossible for a single human being to master every aspect of it. With this concept in mind, the Editor-in-Chief (THK) of this journal invited renowned pain specialists of the world to write on the concept of subspecialties (or super-specialties) in Pain Medicine to show the path to budding pain specialists.

Key words: Medicine; Pain; Pain, Chronic; Pain medicine; Subspecialty

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Chronic pain affects millions of people worldwide. Chronic pain has a distinct pathology and causes changes throughout the nervous system that often worsen over time. It has significant psychological and cognitive correlations and can transform into an entirely separate disease entity. Pain is caused by a combination of biological, psychological, and social factors, and often requires comprehensive approaches for their prevention and management. The perspective of the pain sufferer has shifted from a physiological construct to a person with pain, where perception may be related to social, and emotional factors and be culturally relevant. Conceptually, the pain has both a medical basis and a humoral context; for example, between the objective evidence of pain-induced disability, there are subjective concerns of drug abuse. Effective pain management is a moral imperative, a professional responsibility, and a moral, ethical and legal duty of healthcare professionals.¹

In the early 20th century, pain management was primarily done with pharmacological means. But with more and better understanding of the pathogenesis of chronic pain, many new modalities were constantly added. Nevertheless, the treatment of chronic pain has become very expensive for the healthcare system with the introduction of new modalities. Pain still remains only partially explored. We still need better understanding of the complex mechanisms of pain to translate these mechanisms into safe and effective

treatments. We need to increase and encourage interdisciplinary and team assessment of chronic pain, especially in complex cases. We need improved data that characterize individual pain experiences and treatment outcomes.

Due to the ever-increasing population of ageing people, there has been an increase in the physician's workload; an increase in the number of consultations, and the need to manage patients with multiple diseases. The demand for pain physicians continues to grow proportionately.

While much has been learned about pain and its management, still, even the existing knowledge is not applied effectively, resulting in significant number of people continuing to suffer needlessly. Most of the health professions education programs do not provide adequate training in pain. As pain medicine becomes more and more specialized, it becomes more and more expensive, a phenomenon that is accompanied by the belief that every aspect of pain medicine, both diagnostic and therapeutic, requires highly trained physicians in all fields. It may be obvious that the breadth of the field means that no one physician can be competent in all areas, and that competence requires experience. It can be argued that structured exposure to subspecialties is necessary due to the explosion of knowledge and technology. The dominant argument in favor of subspecialization relates to the notion that a greater volume of intervention equals a better outcome. This is a result of experience, education, training and practice

for all trades and crafts, but there is no evidence that repeating a procedure hundreds of times and limiting the repertoire to a few procedures is beneficial to the client. However, in some specialties there appear to be qualitative gains associated with increased physician procedures.²

A subspecialty (or a super-specialty?) or fellowship is a narrow area of professional knowledge/skills within a medical specialty and is often used to describe more diverse medical specialties. Subspecialty training (often called a "fellowship") typically requires one to three years beyond the standard three-years medicine residency. The choice of sub-specialty is a complex nexus of student expectations, departmental expectations, and competition for available places. Choosing a subspecialty for medical students is necessary to maintain a sufficient medical workforce and balanced development of the medical system. The working group of professional education needs to improve the main competencies of the field of pain at the specialized level with sub-specialized (or super-specialized) fields. Educational program accrediting bodies and professional licensing boards can improve pain education and physician learning at subspecialty levels. The future of pain assessment, prevention, and treatment requires improvement in clinical education and public policies.³

But for this to happen it is necessary to first recognize pain medicine as a medical specialty. Then, pain physicians can choose to focus on general pain medicine or do additional training to 'subspecialty' (or super-specialty) in specific areas of pain, for example, acute pain, postoperative pain, regional anesthesia, chronic pain, cancer pain, musculoskeletal and sport related pain, minimally invasive spine, head & orofacial pain, thoracic pain, pediatric pain, genital & pelvic pain, diagnostic ultrasound, regeneration medicine, tele pain management and robotic pain intervention.

