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John D. Loeser & Michael E. Schatman

To cite this article: John D. Loeser & Michael E. Schatman (2017) Chronic pain management in medical education: a disastrous omission, Postgraduate Medicine, 129:3, 332-335, DOI: 10.1080/00325481.2017.1297668

To link to this article: https://doi.org/10.1080/00325481.2017.1297668

Accepted author version posted online: 24 Feb 2017.
Published online: 06 Mar 2017.

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Chronic pain management in medical education: a disastrous omission

John D. Loeser and Michael E. Schatman

1 Department of Neurological Surgery, University of Washington, Seattle, WA, USA; 2 Department of Public Health and Community Medicine, Tufts School of Medicine, Boston, MA, USA

ARTICLE HISTORY Received 8 November 2016; Accepted 15 February 2017

KEYWORDS Chronic pain; medical education; curriculum; primary care

The relief of suffering, it would appear, is considered one of the primary ends of medicine by patients and lay persons, but not by the medical profession.

Eric Cassell [1]

1. Background

Treating pain has been a part of medicine for over 5000 years, yet the management of chronic pain is a relatively new endeavor. Health care for chronic pain patients in the United States is expensive and often ineffective. In 2008, a three-part series in Pain Physician [2–4] elucidated the crisis in chronic pain care in the United States and identified the inadequacies of the technocentric, disease-based healthcare paradigm which does not serve chronic pain patients well. In discussing potential solutions, the authors recommended exposure of undergraduate medical students ‘to the realities of pain and the possibilities of pain medicine’ [4, p.779]. This has clearly not occurred in the majority of American medical schools; there is no evidence that the physicians that we are producing today have become any more adept at treating patients with the disease of chronic pain. For most types of chronic noncancer pain, strong evidence bases for efficacy along with cost-effectiveness and the lowest level of iatrogenic complications [5] already have been established for treatment by interdisciplinary pain programs which utilize a biopsychosocial model. Furthermore, a PubMed search of recent publications pertaining to chronic pain indicates that the majority address issues of opioid addiction and safety rather than the relief of pain and suffering. The physician- and pharma-induced opioid epidemic in the United States has pushed pain management to the sidelines, while attention is focused upon preventing and managing addiction and other opioid complications. Many of the proposed and now enacted legal and regulatory remedies for the opioid problem may further impair treatments for chronic pain patients, even though they attempt to address the opioid prescribing excesses. Focusing upon the opiate crisis diverts attention from managing pain patients. Although opioid education has increased on many levels, this is not a proxy for better education about chronic pain. The nationwide epidemic of prescription opioid-related deaths and emergency room visits is directly related to the inadequate education in medical school and residency of primary care physicians.

The idea that chronic pain patients could be treated with opioids just like end-of-life cancer patients was first physician-proposed [6], but then taken up by drug manufacturers who had newly developed and patented long-acting opioid preparations to market [7]. The risks of addiction and opioid side effects were trivialized and key thought leaders were generously funded by drug companies to travel the country participating in national meetings and Continuing Medical Education (CME) programs. Drug companies funded patient advocacy groups to encourage opioid prescribing for chronic pain patients. The change in the use of opioids has resulted in a social crisis.

2. The importance of pain education

The prevalent negative attitudes of physicians toward patients with chronic noncancer pain begins early in medical school [8,9]. The literature supports the notion that undergraduate medical students are concerned about treating patients with chronic pain, as a qualitative study found that most medical students had a negative perception of their encounters with pain patients, with chronic pain being the condition most difficult with which to deal [10]. The failure to teach undergraduate medical students appropriate biopsychosocial chronic pain management skills is consistent with the finding that preclinical relationship skills curricula are not well-coordinated with clinical curricula [11]. Of this disconnect, Giordano and Boswell astutely noted, ‘So, while mechanisms of pain and analgesia are taught during basic neuroscience courses, there is no direct link to how the complexities of these systems are relevant to the illness of chronic pain and challenges of chronic pain management’ [12, p.206].

Primary care residents recognize the inadequacy of their undergraduate chronic pain management training, rating their preparation to manage it as ‘poor’ or ‘fair’, at best. In a 2006 study, 81.5% of primary care physicians rated their undergraduate medical education in chronic pain as insufficient, with 54.7% rating their chronic pain training as residents as insufficient [13]. Inadequate training of primary care providers is
certainly not a new phenomenon, as research as early as 1984 indicated that primary care providers had little formal training in treating patients with chronic pain [14]; the lack of preparation to treat chronic pain has been identified among residents irrespective of specialty [15]. The essential absence of undergraduate and resident education in chronic pain management contributes to the finding that only 34% of physicians felt comfortable in managing patients with chronic pain and only 1% found doing so satisfying [16]. The need for better pain education in residency has been addressed in a few training programs [17,18].

3. Current state of pain education

Early in the history of the discipline of pain medicine in 1976, John Bonica called for increased education about pain in all health sciences schools [19]. There was a minimal response to this call in our country. The American Academy of Pain Medicine issued a position statement in 2000 calling upon medical schools to increase required curricular content in chronic pain, palliative care, and end-of-life care, but this, too, had little influence on medical school curricula as far as we can determine [20].

