



Addiction, Co-morbidity and Chronic Disease Management

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Addiction [Drug Dependence] is now generally regarded as a disorder of brain function caused by an interaction between genetically mediated vulnerability, acquired drug-related changes to the brain (e.g. diminished frontal executive functions) and psychosocially determined factors (e.g. drug availability, peer and family influences etc.) essentially implying a bio-psycho-social etiology[1]. The lifetime population prevalence of Drug Addiction in most countries is reported around 5%; most people who develop Drug Addiction do so during the second or third decades of life; the prevalence of other mental disorders within this population is reported to be around 80% and for most patients, the condition has a chronic relapsing and remitting course[2]. From a population health perspective, these factors together indicate the need to have effective strategies to both prevent and most appropriately clinically respond to Drug Addiction. An increasing research focus on neurobiological processes in Addiction has led to an expansion of pharmacological treatments and medical interest in this condition. Many patients with Drug Addiction will also develop significant chronic medical problems as a consequence of their Addiction; for example, a smoker who is Nicotine Dependent ["addicted"] is likely to develop at least some degree of lung disease and many Alcohol Dependent patients will develop related liver disease. The aging population of patients with Addiction and related co-morbidities will also present challenges previously considered as outside the usual scope of Addiction Medicine practice including assisting with patients with end of life decision making ("I prefer to keep drinking/smoking" etc.) and collaborating with Palliative care service providers.

In the developed world, people are living longer (ageing population) and medical technology (e.g. dialysis), techniques (e.g. transplantation) and therapeutics (e.g. disease modifying drug treatments like anti-retroviral drugs converting HIV/AIDS into a chronic disease) and together these factors are impacting on the shape of future medical practice. The presence of some disease is also an inevitable eventual consequence of aging itself and thus, within the currently ageing population who already has Drug Addiction, it is likely they will have a higher probability of co-morbidity (and polypharmacy). Drug Addiction can lead to drug-related disease causation (e.g. Alcohol and cirrhosis of the liver, Tobacco and COPD etc.), can act as a 'disease exacerbating factor' whereby co-morbidities are worsened (e.g. continued alcohol use leading to liver failure) and also as a 'treatment mitigating factor' whereby management of co-morbidities is rendered less effective due to poor engagement in treatment and likewise poor adherence to necessary medications.

The medical management of Addiction that is co-morbid with multiple physical and mental disorders poses difficulties for clinicians because such patients often have problems with medication adherence and commitment to necessary medical, psychiatric and other "lifestyle" interventions. Wagner has described an approach to the medical management of patients with chronic disease which became referred to as the "Chronic Disease Management" (CDM) model and since then, a number of other similar models have evolved[3,4,5]. One of the favorable aspects of the CDM model is that this approach involves utilizing evidence-based treatments applied in a framework that can be better coordinated between the patient and the various health practitioners involved. However, much of the published work on CDM has focused on single chronic disease models (e.g. diabetes care) and

little work to date has been written about managing co-morbidity and far less about Addiction with co-morbidity[6,7].

Managing Drug Addiction with co-morbidity arguably requires the clinician principally focus on the Addiction before tackling the other disease states; this is because patients with Addiction often demonstrate salience of drug use above most other competing daily priorities. Indeed, this aspect is reflected within the DSM IV and ICD 10 diagnostic frameworks for drug dependence/addiction[8,9]. It is likely that even with the best available medical/psychiatric treatments; a patient with Addiction with co-morbidity is unlikely to gain optimal benefit from such treatment unless the Addiction itself is addressed as a principal disease driver/exacerbating factor which mitigates against optimal disease management.

At this point in time, most Drug Addiction treatment research has focused upon the management of the Addiction itself and hence, it is likely that many clinicians are currently providing such evidence-based treatment within a single disease management approach. It would be reasonable to assert that in many Drug Addiction treatment clinics, the principle service/s provided focus on the Addiction itself and those significant co-morbidities are often responded to by referring that patient elsewhere. This can sometimes result in unintended complications to a patient's treatment plan unless meticulous attention is given to the coordination of that patient's total care (i.e. Integrated Care). As an example of some concern, when a patient under treatment for Drug Addiction is also being treated at a psychiatric service which, for instance, might prescribe sedatives or stimulants (e.g. benzodiazepines for sleep or anxiety, dexamphetamine for suspected ADHD etc.) which are not endorsed by the Addiction treatment program; under such circumstances, clinicians in both treatment service providers will need to find agreement on treatment priorities, but as in other avenues of clinical practice, opinions on treatment approaches can vary. Increasingly however, the need for an integrated care approach is becoming realized, particularly so in the area of Hepatitis C treatment provision where it has been shown that treatment delivered within the context of Addiction treatment (e.g. at the Methadone Clinic), is associated with better outcomes[10]. The same might be argued about delivering treatments for other common, co-morbid chronic diseases in a Drug Addiction patient population.

Finally, there is now a need for improved undergraduate and postgraduate medical education that informs about Drug Addiction as a chronic, relapsing and remitting disease with analogies drawn to

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Diabetes and Cardiovascular disease, whereas today, the view of Drug Addiction as a primary deficiency in a patient's "will-power" is still far from rare both in the community and worse, among many health professionals. Understanding Drug Addiction as a chronic disease is likely to help encourage the future medical workforce to better accept the need for a focus upon management practices that address chronicity and when Drug Addiction presents with co-morbidity, management practices that are appropriately integrated.

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