Alternatively, pain subspecialty can be considered separately within each medical specialty which is more logical. We have now pain fellowship in anesthesiology, similarly it could be included in other specialties like internal medicine, physical medicine, chiropractic, gynecology, orthopedics, sports medicine, emergency medicine, general surgery, neurosurgery, neurology, radiology, psychology and so on. For example, internal medicine physicians are more interested in cancer pain management; emergency medicine specialists are interested in acute pain management; neurosurgeons are interested in minimally-invasive spine surgery; physical medicine specialists are more interested in regeneration medicine; sports medicine specialists are more interested in musculoskeletal pain; gynecologists are interested in genital and pelvic pain; pediatricians are interested in categories injection for children; a neurologist is

interested in the field of interventional pain management of headache; radiologists are interested in diagnostic interventional pain management, and general surgeons are interested in postoperative pain management, which could be considered a subspecialty of pain within their own specialty.

Even if you look further, pain can be a subspecialty in basic science like genetics, pharmacology, biochemistry, pathology and physiology and so on. When we consider pain specialty as a whole, we need to consider the socioeconomic aspect of pain in sociology, business, marketing, and robotic science which anyone could be a subspecialty of pain medicine in future.

The author believes this type of subspecialty will advance the science of pain globally in medicine, and will improve the quality of pain care and actually reduce malpractice. We see a lot of malpractice in the pain profession, which might be due to a lack of clarity about the pain syndromes, the use of inappropriate technique, failure to properly diagnose and treat a condition, failure to order appropriate diagnostic tests, and failure to receive counseling. Choosing a subspecialist for those doctors who specialize in a specific field will definitely reduce the possibility of patient claims and disability due to interventional complications. One can hope this project will ameliorate the pain care to the upper level and reduce the conflict between different specialists, eventually resolving pain of the suffering patients in the best possible way.

We will have many challenges in this medical revolution, as is true for the introduction of any new field in medicine. The point is that the educational system is ready to accept this evolution and whether physician will show interest in this course. Choosing a specialty is a complex link between student expectations, departmental expectations, and competition for available places. The choice of a subspecialty field by medical students is necessary to maintain a sufficient medical workforce and balanced development of the medical system.

There are many influencing factors in the choice, which can be classified into two categories: economic factors and non-economic factors. Income remains one of the main influencing factors in choosing a specialty or subspecialty. Non-economic factors can be divided into individual factors, factors related to expertise, and other factors. Individual factors, including academic interests and aptitudes, significantly impact a student's choices. Subspecialty fields with a shortage of human resources may attract more students by increasing students' interests and improve the quality of education. Second, factors related to expertise included controllable lifestyle/flexible work schedule, job opportunities, workload, and length of training. Finally, other factors

such as service orientation, medical teachers or instructors, reputation, and recommendations of others also play a role in medical students' decisions.

Whether subspecialized units are more efficient and cost-effective due to greater diagnostic accuracy remains to be demonstrated. Experience shows that the number of investigations and their complexity increases with sub-specialization. Furthermore, as barriers between subspecialties increase, the system becomes increasingly inflexible. For all of these reasons, access to the appropriate specialist is reduced. Access problems have implications for cost as well as the quality of care. Subspecialty training, as it is done today in teaching hospitals, is expensive, and the introduction of each new subspecialty will necessarily add to its cost.⁴

Fortunately, the importance of pain and pain management has been recognized in many medical fields as pain chapters are included in many textbooks of different specialties. It seems medicine has prepared for this growth, and it is time to move towards subspecialties (super-specialties) of pain medicine.

Conflict of interest

The author declares her interest in playing a part in the development of pain medicine to alleviate the misery of the human race.

Author contribution

HG is the sole author of this editorial.

About the author

Dr. Helen Gharaei is a world-renowned pain consultant, and has much interest in pain education and practical training in interventional pain management. She has authored and co-authored a number of books and paper about pain and pain medicine. She has also been an integral part of pain workshops and pain conferences around the world.

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