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# New Perspectives in Medical Practice: The Psychophysiological Approach of Maharishi Ayurveda

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## Abstract

*Recent exploration of Ayurvedic medicine by the Maharishi World Center for Ayurveda, the World Health Organization, and other institutions suggests that this traditional system of health care has much to offer in the treatment and prevention of diseases. The recent reconstruction of Ayurveda known as Maharishi Ayurveda, which includes the Transcendental Meditation technique, is particularly amenable to scientific research. Clinical applications of Maharishi Ayurveda include (1) improvement of compliance in change to a healthier lifestyle, (2) cost-effective management programs for disorders that are currently difficult or expensive to treat, (3) identification of risk factors and incipient pathology, (4) prediction of therapeutic response to modern drugs and to Ayurvedic and other traditional procedures, (5) prediction and avoidance of adverse reactions to drugs and other interventions, (6) avoidance of trial and error in diagnosis and treatments, (7) establishment of a more physiologically sound basis of modern therapeutics by improving physiological response to disease and eliciting natural self-repair mechanisms, and (8) development of a more effective and sophisticated system of psychological medicine.*

*The use of Maharishi Ayurveda for prevention and management of disease has resulted in over 50% reductions of both medical and surgical health care utilization. Biological age is reduced by about 5 years for every year of application of these procedures, major risk factors for coronary artery disease are substantially reduced and in many cases eliminated, and the major factors associated with longevity are increased.*

This paper was presented at the conference "New Perspectives in Medical Practice," held on August 29, 1987, under the auspices of the Postgraduate Committee of Medicine, University of Sydney, Australia. The conference introduced Maharishi Ayurveda to members of the medical profession unfamiliar with it and presented a series of physicians' training programs for the incorporation of Ayurveda into standard medical practice. This paper addresses the gaps in standard medical practice that are filled by Maharishi Ayurveda, rather than the content of Maharishi Ayurveda itself.

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In the past ten years, the World Health Organization (WHO) has issued a number of reports on the use of Ayurveda in public health systems (Bannerman, Burton, & Chen Wen-Chieh, 1983; WHO, 1978; *Traditional Medicine*, 1977; Ed Djukanovic & Mach, 1975). Extensive research on Ayurvedic methods of treatment and prevention is now under way not only in India, the source of Ayurvedic knowledge, but also in Europe and the United States.

While Ayurveda, as practiced throughout India in modern times, is clearly in a fragmented and incomplete state, the last five years have seen the reconstruction of the original unfragmented character of Ayurveda in modern scientific terms. The founding figure in this achievement has been Maharishi Mahesh Yogi, recognized by the most senior levels of India's Vedic tradition as the foremost exponent and restorer of the ancient knowledge of Vedic Science. The basis of Maharishi's revival has been the reconnection of Ayurvedic principles and practices with their foundation in the knowledge of the unified field of all the laws of nature, which was known to the ancient founders of Ayurveda as a field of consciousness (Maharishi Mahesh Yogi, 1986; Chandler, 1987).

Some of the most significant features of Maharishi's work have been his emphasis on (a) a rigorous scientific approach to every aspect of Ayurvedic knowledge and practice, and (b) the integration of Ayurveda with modern medical practice. In these, Maharishi has been assisted by a number of India's foremost Ayurvedic scholars, notably Rajvaidya Brihaspatidev Triguna, President of the All India Ayurveda Congress; Balraj Maharshi, Adviser on Ayurveda to the Government of Andhra Pradesh; and Dr. V.M. Dwivedi, one of the foremost authorities on Ayurvedic pharmaceutical methods; as well as by government health departments and researchers in both modern and traditional medicine in other parts of the world. By general consent, this revival of Ayurveda in its complete form has been called Maharishi Ayurveda in recognition both of Maharishi's work and of the true place of the science of health as an integral part of the complete Vedic understanding of the functioning of natural law.

The reasons for the recent upsurge of clinical and research activity on Maharishi Ayurveda have to do with the nature of current challenges to modern medicine, together with the growing evidence that Ayurvedic medicine may offer solutions to therapeutic problems that have so far resisted existing approaches.

