

# The scientific validity of schedule of controlled substances

## Abstract

This study investigates the scientific validity of a predominant governing influence in the care of people with chronic pain, addictions and psychiatric disorders: Schedule of controlled substances (SCS).

**Method:** The schedule of controlled substances and two textbooks of psychopharmacology were reviewed. Psychopharmacology by Meyer & Quenzer<sup>1</sup> and Stahl's essential textbook of psychopharmacology<sup>2</sup> served as the main references.

**Results:** SCS is not sensitive to scientific objectivity, pharmacodynamics, pharmacokinetics, biological markers (latency, euphoric potency, Half elimination life, maximum therapeutic blood level, toxic blood level), route of administration, therapeutic benefits, risk versus benefit's, exclusion and inclusion criteria.

**Conclusion:** The schedule of controlled substances is not scientifically valid. Because of the sensitive dependence of treatment and quality-of life of people with chronic pain, addictions and psychiatric disorders on SCS, catastrophic consequences may occur consistent with the butterfly effect of complex systems on initial minor errors. Further studies are of essence to investigate potential adverse effects from SCS.

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Alen J Salerian

Department of Modern Psychiatry, Greece

**Correspondence:** Alen J Salerian, Department of Modern Psychiatry, 8 Zaimi, Paleo Falero 17562 Athens, Greece, Email alensalerian@gmail.com

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## Introduction

The controlled substances act of 1970 established a system by which substances with abuse potential are classified into 5 different schedules (Figure 1) (Table 1).<sup>1</sup> Schedule one substances are considered to have no medicinal value. Substances listed under schedule two to five available for medical use with a prescription from

a medical professional registered with the Drug Enforcement Agency (DEA) and has a valid license to prescribe controlled substances.<sup>1</sup> Approximately 40% of the American population or Americans with chronic pain, addictions and psychiatric disorders depend on treatments strongly regulated by laws and regulations rooted in the validity of the schedule of controlled substances.<sup>3-7</sup> This study investigates the scientific validity of the schedule of controlled substances.

Schedule	Description	Representative substances
I	Substances that have no accepted medical use in the U.S. and have a high abuse potential	Heroin, LSD, mescaline, marijuana, THC, MDMA
II	Substances that have a high abuse potential with severe psychic or physical dependence liability	Opium, morphine, codeine, meperidine (Demerol), cocaine, amphetamine, methylphenidate (Ritalin), pentobarbital, phencyclidine (PCP)
III	Substances that have an abuse potential less than those in Schedules I and II, including compounds containing limited quantities of certain narcotics and nonnarcotic drugs	Paregoric, barbiturates other than those listed in another schedule
IV	Substances that have an abuse potential less than those in Schedule III	Phenobarbital, chloral hydrate, diazepam (Valium), alprazolam (Xanax)
V	Substances that have an abuse potential less than those in Schedule IV, consisting of preparations containing limited amounts of certain narcotic drugs generally for antitussive (cough suppressant) and antidiarrheal purposes	

Figure 1

Table 1

Is SCS sensitive to science?	Yes	No
Pharmacodynamics		+
Pharmacokinetics		+
Biological markers		+
Latency		
Euphoric potency		
Half life elimination		
Blood level maximum		
Route of administration		+
Adverse events	+	
Benefits		+
Risk vs. benefits		+
Objective		+
Exclusion criteria		+
Inclusion criteria		+

## Method

The schedule of controlled substances and two textbooks of psychopharmacology were reviewed. Psychopharmacology by Meyer & Quenzer<sup>1</sup> and Stahl's the essential textbook of psychopharmacology<sup>2</sup> served as the main references.

## Results

A scientific classification of addictive substances is sensitive to scientific objectivity ,pharmacodynamics ,pharmacokinetics , biological markers(latency, euphoric potency, half elimination life, therapeutic blood level, toxic blood level), route of administration, adverse events, therapeutic benefits, risk versus benefit's, exclusion and inclusion criteria Inclusion criteria.<sup>1,2</sup> SCS does not have a scientifically valid inclusion or exclusion criteria, does not indicate why alcohol and tobacco are excluded.<sup>1,2</sup>

SCS is dismissive of Pharmacodynamics, pharmacokinetics and biological markers such as half-life elimination time, latency, euphoric potency. Examples include Inclusion of marijuana and cocaine in class one.<sup>1,2</sup> SCS is dismissive of route of administration

(by mouth, skin, air , intramuscular or intravenous injection) .For instance methylphenidate oral tablets are fundamentally different than methylphenidate slow release tablets which have potentially no overuse or addictive potency.<sup>1,2</sup> Absence of consideration of risk versus benefits is transparent in the inclusion of marijuana in schedule 1 despite its documented therapeutic benefits.<sup>1,2</sup>

## Conclusion

The schedule of controlled substances is not scientifically valid. Because of the sensitive dependence of treatment and quality-of life of people with chronic pain, addictions and psychiatric disorders on SCS, catastrophic consequences may occur consistent with the butterfly effect of complex systems on initial minor errors<sup>8</sup> further studies are of essence to investigate potential adverse effects from SCS.

## Acknowledgements

None.

## Conflict of interest

The author declares that there is no conflict of interest.

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