

## Book Reviews

**Guidelines for the psychosocially assisted pharmacological treatment of opioid dependence** (World Health Organization, Geneva) 2009. 129 pages. Price: CHF/US \$ 30.00; in developing countries: CHF/US \$ 21.00  
ISBN 978-92-4-154754-3

There are an estimated 15.6 million illicit opioid users in the world. Of them, 11 million use heroin and the use of the opioid class of drugs continues to increase globally. Injecting drug use has been strongly associated with HIV infection, accounting for 30 per cent of infections outside sub-Saharan Africa. Unsafe injecting practices are the main route of hepatitis C transmission, accounting for an estimated 90 per cent of new infections. Annual mortality among opioid dependent individuals is 2-4 per cent, 13 times higher than their non-drug using peers. Such mortality is primarily due to overdoses, violence, suicide, smoking and alcohol-related causes. Opioid dependence also has enormous economic (criminal justice services, absenteeism), personal and public health consequences.

Non availability of treatment is one of the major reasons for the majority of opioid dependents to continue illicit drug use. In many developing countries there are neither treatment services nor treatment guidelines for opioid dependence. Though various treatments, particularly opioid agonist treatment for withdrawal and maintenance, and antagonists for maintenance have been available, only a few health professionals are aware of their appropriate use. Opioid agonist maintenance treatments have gained much importance, as this interrupts the cycle of intoxication and withdrawal, greatly reducing heroin and other illicit opioid use, crime and the risk of death through overdose.

There is an urgent need for practical treatment guidelines particularly in developing countries. This book

provides evidence based guidelines for the management of opioid dependence. Its recommendation is based on a GRADE system of evidence from systematic reviews and meta-analyses. The Guidelines Development Group comprises reputed researchers, directors of treatment services and clinicians from 12 developed and developing countries, thus providing a wide perspective.

It is intended for the benefit of all persons involved in treatment of opioid dependence at multiple levels, from policy makers to clinicians to health care workers. The recommendations for action are given separately for policy makers [for development of health systems and formulation of treatment programme (minimal vs best practice recommendation)], and for clinicians [to treat the individual patient (strong vs standard recommendation)]. The GRADE system of evidence ranks currently available treatment evidence as “high”, “moderate”, “low”, or “very low”.

There are six chapters and 13 annexures which extensively cover all aspects of opioids from a medical model of illness management. Chapters one to three present the scope and purpose, method of formulating recommendations and background to the document. Chapters 4, 5 and 6 have guidelines for health systems at national and sub-national levels. The guidelines also refer to the use of the technology for safe delivery of medications like retinal screen, kiosk, *etc.* The clinician oriented chapter 6 helps clinicians to decide which drugs to choose in various stages of opioid dependence (buprenorphine vs clonidine for detoxification, buprenorphine vs methadone for maintenance, opioid agonist vs opioid antagonist for maintenance, addition of psychosocial intervention with pharmacotherapies). This chapter also contains guidelines for the treatment of overdose, a situation which clinicians often encounter in their practice. It also covers specific groups (adolescents, women, pregnancy, and lactation) and settings

(driving, psychiatric co-morbidity and polysubstance dependence). Chapter one also discusses management of pain in patients with opioid dependence.

Annexure 1 has GRADE evidence profiles for 13 clinically relevant questions including evidence for addition of psychosocial intervention to pharmacotherapy in opioid dependence. Annexure 4 covers the pharmacology of opioid pharmacotherapies. Annexure 5 covers drug interactions of buprenorphine and methadone with various other medications, especially anti-retroviral agents. Annexure 10 contains scales for opioid withdrawal, which would be beneficial for clinical and research purposes.

The book contains practical and user friendly guidelines for treatment of opioid dependence patients at all levels. It has comprehensively covered all aspects of management of opioid dependence. The guidelines provided are also beneficial in establishing deaddiction center protocols for treatment of opioid dependence as well as to government to formulate policy and monitoring. The guidelines discourage accelerated withdrawal techniques using opioid antagonists in combination with heavy sedation because of safety concerns. The minimal recommendations discourage compulsory treatment; encourage obtaining informed consent for treatment, having a chain of clinical accountability within the health-care system, proper staff training, appropriate record maintenance including pharmacy records, detailed individual assessments, urine drug testing at initial assessment, and flexible dosage policies. Best practice recommendations include making treatment accessible to all those in need including prison and closed settings, making available both methadone and buprenorphine for agonist maintenance and opioid withdrawal, alpha-2 adrenergic agonist for opioid withdrawal, naltrexone for relapse prevention and naloxone for the treatment of overdose. Best practice also advocates providing treatment within the health-care system and developing detailed, comprehensive, evidence based clinical guidelines at a country level or lower to reflect local laws, policies and conditions.

The guidelines are developed by WHO in collaboration with the UNODC and is a good initiative demonstrating the efficacy of the treatment for people suffering from the opioid dependence.

The book has a few limitations with regard to applicability in developing countries. A majority of the studies have been done in western countries and there are a few studies from developing countries, where

the burden of the opioid dependence is huge. The generalizability of practices of developed countries to developing countries is impractical because of limited trained manpower, poorly developed health systems and very poor monitoring systems. Nevertheless, it underlines the need to develop such systems in these countries. The roadblocks in implementation in such countries and ways of overcoming these could have been discussed. In recent times, combination of buprenorphine and naloxone is increasingly being used in maintenance. This combination is intended to discourage injecting buprenorphine. There is a need for evidence with regard to the efficacy of this combination and its potential to avoid diversion.