In particular, diseases related to aging, abnormalities in lifestyle, degenerative processes, and psychosomatic factors appear to be treated with confidence and success by Ayurvedic physicians, even when they have proved refractory to modern medical treatments.

Other valid motivations for the current interest in Ayurveda include the following:

1. In both developed and developing countries health care costs have reached unacceptable levels. The examination of the large, well-developed and sophisticated system of Ayurvedic medicine offers cost-effective solutions to health problems that have resisted expensive high-technology approaches. The number of useful procedures that have been derived from such traditions in the past has been substantial, and continues to be considerable.

2. The publicity given to adverse effects of drugs, combined with the comparative rarity of truly curative treatments in modern medicine, has led to a high level of public interest in natural systems of medicine, with corresponding pressure on governments to make such systems available.

This has rightly caused some concern in modern medical circles, As a result, the combination of the need for new knowledge with the need to avoid unsupported claims

has led to the search for a well-established traditional system based on scientific principles and backed by a long clinical tradition and extensive written texts. This requirement is uniquely met by Ayurveda.

3. South and Southeast Asia is the most rapidly growing economic area in the world today. In this area, economic, scientific, and technological development coexists with a core of rich cultural traditions. These and other traditional cultures of the world demand that technological innovations should be based on a more profound and holistic understanding of the laws of nature than that provided by modern science. In the field of medicine, only Ayurveda meets the exacting requirements of scientific rigor and a foundation in the holistic understanding of the totality of nature's functioning.

### **Aspects of Modern Medicine in Which Maharishi Ayurveda Offers Advances**

#### **1. Problems of compliance: Securing changes in lifestyle and behavior**

The greatest single problem confronting physicians is securing patient compliance for preventive and therapeutic programs. This problem arises even with the simplest pharmacological treatment, and has proved almost insoluble in the case of management strategies that depend on changes in diet, lifestyle, or exposure to stress.

Control of weight, smoking, and drinking alone constitute a major part of the current challenge to modern medicine. Exhortation, example, education, depiction of the worst consequences of the target behavior, and association of the desired behavior with desirable things have all failed to have much impact. Even direct experience of disastrous consequences, such as myocardial infarct or the diagnosis of cancer, frequently fails to correct the behavior.

Maharishi Ayurveda includes a number of highly effective strategies for dealing with behavior, all of which center on the idea of behavior that is "in accord with natural law" (Maharishi Mahesh Yogi, 1986). Such behavior, Maharishi holds, does not violate any law of nature, and therefore does not produce adverse effects, either in the proximate or the distant environment. The use of an integrated Ayurvedic program of mental and physical preventive procedures by people over the age of 45 has been shown to reduce health care needs by over 60% (Orme-Johnson, 1987). Exposure to such programs for as little as 10 months has reduced mean biological age by 5.8 years, with further reductions on continued use (Wallace, Dillbeck, Jacobe, & Harrington, 1982; Clements & Clements, 1980). Of some 40 biochemical, physiological, neurological, and behavioral factors that deteriorate with age, almost all improve with the use of such a program. Some such factors, such as intelligence, learning ability, and memory, have been shown to improve consistently and continuously over many years. (For a comprehensive list and bibliography, see Wallace, Fagan, & Pasco, in this issue; Wallace, 1986; Alexander, Langer, Davies, Chandler, & Newman, 1986. See also Orme-Johnson & Farrow, 1976; and Chalmers, Clements, Schenkluhn, & Weinless, in press.)

The basis for the extraordinary success of Maharishi Ayurveda in this area is the development of a state of consciousness, with its accompanying style of neurophysiological functioning, that simply does not require the continuation of the unwanted behaviors. Cigarette smoking spontaneously lapses (Shafii, Lavelly, & Jaffe, in press), alcohol intake falls without conscious intention (Shafii, Lavelly, & Jaffe, 1975), and weight

normalizes imperceptibly over the course of some months or years (Weldon & Aron, 1977). The use of non-prescribed drugs decreases in a similar way (see, for example, Shafii, Lavelly, & Jaffe, 1974), and prescribed use of anxiolytics (drugs that decrease anxiety) and hypnotics (sleeping pills) is also reduced or eliminated. These results occur without any exhortation, or even mention of the behaviors concerned.

