Editorial

Should Clinical Services Provided by Pharmacists be Compensated?

Fanak Fahimi

“... the great need is to look at pharmacy from the point of view of the patient—that is, unless we come up with something which deals with people, not pharmacists, not research laboratories, not physicians, not nurses, not drug store proprietors, not the system, et cetera, we really have not added much...” Millis, summarizing the first day of the Millis Commission’s deliberations in September, 1973.

As this quotation shows, the problems currently confronting the pharmacy profession are not new. The profession, despite a dramatic realization, pharmacy needs to redefine itself as a patient-oriented profession. Pharmacy’s longstanding focus on product has continued throughout the last quarter of the 20th century. This is more apparent in countries like Iran where, pharmacy education is mostly basic science oriented.

In 2005, American College of Clinical Pharmacy (ACCP) defined clinical pharmacy as the “area of pharmacy concerned with the science and practice of rational medication use.” Within this definition, it is stated that the discipline of clinical pharmacy relies on caring, standards, specialized knowledge, skill, and clinical decision making. Clinical pharmacists are practicing within this discipline and generate, disseminate, and apply new knowledge that contributes to improved health and quality of life.

Pharmacists are gradually changing professional services. At the present time, pharmacists are in an excellent position to expand their professional role by providing cost-effective clinical services. Several factors may act as a barrier to the acceptance of new roles, including lack of consensus regarding the professional goals; opposition to expand the pharmacist’s responsibilities beyond dispensing functions, lack of professional skill and/or confidence; work environments; lack of compensation for pharmacists’ clinical services and underdevelopment of practitioners’ interpersonal skills.

The benefit of pharmacist involvement in outpatient and inpatient clinical activities has been well documented in the literature.

Involvement of a clinical pharmacist in inpatient care has been shown to reduce morbidity, mortality and healthcare costs. Never the less, clinical services provided by pharmacists are not compensated by third-party agencies (insurance companies). The current low dispensing fees and the provision of extra patient centered services without compensation are economically untenable for most pharmacists. This may add to the present pharmaceutical care misconduct.

A perfect reimbursement mechanism is still not defined, particularly in the inpatient setting. The profession of pharmacy could develop a credential model similar to that used by the medical profession. Documentation of the interventions and services are approaches that can be used to justify compensation by pharmacists.

Other measures which can be used to facilitate reimbursement of the clinical services offered by pharmacists are identification of patient needs that require clinical pharmacy expertise, especially
Review Article

Morphine-Induced Place Preference: Interactions with Neurotransmitter Systems

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Abstract

This review gives an overview of our recent findings and developments in research on brain mechanisms of morphine reward from studies using the place preference conditioning paradigm. Intracranial place conditioning methodology has become a valuable and firmly established and very widely used tool in behavioural pharmacology and drug reward mechanisms. Several studies have established that morphine induces a conditioned preference for the place in which it has been administered in rats. Transmitter systems that have been investigated with respect to their involvement in morphine reward mechanisms include dopamine, GABA, acetylcholine, adrenalin and nitric oxide, the motivational significance of which has been examined either directly, by using respective agonist or antagonist drugs. Although, considerable evidence suggested that the mesocorticolimbic DA system, which originates in the VTA and projects to the Nac, various limbic and cortical areas is a major neural substrate of the rewarding effects produced by morphine, but the role of other brain sites such as hippocampus and amygdala also exist. Overall, our intracranial place conditioning studies showed that there are a number of receptors, neuronal pathways and discrete central nervous system sites involved in the morphine reward mechanisms.

Keywords: Morphine; Conditioned place preference; Neurotransmitters; Reward mechanisms.

Introduction

The behavioral evidence shows that opiate addiction is a complex phenomenon involving many biological and social factors (1), and was also suggested that learning and memory play an important role in the development of opiate tolerance and dependence (2, 3). Conditioned place preference (CPP), a behavioral task often used to measure reinforcing properties of drugs, has been used to measure memory or learning of simple stimulus–reward associations (4). Several studies suggested that morphine induces a conditioned preference for the place in which it has been administered in rats (for a review see [5]). In accord with previous studies (6, 7), our data indicated that morphine induced a significant CPP, dose dependently.

It seems that the mesolimbic dopaminergic pathway projecting from the ventral tegmental area to the nucleus accumbens is a critical site

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