

Comparison of Medicinally Important Natural Products versus Synthetic Drugs-A Short Commentary

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Abstract

Nature as inspired human beings since time immemorial and every member of human race, irrespective of origin and religion, keeps nature at an esteemed place. It is a common belief that everything that occurs in nature has beneficial effects as compared to products of anthropogenic origin. The medical profession is as old as the human history and so is the history of medicines. In current era, with advancement in medical science, the intensity of diseases has also increased. New medicines are being developed for the treatment of complicated diseases but these medicines are themselves associated with a number of side effects that range from minor to severe intensity. The medicines from nature on the other hand appear to be more effective than the synthetic counter-part.

This short commentary deals with comparison of synthetic drugs and the drugs from nature with special emphasis on extent of side effects associated with both categories.

Keywords Synthetic drugs; Natural drugs; Holistic therapy

Introduction

For a long time, herbal treatment or folklore medicines were widely used for the treatment of many diseases in many countries (both developed or developing). In 18th century native healers, midwives, herbalists and mostly women used only herbal medicines/spices for the treatment of many diseases. With the passage of time, with advancement in the field of medicines, synthetic medicines gradually started replacing natural medicines irrespective of the fact that former have some side effects as well. Although many synthetic medicines are serving humanity and are in good practice but still many medicines are reported to have severe side effects [1]. Most of the common medicines like Aspirin, Clopidogrel, Diclofenac, Enoxaparin, Ibuprofen, Naproxen and Warfarin are available over the counter and are associated with minor (back pain to headaches) to serious side effects (excessive bleeding, hemorrhage and difficulty breathing, etc.) [1]. Herbal medicines are phytochemical compounds used for the treatment of many diseases. Herbs have active ingredients which act as drug e.g. opiates [2] (used for reduction of pain, sedation), digitalis [3] (acts against heart failure and some abnormal heart rhythms) and taxol [4] (anticancer). Some medicinal plants showed antioxidant activity. Infact a number of herbs are reported with diverse medicinal effect and are used in practice now days as well.

Herbs/medicinal plant/homemade remedies are less expensive than the synthetic drugs and majority peoples in rural/backward area have blind faith on them. They are right because they can treat any disease by using them without any lethal side effects. Homemade remedies are not only useful for the treatment of different diseases but are also widely used for enhancing beauty and for curing skin related issues [5].

On the other hand, synthetic drugs synthesized by employing different methodologies in the laboratory and these are the medicines which are not found in nature. Although herbal medicines are less potent in comparison to synthetic drugs in some cases but still these are consider less toxic or having less side effect in contrast to synthetic drugs. The ultimate norm for any medicine (human made or natural) is their nontoxicity, effectiveness, specificity, stability and potency. Herbal drugs are useful in deliberated holistic therapy for cure of almost all ailments. Keeping this in view, now many chemists switching theirs field from synthetic to natural side in order to explore nature more and more.

Synthetic drugs not only cure disease but also causes severe side effect to human body. A lot of examples reported in literature which is related with the side effects cause by the synthetic drugs e.g; Paracetamol is well known antipyretic drug but it can also cause liver poisoning as major side effect [6]. Naproxen causes gastrointestinal side effects [7]. Ibuprofen is another antipyretic drug which causes nephrotoxicity [8,9] including renal failure when given to volume depleted children [10].

Not only herbs but also spices including turmeric, cloves, cinnamon and chilies may possess some medicinal effects to human body. For example turmeric contain curcumin which is potentially active against many diseases e.g. inflammation, depression, pain, arthritis, skin diseases etc. [11].

In conclusion everything created by the God on this earth has some positive effect in contrast to human made thing/medicines. Instead of looking synthetic drugs for the cure of any disease, we must consider natural drugs which can reduce the side effects, toxicities of synthetic counterparts and will maximize therapeutic consequences with most effective and dynamic healing effects.

Many diseases cured by the synthetic medicines but these medicines not only cure disease but also imparts bad side effects to the human body.

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