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Advances in Integrative Dermatology: Modifying the Concepts from the Past to Change the Future of Dermatology

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*“Every writer creates his own precursors.
His work modifies our conception of the
past, as it will modify the future.”*

Jorge Luis Borges

Introduction

Medical practices that reside outside the mainstream medical structures have existed for centuries. [1] The origins of medicine are deeply rooted in civilization’s cultural beliefs, experiences, and observations, and those practicing medicine believed that the body and the mind were not two separate entities. In the 1600s Rene Descartes, in an attempt to protect the body from spirits, separated the body from the mind. This was the beginning of evidence-based medicine where the understanding of parts would lead to an understanding of the whole [2]. Subsequent developments such as antibiotics, other pharmaceuticals, anesthetics, and sterile surgical procedures gave a different perspective to medicine [3]. In particular, the discovery of antibiotics in 1928 boosted the pharmaceutical model we have today which emphasizes drugs as a primary means to treat disease. In Western civilizations, complementary and alternative medicines (CAMs) only began to re-emerge after the 1960s with the awareness

that chronic diseases were replacing acute diseases as the predominant health problem, and that a reductionist pharmaceutical model alone could not be sufficient for the prevention or treatment of these chronic diseases [4].

Different concepts and terms were given to describe the Integrative Medicine field: holistic medicine, alternative or complementary medicine, and then complementary and alternative medicine (CAM) [5]. The authors of this chapter understand that Integrative Medicine encompasses the coordination of conventional medicine with complementary therapies. The same concept applies to the Integrative Dermatology field. The skin is the largest organ of the human body interacting with other organs and responding to psychological, endocrines, and nervous stimuli through the Psycho-Neuro-Endocrine-Immune system [6]. The integrative approach consists of a comprehensive evaluation of the physical, biological, psychological, social, and environmental overlapping aspects that affect the patient’s life, offering them conventional and complementary therapies with scientific basis. The integrative approach is based on the concept that every human being has a “diffuse brain” that commands a cross-talk of messengers (cytokines, neuropeptides, hormones, growth factors, etc.) involved in the Psycho-Neuro-Endocrine-Immune system.

This book explores a new kind of dermatological healthcare. It is patient centered, and considers the physical, biological, psychological, social, and environmental aspects of the patient's life. It is based on dermatological healthcare promotion and skin diseases prevention, and embraces evidence-based conventional and complementary therapies.

Integrative Dermatology: Conventional and Complementary Dermatology

Conventional Dermatology

Also called allopathic dermatology, mainstream dermatology, orthodox dermatology, or Western dermatology, this healthcare model of dermatology is generally taught in traditional medical schools and dermatology specialization programs. It uses evidence-based knowledge and uses drugs, surgery, and minimally invasive procedures as a form of treatment.

Complementary Dermatology

Complementary dermatology refers to a group of diagnostic and therapeutic disciplines that are used together with conventional dermatology. Complementary dermatology is different from alternative dermatology. Whereas complementary dermatology is used together with conventional dermatology, alternative

dermatology is used in place of conventional dermatology [7, 8] (Figures 1.1 and 1.2).

Pillars of the Integrative Approach

Physical Findings

What does the patient present, and is visible to the physician?

Greeting the patient is the first step to establish rapport between the healthcare provider and the patient. In general, a handshake seems to be the most appropriate way to start a consultation. However, religious and cultural aspects may interfere in this process, so the healthcare professional should remain sensitive to nonverbal cues that might indicate whether patients are open to this behavior. The physicians should introduce themselves using their first and last names and also call the patients by their first and last names, at least in the initial contact, following the national patient safety recommendations concerning patient identification. [9, 10]

The physician should ask the reason for the visit. The interview should address the duration and location of the patient's cutaneous diseases (if any), other diseases, family medical history, use of and allergy to medications, sun exposure, current and previous skincare regimens, daily habits including exercise and diet, and the patient's emotional state [11]. More questions should be asked during the physical examination as needed.



Figure 1.1 Integrative dermatology: combination of conventional dermatology and complementary dermatology.