The spontaneous quality of these results indicates their naturalness, and solves the problems of motivation, appetitive disorder, tolerance, and psychological and physiological dependence in an effortless way.

The introduction of such an integrated program into the standard follow-up treatment of cardiovascular and respiratory disease alone could substantially reduce rates of relapse or recurrence, with resulting cost savings that would substantially alter national and state health budgets, freeing resources for further advances in medicine, either in the same or in other fields of concern.

## **2. High costs and comparative lack of effectiveness of recent advances in medicine**

Many common diseases have shown little change in therapeutic outcome even over several decades; yet in many cases the cost of treatment has increased enormously. Much of the increase in cost of modern treatment has resulted in rather small, or even undemonstrable, increases in therapeutic effectiveness as measured by long-term morbidity and mortality.

Most of the true breakthroughs in modern medicine have involved simple and inexpensive technologies that make use of natural processes. Many, even most, of these can be found in some form in pre-existing traditional knowledge, and some of these technologies (e.g., vaccination), were discovered through examination of such traditions. Examples of such cost-effective technologies include asepsis, sanitation, pollution control, vaccination, and the recognition of the importance of vitamins and other nutritional factors.

Disorders that have resisted such simple and practical measures have frequently continued to resist much more advanced and costly technologies. Examples include cardiovascular disease, renal disease, arthritides, immunological disorders, neoplastic disease, psychiatric and psychosomatic disorders, degenerative disease, and aging. The current management of many of these disorders is often extremely expensive, yet remains far from acceptably effective.

In the case of many such resistant diseases, preventive measures remain altogether unavailable, with the result that the overall incidence, morbidity, and mortality of such conditions have remained largely unchanged. It is inevitable that this combination of increased costs and largely unchanged outcome must arouse both public scepticism and political doubts about the funding of health services as we now know them.

An examination of Ayurvedic texts and current Ayurvedic practice indicates that a number of the more resistant common serious disorders met with in modern medicine may well be treatable and preventable by means of Ayurvedic pharmacological and non-pharmacological approaches (see, for example, Maharishi World Centre for Ayurveda, 1986, for a comprehensive bibliography of recent research on Ayurveda).

The Ayurvedic pharmacopoeia includes many thousands of plants and plant products, many of which have already yielded useful therapeutic agents. Several

non-pharmacological health technologies, such as the Transcendental Meditation technique, have proved to be highly effective in the prevention and treatment of resistant disorders, including hypertension (Wallace et al., 1972; Wallace, Silver, Mills, Dillbeck, & Wagoner, 1983; Blackwell et al., 1976), angina pectoris (Amarra, Besseghini, & Wittenberg, 1977), asthma (Honsberger & Wilson, 1973a, 1973b), insomnia (Miskiman, 1977), anxiety states (Dillbeck, 1977), migraine and tension headaches (Lovell-Smith, 1982), and many others. The mechanics of action of these techniques have been well studied and have been shown to involve quite specific neurochemical, endocrine, biochemical, metabolic, and physiological processes, some of which have shed new light on both normal physiological functioning and the pathology of the diseases concerned (Orme-Johnson & Farrow, 1976; Chalmers, Clements, Schenkluhn, & Weinless, in press).

Recent studies suggest that there exists a wide range of other, as yet little-known, non-pharmacological procedures of Maharishi Ayurveda that possess similar promise and make use of equally researchable biological mechanisms. These include dietary approaches; procedures for adjusting biological rhythms (e.g., the *panchakarma* program); adjustments of lifestyle; *marma* therapy (the use of vital points in the treatment and prevention of disease); techniques of neuro-muscular integration; breathing procedures; sensory therapies using sound, touch, color, taste, and odor; mathematical approaches to diagnosis, prognosis, treatment, and prevention; and procedures for reversing the aging process.