In conclusion, these guidelines are timely, well written and practical. In a country like India where the opioid problem is escalating, different health practitioners need to be aware of evidence based management of injecting opioid related complications, including overdose, co-morbidity and dependence. This will certainly be a handy document for such situations. The guidelines can be freely downloaded at: [http://www.who.int/substance\\_abuse/publications/opioid\\_dependence\\_guidelines.pdf](http://www.who.int/substance_abuse/publications/opioid_dependence_guidelines.pdf)  
[http://www.who.int/substance\\_abuse/publications/opioid\\_dependence\\_guidelines.pdf](http://www.who.int/substance_abuse/publications/opioid_dependence_guidelines.pdf).

**Pratima Murthy, N. Manjunatha & B.N. Subodh**

De-Addiction Centre  
Department of Psychiatry  
National Institute of Mental  
Health & Neurosciences  
Hosur Road, Bangalore 560 029, India  
pratimamurthy@gmail.com

**Calcium & magnesium in drinking-water - Public health significance** (World Health Organization, Geneva) 2009. 191 pages. Price: CHF/US\$ 40.00; in developing countries: CHF/US\$ 28.00  
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This book provides a review of the consensus on two major elements, calcium and magnesium in health and disease. Chapter 1 provides expert consensus on the role of calcium in osteoporosis, renal stones, hypertension and stroke and insulin resistance. It also identifies the vulnerable population at risk and regulation of excess absorption by the intestines. There is also a note on role of magnesium in hypertension, cardiac arrhythmias, pre-eclampsia, atherosclerosis,

coronary artery disease and diabetes mellitus. It also notes the epidemiological evidences in favour of calcium and magnesium in health and disease. There is a separate consensus on drinking water, conditioning of water for piped distribution, desalination, water reuse, packaged water, naturally soft water and issues on recommended maximum intake of minerals. The chapter ends with an opinion on fluoride in remineralized drinking water and key knowledge gaps and research recommendations. Chapter 2 discusses the global dietary calcium intake and allowance. The major limitation in this chapter is the lack of citation of published data from India. The chapter also gives an overview of approaches to establish recommendations for calcium and magnesium and makes an effort to define the upper limit of intake of these minerals. Chapter 3 is on the mineral composition of water and its contribution to calcium and magnesium intake, and discusses the ground water status of various parts of the globe, as also the quality and minerals in bottled water. The section on water loss, water intake and dietary source of water is very interesting.

Identifying magnesium deficiency is a diagnostic dilemma (Chapter 4) as the serum magnesium concentrations are poor predictors of cellular magnesium. Though the definition of magnesium deficiency is simple, it is complicated by availability of clinical tests. Chapter 5 deals with clinical and experimental aspects of magnesium deficiency. Clinical aspects of hypomagnesaemia in hospitalized patients and in susceptible individuals are discussed. This section discusses the diverse symptoms of hypomagnesaemia and the lack of its specific symptoms and signs. Then it deals with the animal studies on dietary magnesium deficiency. The roles of magnesium as an essential element in cardiac and vascular functions are discussed in chapter 6. Epidemiological studies linking hypertension and cardiovascular diseases with “soft water” and its protection by the use of “hard water”, hypertensive patients who are hypomagnesaemic requiring greater number of antihypertensive medications, role of magnesium in pre-eclampsia are highlighted. Magnesium deficiency accelerates the components of atherogenic process in animal models by activating several transcription factors. The role of magnesium in vascular spasm and ischaemic heart diseases and related experimental studies are highlighted in chapter 7.

Health significance of calcium and magnesium in human studies are dealt in chapter 8. The calcium

intervention studies done in Cox’s Bazaar district of Bangladesh is a good example supporting the evidence that even lowest supplementation was useful in supporting normal bone development. While a lot of published literature is available on the dietary calcium intake in Indian population, this has not been represented. The series of calcium and magnesium balance experiments 1-4 is a highlight of this chapter.

Role of calcium and magnesium in drinking water in relation to bone metabolism is discussed in chapter 9. Bioavailability of calcium and magnesium in water, its absorption, and effect of high mineral water on bone metabolism are presented in a lucid manner. The importance of vitamin D in bone health and its interactions with an environmental toxin - fluoride has not been stressed. This is a major problem in developing countries like India, where there is no regulated drinking water supply. The consequences of low calcium and bone mass are of major importance as it causes more morbidity in the form of muscle weakness and fragility fractures.

Chapter 10 discusses the epidemiological studies and association of cardiovascular risks with water hardness. The first part of this chapter helps the reader understand the epidemiological studies and their designs to understand the possible benefits. This section also deals with type of epidemiological investigations, their strengths and weaknesses. The section on web of causation of disease helps the reader to comprehend the various factors in the causation of a disease. The second section reviews various epidemiological evidences that associate water hardness and cardiovascular diseases. Here the epidemiological studies are classified in different periods historically as ecological studies, case control studies, cohort studies and concludes with meta-analysis of epidemiological studies. Chapter 11 dwells on the gaps in knowledge and alternative interpretation of mechanisms relating to health, the effects of low and high mineral drinking water. The concluding chapter deals with water production, its technical issues and economics, and various treatment practices. The section on home water industry is very enlightening. This book is strongly recommended for all those who deal with mineral metabolism namely calcium and magnesium in health in disease.

**C.V. Hari Narayan**

Department of Endocrinology & Metabolism  
Sri Venkateswara Institute of  
Medical Sciences  
Tirupati 517 507, India  
cvhari5endo@rediffmail.com