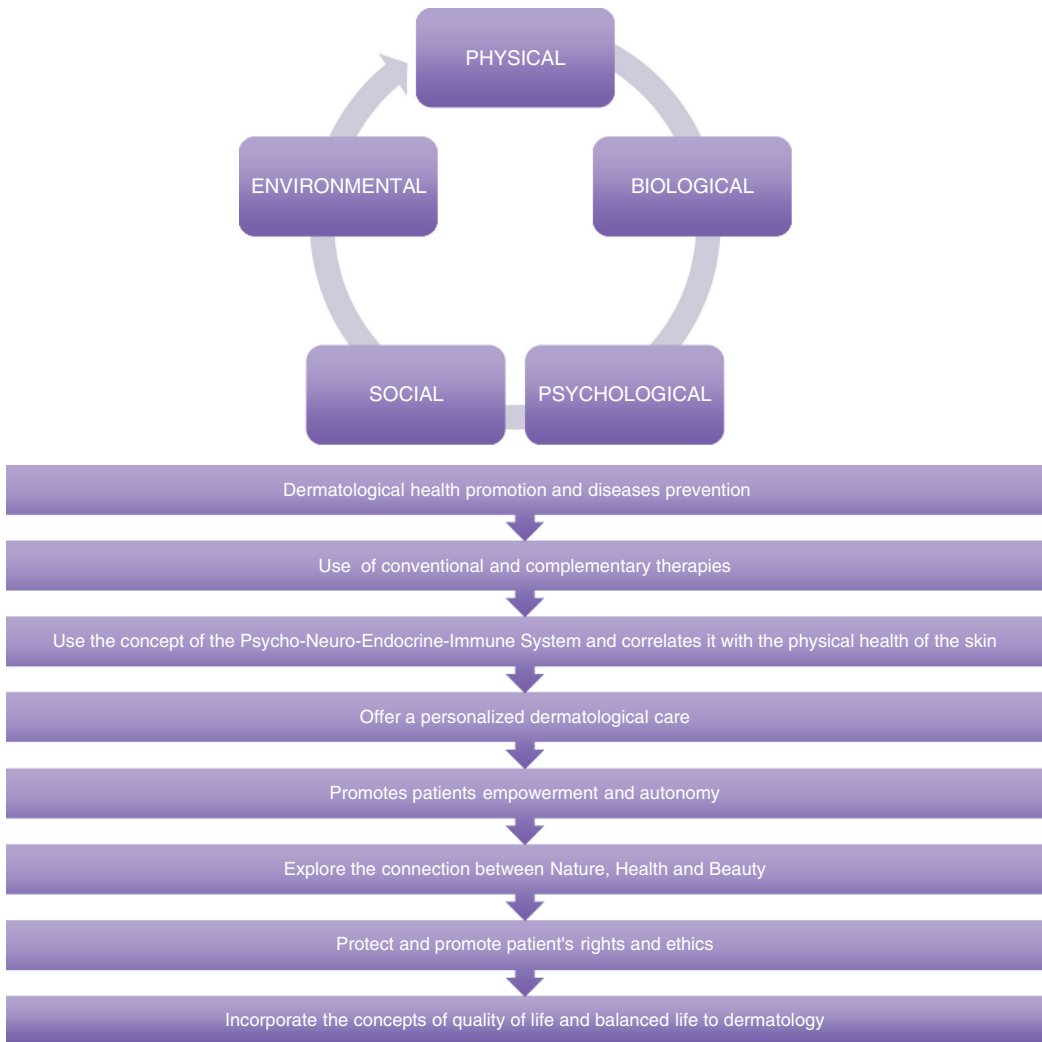


Figure 1.2 Pillars and principles of integrative dermatology by França and Lotti.

A complete skin examination is essential in the assessment of patients. All health-care professionals should have a fundamental knowledge of the structures and functions of the skin in order to assess any changes to normal skin [12]. The ideal physical examination includes a systematic exam of the entire skin and its appendages. It is important to examine the skin for lesions that are directly related to the chief complaint as well as for incidental findings, especially for lesions that may be skin cancer [13].

A study published in the British Journal of Dermatology showed that in a nine-month period, in a sample of 483 new patients, three patients (0.6%) had potentially lethal skin malignancies identified that would not have been diagnosed without a complete skin examination. Sixteen (3.3%) patients had basal cell carcinomas that would have been missed without a complete skin examination. This study confirms the traditional teaching that complete skin examination has the potential to reduce morbidity and mortality from cutaneous malignancy [14].

Dermatological equipment should be available during the physical examination, including: magnifying lens, dermatoscope, Wood's light, a microscope, and a camera to document the findings. França performed a study in Brazil with 307 patients and found that 57% of that sample considered that the use of devices (magnifying lens, dermatoscope) by the physician during the physical examination would be fundamental for the correct diagnosis of the disease. Although not always true, these patients may believe that the technology helps their physician to make their diagnosis [15].

This physical findings session emphasizes the need for a complete physical assessment to find the physical manifestations of the disease or complaint, and the findings that are visible to the physician.

Biological Factors: The Psycho-Neuro-Endocrine-Immune System

What is the identity of the patient?

Biological factors refer to anything that could affect the function and behavior of a living organism. These factors could be physiological, chemical, neurological, endocrinological, and immunological, or a genetic condition which causes a psychological effect. Biological factors are seen as the primary determinants of human behavior [16]. The psychobiological concept involving the Psycho-Neuro-Endocrine-Immune System is particularly useful for the study of dermatological diseases. The Psycho-Neuro-Endocrine-Immunology (PNEI) is a scientific field of study that investigates the link between multidirectional communications among the nervous system, the endocrine system, and the immune system, and the correlations of this cross-talk with physical health of the skin. The authors emphasize that this innovative medical approach represents a paradigm shift from a strictly biomedical view of health and disease taken as hermetically sealed compartments to a more interdisciplinary and integrative one [17].