### **3. Current inability to identify patients at risk: Comparative weakness of clinical skills in modern medicine**

While some progress has been made in the statistical prediction of risk for a few diseases, such as ischemic heart disease (lack of blood supply to the heart), clinical prediction of future disease is still all but impossible for the modern clinician. Even in the case of disorders for which risk factors have been identified, preventive measures are often either not available, or else secure only the lowest levels of compliance.

The absence of predictive capacity has resulted in a policy of waiting until patients contract disease before offering treatment. Since the determinant factors for most degenerative and resistant disorders operate over a long period, this strategy results in therapeutic interventions that are frequently too little and too late. For an advanced technological culture, this is a remarkably uncompassionate, ineffective, and costly form of health care.

In Maharishi Ayurveda there exists a large body of clinical knowledge and expertise that in many ways far exceeds and excels that available to modern clinicians. Because this knowledge forms the sole basis of Ayurvedic diagnosis, and has been accumulated and recorded over many centuries without the inevitable circumvention of clinical skill by laboratory investigations, the procedures for clinical examination are far more detailed and extensive than the corresponding modern clinical methods.

In particular, Ayurvedic diagnostic procedures include methods for identifying the characteristic physiological traits unique to each individual and identifying from them the timing and nature of future disorders. Such assessments are based on easily observed and recorded clinical features, including dietary preferences, past illnesses, family history, habitus, and examination of commonly overlooked physical signs. Consequently they are highly open to research and verification. In many cases, the features observed and the physiological conclusions drawn from them are easily interpreted in modern physiological terms, and lend themselves to detailed scientific investigation, as well as suggesting

new directions for medical research. In particular, clinical assessment of the radial and other pulses is remarkably highly developed in Ayurveda, permitting the diagnosis of preclinical stages of disease to a degree impossible to match in existing medical practice. This skill can be learned easily, and can be refined and developed indefinitely by the physician.

#### **4. Difficulty in predicting therapeutic response**

As in the case of identifying risk factors for disease, our current difficulty in predicting patients' responses to drugs also stems from the inability to identify and classify individual differences in the absorption, metabolic handling, excretion, and immunological response to pharmaceutical agents.

In Maharishi Ayurveda, therapeutic strategy is determined by both the specific disease (often taking into account subtypes of the disorder identified on the basis of differences in symptomatology that are generally ignored in modern medical practice) as well as the patient's individual physiological characteristics. The principles used to make judgments about therapeutic response and the likelihood of adverse reactions are quite applicable to modern therapeutic agents, as well as to Ayurvedic treatments. In this area, therefore, Ayurveda can contribute significantly to the understanding and prevention of adverse reactions even in the context of modern pharmaceutical treatment.

#### **5. Adverse reactions**

It is currently estimated that between 15% and 20% of disease in developed countries is now iatrogenic (caused by the process of diagnosis or treatment). If the incidence of "acceptable" adverse reactions is included, this figure could well be increased considerably. In the case of some agents, such as steroids and especially cytotoxic agents (such as those used to treat cancer), the pathology generated by the therapeutic agent may be comparable to, or worse than, the disease being treated. This also applies to rare but serious reactions, such as agranulocytosis.

As long as monomolecular pharmaceutical preparations (i.e., "active ingredients") are used, some incidence of adverse reactions must be accepted as almost inevitable. In most cases the mechanics of action of such drugs relies on interrupting or otherwise modifying specific metabolic pathways, often by occupying membrane or enzyme receptor sites, by utilizing chemically manufactured analogues of naturally occurring biochemical molecules. Since this process inherently involves altering normal biochemical pathways or physiological processes, some resulting pathology is all but unavoidable.

In the case of Maharishi Ayurveda, no pharmaceutical or other treatment is used if there is *any* known risk of adverse effects. Consequently, Ayurvedic physicians affirm that the pharmaceutical and other treatments are free from side effects.

