

# The Role and Impact of Multidisciplinary, Integrated Approach in Health Care Delivery

Malagi K.J. and Kamath M.

Department of Ayurveda, Kasturba Medical College, Manipal University, Manipal, Karnataka, India

Publication Date: 9 February 2016

Article Link: <http://medical.cloud-journals.com/index.php/IJAAYUSH/article/view/Med-284>



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**Abstract** Enlightening the capability of health care systems to answer to the public demands of all ages is one of the greatest challenges of our time. This is the right time to think over multidisciplinary, integrated approach in health care delivery. To study the role of multidisciplinary, integrated approach towards the effective healthcare delivery based on systematic reviews. Survey Technique using empirical, cross-sectional method. Randomized control study with Literature review from January 1996 to December 2014.around 200 articles with key words Multidisciplinary, integrated, CAM, and health care delivery using electronic databases. Multidisciplinary, integrated health care delivery having their own strength and weakness. Integrated multidisciplinary medical care may provide a cost effective quality care with the patient centric approach.

**Keywords** *Multidisciplinary; Integrated Care; CAM; Health Care Delivery*

## 1. Introduction

### 1.1. Background

Medical Science is a combination of both diagnostic tools and treatment modalities. Ageing population, lifestyle as well as non-communicable diseases is a big challenge to the health care professionals [1]. The same can be observed in patient care and teamwork of multidisciplinary professionals and integrated approach [2], and the present day health care system requires a multidisciplinary approach plans which involves literature review, evidence based studies [3 ,4] by integration of conventional ones with different systems of medicine like Ayurveda, Tibetan, Chinese and advanced scientific disciplines like nanotechnology, pharmacogenomics, chronopharmacology, reverse pharmacology, proper use of information technology etc. Accreditation and legal bodies must work on implementation of proper Quality Polices in various levels from manufacturing and marketing of pharmaceuticals to health care delivery.

## 1.2. Objective

To study the role of multidisciplinary, integrated approach towards the effective healthcare delivery based on systematic reviews.

## 2. Materials and Method

Survey Technique using empirical, cross-sectional method.

### 2.1. Study Design

Literature review done by screening of literature from January 1996 to December 2014. Various articles like review, research, protocols, articles in various health care journals ranging from medical, nursing and pharmacy, health care management journals. Along with Dissertation, conference proceedings and abstracts pertaining to the health care management especially in the multidisciplinary integrated area [5, 6], using electronic databases like Medline, CINAHL, Cochrane Library, Ovid SP, Research gate, and Web of Science.

## 3. Observation

As we are in the era of globalization, patients are consulting their family or general physician not only for medical help, also for kindness and moral support and standard care delivery, reduced number of prescribed drugs and shorter period of medication, less painful as well as noninvasive surgical operations and diagnostic tools, short period of hospital stay etc. For all these we are supposed to pay tribute to advances in science and technology, which deliver health care more affordable and easily available. The multidisciplinary, integrated approach will help to deliver standard, quality and holistic health care. Scientific advances in the fields of Nanotechnology, Chronopharmacology, Genetics, and Reverse Pharmacology play a vital role in advances in medical knowledge.

Multidisciplinary care involves various scientific advances for preventive, curative and promotive aspects of health. Nanotechnology plays a significant role in everyday life in areas like Chemistry, Medicine, Electronics and Communication. Nano particles (Nano crystals) may be used to develop devices like diagnostic tools and dosage forms ranging from 1 to 100 nm. There are many evidences available regarding usage of Nano technology to prepare metallic preparations in Ayurvedic system of medicine in India like Swarna bhasma which is therapeutic form gold ash with particle size 56nm and possess anti stress activity [7]. While Tamra bhasma or ash of Copper is having antioxidant property [8]. Nano technology and Nano particles like Silver Nano particle helps in the management of multi drug resistant bacteria [9]. Nanotechnology also plays vital role in Nanomedicine, Nanopharmaceuticals, Cosmeceuticals and Nutraceuticals. One more emerging discipline in the medical field is chronopharmacology. The main objective of Chronopharmacology is Auto induction and Auto inhibition [10] which plays a vital role in drug optimization. It deals with drug effects like chronokinetics, chronodynamics with rhythm and function of the biological clocks [11], and maintains standard drug delivery in disease conditions like Myocardial infarction, Asthma, Peptic ulcer, and Mood disorders, etc. For instance, in peptic ulcer like disease condition H<sub>2</sub> antagonists are suggested at bedtime as the rate of gastric acid secretion level is more at night, while gastric emptying is also slow at night [12]. It also influence disease manifestation and its treatment [13], it can be a safe and well-organized disease management in the future [14]. In gist scholars from various medical fraternities like biology and pharmaceuticals, clinicians must be aware about Chronopharmacology, and about importance of Chronobiological cycles [15]. From the period of Gregor Johann Mendel evolution on science of genetics, Genetics reveals the many unknown facts of

disease cause to treatment. Now, genetics potentials are much more involved in common disease. Revolution in Medical genetics, the super specialty discipline of medicine contributes to the diagnosis and management of hereditary disorders, like metabolic disorders, galactosemia, cancer etc. Genomics is fast growing basic science of medical research [16]. Recent study reveals that Pharmacogenomics may reduce the Adverse Drug Reactions [17].

