

## Difference between an Academic Article and a Clinical Practice

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**LETTER**

In fact, an academic article is different from a clinical practice. Knowledge about the difference improves treatment outcomes. An academic article is based on scientific evidence and a clinical practice is based on personal experience of a physician. My specialty is a pharmacological treatment for pain [1-10] and the issue is discussed in the area.

The personal experience of a physician without scientific evidence alone is likely to lead to a biased conclusion. The personal experience of a physician can easily find somnolence, dizziness, dry mouth, dysuria, constipation, etc. as adverse effects of medicine. It is almost impossible to find renal damage, sexual dysfunction, dementia, osteoporosis, etc. using the personal experience of a physician. The academic article can show them. Furthermore, it is usually impossible to know the treatment outcomes of dropout patients using the personal experience of a physician. The treatment outcomes of patients including dropout patients are true treatment outcomes.

Many pharmaceutical companies provide huge amounts of financial assistance to studies that show the efficacy of expensive medicine that hugely benefits the companies [11,12]. Consequently, reports of such medicines are frequently published, which strengthens scientific evidence. Conversely, scientific evidence of inexpensive medicine does not increase. In my experience, nortriptyline is effective for fibromyalgia (FM); however, limited scientific evidence shows its efficacy. I believe that the low drug price is the main cause. Fabricated study is beside the question. No association of industry funding or the authors' financial conflicts of interest with the study outcomes was seen in FM drug therapy randomized controlled trials [13]. However, many reports including systematic reviews show that pharmaceutical company sponsorship is strongly associated with results that favor the sponsors' interests [14-19]. The analgesic effects and adverse effects of medicine should be confirmed in a clinical practice.

A systematic review reported that amitriptyline 25 mg/day (six randomized controlled trials (RCTs)) demonstrated a therapeutic response compared with placebo in the domains of pain, sleep, fatigue and overall patient and investigator impression, however, amitriptyline 50 mg/day (four RCTs) did not demonstrate a therapeutic effect compared with placebo in FM [20]. RCTs are usually performed with fixed dose; however, flexible dose is administered in each patient in a clinical practice. I prescribed medication in accordance with the recommendations of pharmacologic management of neuropathic pain published by the International Association for the

Study of Pain [21]. Slow titration from a low initial dosage was performed for one medicine alone and the maximum dosage of medication was administered unless the adverse effects limited the upward titration or a medication provided adequate pain relief [21]. Patients compare the analgesic effects with the adverse effects to determine the optimum dosage. The optimum dosage depends on patients. The optimum dosage is 5 mg in a patient and 120 mg in another patient. In a clinical practice, the dosage of amitriptyline should be gradually increased to the maximum dosage of 150 mg/day (in Japan) with the exceptions (adequate pain relief or impossibility of increase due to the adverse effects).

The medication guidelines for neuropathic pain including FM are usually based on only academic articles of analgesic efficacy. In a clinical practice, drug price, adverse effects, and degree of off-label use in addition to academic articles of analgesic efficacy should be reflected in the order of priority [11,12].

It is impossible to do all clinical practice based on academic articles. We should perform a clinical practice with the knowledge of difference between an academic article and a clinical practice.

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