While this claim sounds rather extreme to the Western tradition of medicine, it cannot be dismissed lightly. An examination of Ayurvedic prescribing principles and pharmacognosy suggests that it is worth serious study.

**Medications without adverse reactions.** One of the most important aspects of Maharishi's revival of Ayurveda is the rediscovery of procedures to ensure that each intervention is free from the risk of adverse reactions. This capability is based on several features. First, each intervention is directed not at the local pathophysiology of the disease but at restoring balance to existing immune and self-repair mechanisms, whose

failure is responsible for the presence of the disorder. Second, procedures have been rediscovered for directly cognizing exact effects of therapeutic agents and interventions, using the technology of consciousness. These techniques are also used to diagnose the disorder, thus enabling the physician to match treatment to disease perfectly. A third feature is that most Maharishi Ayurveda preparations are compounded of a number of plant and other products. The reason given for this practice is that certain of the components counterbalance some of the effects of the others, thus giving overall no side effects. These features make possible the policy of absolutely rejecting any intervention with even the slightest incidence of adverse reaction.

**Predicting adverse reactions.** Both therapeutic effects of drugs and their adverse reactions differ in different individuals, because of differing biochemical and physiological characteristics. In principle, therefore, it should be possible to anticipate adverse reactions, either through laboratory investigations of the relevant biochemical pathways, or by examination of associated physiological or clinical traits. Unfortunately, this is not currently possible in standard medical practice, owing to lack of knowledge of the mechanisms involved or their associated observable clinical features.

In addition to the above features of Maharishi Ayurveda, the existence of clinical procedures for defining individual differences in style of physiological functioning is held to permit the prediction in advance of both the therapeutic effectiveness of preparations and the possibility of adverse reactions. Not only the selection of medications, dietary programs, and other procedures, but also their precise composition, time of administration, and combination with other treatments is determined by this means. This is another reason why the physician is expected to provide the patient with a regimen that will be free from unwanted effects. The observations and methods used to predict adverse effects in advance are not hard to master, and can be used without much difficulty in anticipating individual response even to modern pharmaceuticals.

Together, all these factors make a strong case that pharmaceutical and other treatments used in Maharishi Ayurveda are in fact free from adverse effects.

## **6. Trial and error in modern medicine**

A considerable proportion of modern medical practice continues to require a trial-and-error approach to prevention, diagnosis, and treatment.

In the case of prevention, absence of means to predict susceptibility to disease obliges patients to wait until they are sick before seeking treatment.

In the case of diagnosis, it is common practice to treat the most likely cause of many common symptoms first, deferring more thorough investigation until it is found that treatment is not successful. While such a policy is inevitable in the face of the high cost of investigations, it sometimes exposes patients to the risk of delay in the diagnosis and treatment of serious disease.

The use of trial and error in modern medicine is most apparent in the area of treatment. Both physicians and surgeons are quite accustomed to therapeutic success rates of only 40 or 50 percent, with the constant possibility of being obliged to try a second treatment with similar or even less probability of success. Examples of such treatments include gastrectomy, antidepressant drugs, pharmaceutical treatments for rheumatoid arthritis and gout, anti-hypertensive drugs, spinal surgery for back pain, and many others.

This reliance on trial and error in therapeutics in modern medicine is all but

inevitable, since it is difficult if not impossible to identify which patients will benefit from a given program of management, which patients will show no therapeutic response, and which patients will experience adverse effects.

In Maharishi Ayurveda, however, the capacity to identify physiological types allows accurate prediction of therapeutic response, thereby avoiding use of trial and error. The procedures for doing this are easy to learn and adapt, are based on a coherent body of physiological knowledge, and are open both to research and application in a modern medical context.

### **7. Management based on adjusting the disease process versus management based on eliciting physiological mechanisms for coping with disease**

Most modern therapeutic procedures attempt to directly modify the pathophysiology of the disease being treated, possibly because of the rapid and dramatic benefits of this approach in the treatment of infectious diseases.

