



International Journal of Ayurveda and Traditional Medicine

The Growing Problem of Interlaced Ayurvedic Medicine in Nepal.

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Dear Editor,

According to the World Health Organization (WHO), about 80% of the population in developing countries depends on the traditional medicine system for their primary health care needs.¹ Countries with ancient civilizations – like India, China, Brazil, and Egypt – are the biggest contributors to the trend towards herbalism. However, the growing influence of the “green trend” in developed nations like the US and Germany cannot be denied. Nearly 20% of adults in the United States report taking an herbal product in their lifetime.²

About 75-80% of the population of Nepal reports using Ayurveda for various minor as well as major ailments.^{3,4} The domestic popularity has led to an outpouring of investments into the Ayurvedic industry. The domestic Ayurvedic market, in the year 2018, grew at the rate of around 45 percent. In the year of 2018, 78 Ayurvedic drug manufacturing companies had obtained licenses while 44 Ayurvedic companies were in operation.⁵ The number seems staggering, especially when equated with the number of registered domestic pharmaceutical industries which totaled to 78 till 2018. Domestic Ayurvedic factories produced medicines worth Rs 15 billion (approx. \$125 million) in the year 2018.⁵

The ungoverned unruliness of some Ayurvedic medicine offers many teething troubles to the global prospects of Ayurveda. Among many others, the largely uncared and unreported remains the problem of interlaced medicines. Some of the Ayurvedic medicines are known to contain heavy metals, specifically mercury, lead, and arsenic⁶, the

issue is mainly with the Ayurvedic products that are not following the GMP and GLP guidelines.^{7,8} The synthesis and purification of these heavy metal drugs have been described in the ancient Ayurvedic text of “*Rasa Shastra*”.⁹ However, an even bigger problem seems to be rearing its head in the context of Ayurvedic medicines in Nepal – the problem being the interlacing of Ayurvedic medicines with allopathic drugs. The article is aimed at uncovering such drugs.

The Growing Problem of Interlaced Ayurvedic Medicine in Nepal:

The findings presented in this article are not through laboratory analysis of herbal drugs but through an expert clinical examination of patients actively intaking the aggravating drugs. This article in no way tries to undermine the effectiveness of laboratory analysis in delineating the chemical compounds present in the arguments presented below – the author rather urges the respective scientific, legal, and medicinal community to scrutinize the points presented. The author came to know about these drugs through the patient party and was never complicit on the act of prescribing these drugs. The list has been created with a pilot market survey done at the level of various Ayurvedic pharmacies. The profiles for each offending drug will be presented in a separate sub-topic.

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1. **Shady Ayurvedic beauty creams:** Some beauty creams claim to cure melasma, blemishes, and wrinkles in the name of Ayurveda. The label claims of these cream claims admixture of various known Ayurvedic formulations. However, the side effect profile of these creams shows similarity to a well-known drug for melasma – Hydroquinone. The primary adverse reaction being photosensitivity which nearly every user experiences. However, it does not mean all Ayurvedic beauty creams are to blame. These beauty creams and the various other drugs listed below have one feature in common – they are not registered under the Department of Drug Administration (DDA), Nepal. There were few cases of irresolvable blackish-bluish pigmentation of the skin (Ochronosis) on long-term use of the cream.¹⁰

2. **Miraculous Aphrodisiacs:** Some aphrodisiac formulations found in the market claim to cure the loss of libido rather miraculously. The label claims to combine *Ashwagandha* and various other known Ayurvedic formulations. The effect profile of the “drugs” matches that of Sildenafil citrate – users report penile erection post intake of medicine which usually subsides within the marketed half-life of sildenafil (4-8 hours).¹¹ From clinical history, the drug shows various similarities to sildenafil.

3. **Away with alcoholism:** Various powdered medicines claim to “cure” alcoholism. When associated with alcohol intake these drugs cause violent retching and vomiting. The effect/adverse effect profile of these drugs is comparable to Disulfiram or Metronidazole. Based on clinical history it is most likely that most of these drugs contain Disulfiram.¹²

4. **Against anorexia:** Various medicines are marketed as a solution to emaciation, weight loss, and anorexia. The effect profile seems similar to Cyproheptadine – in that it causes urges towards bulimic eating. The side effect frequently encountered in users is that of lethargy and somnolence. These effects and adverse effects seem well-matched to Cyproheptadine.¹³

5. **Analgesics and Anti-Dyspneic:** Some adulterated drugs claim to miraculously and instantaneously cure pain and dyspnoea. Upon clinical examinations of long term users, the effect/side effect profile of these drugs is comparable to that of corticosteroids. The author again would like to differentiate authentic Ayurveda to these formulations. A careful eye and a glance over at the DDA registry will help practitioners in delineating these formulations.

The Problems Associated with Interlaced Drug:

The problem associated with the aforementioned drugs can be manifold. These drugs are primarily prescribed over the counter (OTC) and can provide tremendous difficulty in regulation. These drugs rely on the benefit seeking behavior of the patients all the while down-grading the actual importance of seeking the help of medical professionals. This can lead to an exaggerated side effect profile in the users of the aforementioned drugs.

These drugs are overpriced compared to their allopathic rivals. Prices are gouged three to five times and invariably the producers and sellers aim to make quick money. Also, since these drugs are neither authorized nor registered they can lend towards the heavy economic and health burden of the country.

Solutions and recommendations:

One of the main driving factors behind the prescription of these drugs seems to be the underfunded health infrastructure. If health care facilities are made more accessible this would shift the health seekers towards mainstream medicine. Secondly, the largely unregulated sector of OTC and Ayurvedic medicines needs more attention from the governmental side. Thirdly, health information needs to be made more accessible to the general public which in essence pushes patient parties towards the rational use of OTC drugs.

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Conflict of Interest: None Declared

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