One more area to focus in health care delivery is Integrative approach. It has been observed that the use of CAM and its components is more common in both developed and developing countries. Influenced by the preoccupied thought that they are beneficial and safe, and economical.

There are hundreds of complementary and alternative therapies that exist in the world today, most popular and commonly used ones are traditional Chinese medicine, Ayurveda, Reiki ,Mind-body techniques, meditation, electromagnetic-based therapies, Massage therapy , Reflexology, and hypnosis. These are habitually optional ones in life style disorders like coronary artery disease, diabetes, asthma, arthritis, stress and pain.

The complementary and alternative medicine is one which is not taught widely at U.S. medical institution [18] But today it get attention as it is massive and rapidly growing industry, in which major pharmaceutical giants are now participating [19]. It shows the potency of CAM users as a complement [20, 21]. The term “CAM” has been substituted progressively with “integrative” medicine. The CAM has their own philosophies for an example Prakruthi, a unique concept of Ayurveda, which represents body constituent of individual [22] can be solved by using tools like molecular genomics.

There are two main CAM modalities which survive since the beginning of human civilization are massage therapy and herbal medicine. The main issue and the need of the present day CAM is uniform standardization of both conventional and traditional medicines. We must look into the ‘CAM’ and its components which have their own philosophy which requires scientific evaluation.

Massage therapy is one of the most widely used complementary and alternative medicine (CAM) therapies in the US [23]. It helps with hypertension [24] backache [25], dementia [26] etc.

Large local and tribal population uses Herbal medicines for various ailments like Jaundice, asthma, gastric ulcer etc. [27]. Even WHO shows great interest in documentation and promotion of herbal products [28]. Alternative systems of medicines like Indian, Tibetan, Chinese traditional systems of medicines use mainly drugs of herbal origin. It has been observed since last two decades, there is a significant rise in the use of natural products [29, 30] especially the herbal ones [31]. Both healthy individuals and patient take these products in combination with prescribed drugs without any medical knowledge. This may result in herb drug interactions. [32]. For instance. Aspirin, A NSAID, processes interact with Garlic.

#### 4. Results

The strength of the Multidisciplinary, integrated approach is quality health care delivery to give Holistic approach ,while weakness is lack of awareness about these philosophies principals and issues like herb –drug interaction etc.

#### 5. Discussion

There are many initiatives that have been introduced in the past three decades to improve quality health care delivery and patient care Multidisciplinary, integrated health care delivery facilitate the

Evidence based clinical exercise and encourage patient centric care .It also requires management support, While the main drawback are consumption of money [33, 34] and time, the laws of land, interpersonal politics etc. The multidisciplinary, integrated approach is a combination of skilled people of different discipline which is a highly articulated interdisciplinary, team of conventional medicine and complementary and alternative health care that deliver patient centric quality health care [35]. The institution or set up or the health care professional must be aware of the research and development in various scientific advances [36], in areas like Regenerative medicine ,Genetics ,Nano technology, Chronopharmacology etc. and take initiative for, proper strategic level planning and coordinating the various disciplines by giving proper direction to deliver integrative approach by keeping in mind the Doctor – Patient relation , quality health care delivery as well as patient satisfaction [37,38].

## 6. Conclusion

It is observed that deprived inter professional teamwork may negatively influence, or affect the health care delivery. This is right time to compare the effectiveness of various disciplines and their cost and their role in quality Integrated health care delivery. Multidisciplinary Integrative Medicine is meant to provide the best possible health care in particular demographic area, for both the doctor and the patient, by creating the golden triangle of traditional medicine, modern medicine and modern science. The big challenge that lie before us is, how achievements of advanced conventional medical system and CAM can be used to prevent and cure the diseases by understanding the disease pattern, molecular genomics, DNA sequencing etc This may be achieved by carrying out integrated research. It is quite observed in our earlier circumstances, which did not permit us to take up the studies on multidisciplinary integrated health care delivery, but inherent passion of scientific folk enabled us to achieve the highest level by proper strategy planning of the Ideology to meet the challenges, results in reality, into opportunities.

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