Many common diseases resist this approach. Endocrine disorders, hypertension, psychiatric disorders, skin diseases, and disorders related to stress or disturbances of homeostatic mechanisms are among the conditions that seem too complex for any simple attempt to handle one single factor.

A more physiological approach to treatment is to direct therapeutic effort to improving host resistance to the pathological agent or influence. In its broadest sense this includes enhancing resistance to enculturation with harmful lifestyles and health habits, improving stress resistance, improving homeostatic correction of marked physiological deviations, enhancing immune functioning, and improving integration between the functioning of physiological systems.

Even in the case of infectious disease, the importance of host resistance is reflected in the facts that many disorders involve infection by agents common in the environment and that many people exposed to pathogens either are not infected or only develop sub-clinical disease. In the case of neoplastic disease, the occurrence of spontaneous remissions should be forcing our attention to the study of the factors within the patient responsible for generating these highly desirable outcomes.

An examination of both the original clinical practice and the underlying principles of Ayurvedic medicine shows that promoting the health of normal mechanisms for resisting disease is a far more common goal of treatment in Ayurveda than it is in modern medicine. While this aspect of treatment was largely lost through the fragmentation of Ayurvedic knowledge in recent centuries, the redevelopment of the original complete structure of the discipline in the form of Maharishi Ayurveda has brought to light the remarkably sophisticated way in which traditional physicians made use of inbuilt self-repair mechanisms.

A number of the procedures used, in particular in the mental health subdisciplines of Maharishi Ayurveda, have been well researched, and appear to have remarkably specific effects on factors known to be important in preventing or minimizing the development of a number of diseases, including hypertension, infectious diseases, psychiatric disorders, stress-related diseases, neurological disorders, and aging (see previous references).

### **8. An effective system of psychiatry and psychological medicine**

One of the largest branches of Ayurveda redeveloped by Maharishi Mahesh Yogi relates to the nature and structure of human consciousness, its underlying physiology and

neurochemistry, its development and its pathology. The Vedic tradition is founded on this knowledge, and contains a remarkable number of potent procedures for developing consciousness and deploying the attentional process to influence a host of psychological, physiological, and other biological functions. These techniques are in all cases based on the techniques of the Transcendental Meditation and TM-Sidhi program recently revived and developed by Maharishi, which have been well studied. (See Wallace et al., in this issue, and Wallace, 1986, for a comprehensive discussion and bibliography; see also Wallace, 1970, and Brooks & Scarano, 1985.)

Research to date has indicated that the use of these procedures can substantially alter the entire pattern of health and disease, both mental and physical, in a population (see, for example, Orme-Johnson, 1987; Orme-Johnson & Dillbeck, 1987; Orme-Johnson et al., in press), and can be used successfully in a clinical context for the treatment of specific diseases. While quite widely used in medicine, Transcendental Meditation is of sufficient potency to warrant much more active investigation in clinical and laboratory research, and more systematic application in hospital medicine on the basis of its known effectiveness.

### Conclusion

Maharishi Ayurveda is unique in addressing the major gaps in the effectiveness of modern medicine in both the prevention and management of disease. It is scientific in character, based on empirical skills essentially identical with, but more developed than, those used in modern medicine, and is applicable to modern medical practice without any need to change either our current understanding of pathophysiology or our current overall patterns of patient management.

Many of the diagnostic and therapeutic capabilities of Maharishi Ayurveda are directly applicable to current clinical practice, and can be expected to give rise to increased accuracy of diagnosis, enhanced prediction of therapeutic response, prediction and elimination of harmful side effects, and the formulation of therapeutic programs better suited to the physiological and biochemical characteristics of the patient.

In addition to the application of Ayurvedic principles to modern diagnosis and treatment, there is a wealth of highly sophisticated therapeutic procedures within Maharishi Ayurveda. Those that have been studied in depth so far have proved to be much more efficient than their Western counterparts.

The existence of a vast and complete body of scientific medical literature many thousands of years old should present a challenge to modern medicine to overcome parochial cultural biases and bring the full power of the scientific method to bear on the rich treasury of knowledge and practice contained in Maharishi Ayurveda.

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