In their 2011 study, Mezei and Murinson [21] found that a number of American medical schools did not report any teaching of pain whatsoever, with many requiring 5 or fewer hours of such education. Elective courses were available in 16% of schools; 80% of American medical schools had no formal pain education. Additionally, only 4% of US medical schools reported student access to courses on integrated pain management, with the authors concluding ‘that pain education for North American medical students is limited, variable, and often fragmentary’ (p.1199). In 2005, the International Association for the Study of Pain published the most recent edition of its Core Curriculum for Professional Education in Pain [22]. The report of the First National Pain Summit also called for better education about pain, as did the Core Competencies for Pain Management report and the Institute of Medicine (IOM) report [23–25]. Little happened to medical education in response to these guidelines and reports. As reported by Briggs and colleagues [26], ‘...the amount of hours of pain education in the undergraduate curricula is woefully inadequate given the burden of pain in the general population’ (p.794). Little has changed in the 5 years since this publication.

Very few American medical schools have introduced pain management into their curricula; Johns Hopkins is a well-described notable exception [21]. When education in pain management does exist within a medical school, it is usually the result of the efforts of a small group, or even an individual within the faculty working for years to effect a curricular change. This has been the experience at the University of Washington School of Medicine over the past 35 years. Efforts to add pain content to the curriculum were unsuccess ful until a major curricular revision plan was implemented during the past 3 years. This provided an opportunity to introduce new pain-related content at multiple levels in the educational process for medical students. Didactic curricular hours were increased from 6 to 25 and elective clinical pain opportunities increased from 177 to 318 h. Students at the University of Washington have both an increase in required hours and elective options for pain education. An expanded use of interprofessional education was part of this reform [27].

4. Why is pain education so poor?

Most medical schools utilize a biomedical model and focus on knowledge-based learning, often ignoring students’ emotional development and reflective capacity, both of which are necessary to deal with pain patients effectively [28]. A recent study in which board members of the American Academy of Pain Medicine rank-ordered ideal objectives of medical student pain education yielded not only examination and prescribing skills but also compassionate care/empathy and communication as the top 4 of 28 topics identified [29,30]. Recently, Carr and Bradshaw recommended changing the approach of the standard pain curriculum from an emphasis on subcellular and cellular processes to a focus on interpersonal, social processes, thereby shifting the paradigm from ‘biopsychosocial’ to ‘socio-psychobiological’ [31]. Medical students and residents need to be taught the differences between acute and chronic pain, and the potential for acute pain to progress toward chronicity if the psychosocial sequelae of pain are not treated appropriately [32,33].

Altering a medical school curriculum by internal political processes can be exceedingly difficult. The reality, of course, is that the number of hours allotted to a curriculum is fixed; indeed many schools are trying to reduce their classroom hours. To introduce something new into the curriculum, something old must be taken out. As most medical schools are strongly departmentally organized, no one wants to give up time from his/her specialty area to allow something new to enter the curriculum. This is compounded by the fact that pain does not have a clear departmental home in contrast to all organ systems. No department is likely to fight for pain turf. A medical school curriculum is the last vestige of the feudal system in the twenty-first century. The problem is not the lack of educational materials but rather the lack of time in the curriculum to teach about the sciences basic to pain and its clinical management. The attempt to remediate the educational deficiencies in medical school and residency via CME has not proven to be very effective. Although some states have mandated hours of pain education, there has been little control over the content and very little evidence for efficacy. Behavior change is rarely implemented by information alone. Furthermore, funding for CME is often provided by drug and device manufacturers and this tends to skew the content of the CME activities. At the present, CME programs seem to be preponderantly addressing the opioid crisis and not managing chronic pain patients.

5. How to improve pain education?

There is hope, however, as the United States Medical Licensing Examination (USMLE) has indicated that it wishes to include questions on pain, and a panel of pain experts has been assembled to generate such questions [34]. When questions on pain begin to appear in the required examinations, most medical schools will recognize the need to include educational
materials that will facilitate their students’ knowing the correct answers. There is virtually no feedback to a medical school of what its graduates are doing in practice, but USMLE scores are immediately available and seem to be motivational for medical educators.

It is widely recognized that optimal management for chronic pain patients comes from a multidisciplinary and even multi-professional approach that makes use of medical, nursing, social work, psychology, physical, and occupational therapy skills. Interprofessional education will facilitate chronic pain management, but this is a novel educational format in most health sciences educational programs. The response to the IOM report should include a revolution in education regarding chronic pain in American schools of medicine. We have seen little evidence that this is about to occur in spite of the NIH Pain Consortium Centers of Excellence for Pain Education programs in 12 health sciences schools [35]. Chronic pain remains an orphan disease for undergraduate medical education; yet, it is one of the most common reasons for seeing a health care provider [36]. The time is long overdue for a change in what we teach medical students and residents about pain, and, most importantly, how to compassionately deal with chronic pain patients.

**Funding**

This paper was not funded.

**Declaration of interest**

The authors have no relevant affiliations or financial involvement with any organization or entity with a financial interest in or financial conflict with the subject matter or materials discussed in the manuscript. This includes employment, consultancies, honoraria, stock ownership or options, expert testimony, grants or patents received or pending, or royalties.

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35. CoEPES@mail.nih.gov.