



Concept of Integrated Drugs Development

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Abstract

Drugs are an integral part of treatment in health care, it is a belief that the drugs should be free from side effects should be safe and not to create any disease. The chemical or allopathic drugs which are having some side effects may be combined with Ayurveda herbal drugs to pacify their side effects or bring to minimal level.

Another aspect is that the Ayurved herbal drugs are slow and weak in action, but quite safe, on other side the allopathic drugs are comparatively fast, bit strong but with some side effects. If these two are combined like an example of anti-diabetic allopathic drug metformin which is most prescribed. The Metformin is having some side effects like diarrhoea, metallic test, loss of appetite etc., on other side ayurvedic anti-diabetic drug Andrographis paniculate may be a safe combination as Andrographis has protective effects on gastrointestinal tract also. Such integrative approaches will be an ideal in developing integrative potential and safe drugs. This strategy will work effectively and may find an innovative solution for lifestyle related diseases.

Keywords: Integration; Ayurveda; Natural; Herbal; Side Effects

Background

Integration is the conglomeration of different sciences, technologies, processes etc. to give best productive and useful output in desired forms. This saves time, efforts and brings together many intelligent minds enhancing innovation. Integrative approach and practices are the necessity of present time almost in all fields and in many fields, these are working excellent giving fruitful results, this is truer in technological sciences but not in medicine, rare examples may be observed. For integration there is lot of scope in health care sciences as health care field is varied in nature and involvement of other essential sciences will boost the health care benefits to masses and research will be more productive and cost effective. The integration may be different in health care subjects like education, services, pharmaceutical sciences, research etc [1-5]. In

India the Ayurveda single or compound material used in medical treatment comes under drugs category but same is considered as health supplements in America and European countries. Some health supplements are in integrative in nature but not drugs. China is bit ahead in integration of health care services and education but is in initial phase [6]. This article is in reference to development of integrative safe and effective drugs.

Introduction

There is a great scope in health care sciences particular in drug development for developing safe, effective integrated drugs. The fact is that mostly chemical - allopathic drugs are fast acting at the cost of adverse reactions and some toxicity also. The Ayurveda, herbal, and natural drugs are slow in action but if taken standard-authentic, in properly

prescribed doses, duration and along with Anupan - vehicle drugs like honey, water, milk etc. they are safe and without any adverse reactions and toxicity, on the contrary in some cases side benefits are seen like the Commiphora Mukul-Guggul is taken for arthritis that will give relief and in some cases cure along with reduction in raised cholesterol [7-9].

Material and Methods

The Integration of Traditional medicine, Ayurveda and Chemical-Allopathic effective drugs with safety and toxicological studies will be a developmental milestone in health care sciences. This will be an excellent, effective, safe, and cost-effective solution for many diseases in particular lifestyle and metabolic diseases. The material is identification of some commonly used allopathic drugs having side effects and identification of ayurveda herbal drugs having counter pacifying action against side effects of allopathic drugs. The method to be adopted is to design a safe formulation of some allopathic and ayurvedic drugs, to decide doses and forms like tablet, powder, syrup etc. After this validation for clinical efficacy and safety studies as a precautionary measure. Let us see what combination of drugs from two diverse sources like Synthetic chemical and other natural traditional one to form an ideal integrative drug.

- Most used allopathic drugs are from analgesic and antipyretic groups, among this Acetaminophen-Paracetamol having side effects like skin rash, diarrhoea, nausea or vomiting, and long term use may damage liver function etc [10]. To counter this Zingiber officinal – Ginger extract and Picrorhiza kurroa may be combined in suitable quantity to develop integrative drug [11-13].
- Antibiotics are used frequently in infectious diseases mostly having side effects like diarrhoea, loss of appetite, bloating, indigestion etc [14]. Counter these suitable selected Indian spices [15] may combined in suitable proportion to have safe integrative drug.
- The Statin groups medicines are used for hyperlipidemia, these are having headache, sleep problem, feeling sick, and dizziness etc [16]. To counter these side effects a classical Ayurved drug like Manasmitra vatakam [17] or Ashwagandha [18,19] may combine in suitable proportions to pacify side effects of Statin drug.
- Acidity is a widespread problem among workers working in shifts, in India most common allopathic antacid drug consumed is Gelusil [20] having side effects like constipation, diarrhoea etc. In long term use possibility of developing Schizophrenia due to Aluminum hydroxide [21,22] as one of the ingredients. To counter this Manasmitra vatakam [23] a classical Ayurveda drug or another classical drug Kamdudha [24] may be combined in suitable proportion to pacify the side effects of Gelusil.
- In oncology lot of development has happened in all

aspects, newer and newer drugs are in practices with short cycles but not without side effects. Some Chemotherapeutic drugs are quite toxic having more side effects affecting the immunity and quality of life in cancer patients [25]. To counter this, safe, effective, standard Ayurved or herbal immunity enhancer drugs [26,27] may be combined with chemotherapeutic drugs or may be advised as add on drugs.

- Radiotherapy is another essential treatment measure in cancer treatment, this is hazardous to patients' health affecting quality of life and immunity [28]. In this regard proved ayurvedic drugs may have valued as radiation protective drugs [29].

Some examples to potentiate and safe integration of drugs.

- The Diabetes has become a common lifestyle related disease worldwide about 537 million [30] people are living with diabetes and day by day the percentage is increasing.
- There are many potent allopathic drugs one of them is Metformin, if this is combined with ayurvedic herbal drug like Gymnema Sylvester [31] the resultant integrative antidiabetic drug will be more potent and safer.
- In Ayurved there is a tradition of adding bio-enhancer [32,33] in some drugs to enhance the action of original drugs, generally these are spices like Piper nigrum, Piper longum etc.
- The Indian Council of Medical Science has conducted clinical studies and proved that, adding of herbal bioenhancer increases the potency and absorption of drugs. This practice is to be adopted in wide for many suitable drugs to reduce the dose, enhance action time and absorption to potentiate the drugs.

Result

Integrative drugs development, Allopathic and Ayurveda Herbal combination may be a new avenue in drug development and a viable solution to minimize or pacifying side effects of drugs. Presently in India and adjacent countries the treatment with Allopathic and Ayurveda drugs are in practices with separate prescriptions by qualified integrated doctors. Adding of bio enhancer in some suitable drugs will have the positive effects. There is a need to develop integrative drugs.

Conclusion

The few examples quoted for development of integrative drugs are just symbolic; such strategy may be adapted for many diseases. This field is new required a teamwork involving Pharmaceuticals, Research institutes, Hospitals, and government bodies.

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