Psychological Aspects: Psychodermatology and Quality of Life

How does the patient think, feel, and behave?

Exploring the psychological aspects and emotional state of patients with skin disorders is one of the bases of the integrative approach. The skin is a visible organ and any disease affecting this important organ can cause psychological distress. On the other hand, psychological distress can also trigger certain dermatologic diseases [18]. This vicious cycle should be kept in mind when assisting a patient in the integrative dermatology clinic. Medical care can be significantly improved when the physician pays more attention to the psychological aspects of medical assessment and treatment [19].

A good doctor–patient relationship, as well as empathy, is fundamental for a successful conversation between the doctor and the patient and disease management. The patient's background, previous traumas, current feelings, and coping strategies should be explored during the consultation [19]. Skin diseases can affect the psychological state and quality of life of patients, affecting the health in general and the progression of the disease, as well as the patient's response to therapy [20]. Different dermatology-specific measures are available such as the Dermatology Life Quality Index (DLQI), the Dermatology Quality of Life Scales (DQOLs), the Dermatology Specific Quality of Life (DSQL), and Skindex. Other disease-specific measures such as the Psoriasis Disability Index (PDI), the Psoriasis Life Stress Inventory (PLSI), and the Acne Disability Index (ADI) can be also useful in the clinical practice. There are instruments used for measuring QOL in the pediatric population such as the Children's Dermatology Life Quality Index (CDLQI) and for measuring the impact of atopic dermatitis on the families of affected children (the Dermatitis Family Impact [DFI] questionnaire). New versions of the current measurements and development of new ones are in process [21]. Chen explains that the improvement of

health-related quality of life (HRQoL) is a major goal of dermatology. Important targets in clinical dermatology include the identification of how the skin condition affects lives, quantifying this burden, and using this information to improve patients' lives on an individual basis [22].

Balance is often mentioned in personal development and well-being circles. The concept and idea of a balanced life should be incorporated into the dermatology practice and discussed with patients. Bloom et al. define the domains for a balanced life and the list includes: health, family, spirituality, learning, primary relationship, sexuality, play, creative expression, emotional well-being, career, finances, friendship, home, and service [23].

Social Perspective: Social Interactions that Worsen or Improve Patient's Lives

How does the condition affect the patient's social life? How can social interactions improve or worsen the patient's condition?

In 1934, Dr. George Minot wrote "a considerable fraction of the successful care and treatment of patients and, undoubtedly, the prevention of much illness is to be identified with the proper consideration of sociologic factors. The case of every patient who consults a physician has a medical social aspect. This social component of medicine may vary widely in importance, but frequently it plays a major role in diagnosis, prognosis, and treatment and in the prevention of *disease and unhappiness*." [24] There is a cycle where social behavior influences the disease, and the disease influences the social behavior [25]. More than a cosmetic problem, skin diseases can cause stigma and disfigurement that could lead to bullying and social isolation [26, 27]. Stigmatization is defined as having a discrediting mark that leads to social discrimination and alienation [28].

One of the most stigmatizing diseases affecting the skin is leprosy. For many centuries, this disease has been responsible for social segregation, depression, and anxiety.

Over the years with the advancement of treatments and education of patients and the community, this situation has improved. However, it still poses a challenge for many cultures [29]. Psoriasis, a chronic, autoimmune and inflammatory skin disorder, is another challenging disease that causes rejection and stigma. Despite the fact that it is not a contagious disease, it has a serious impact on the patients' lives and well-being [30]. It is important for the dermatologist to ask the patient about their social relationships and how the disease is affecting their social life. A questionnaire named The Sociotype Questionnaire (SOCQ) containing 16 items that evaluate the quality of relationships through the dimensions of family, friends, acquaintances, and study/work colleagues (including four questions for each dimension) was developed to explore both structural and dynamic aspects of social networking. The SOCQ is pending publication [31].

Skin disorders can affect not only the patient's quality of life but also that of partners and other family members in very diverse ways. Basra and Finlay proposed the term "the greater patient" to determine the secondary impact of a patient's skin disease on the patient's family or partner. The 'Greater Patient' concept describes the immediate close social group affected by a person having skin disease [32].

The concept of "Social Medicine" emerged in the nineteenth century and aims to understand how social and economic conditions impact health, disease, and the practice of medicine, and to foster conditions in which this understanding can lead to a healthier society [33]. Social support is necessary for the optimal management of certain skin conditions. Education and involvement of family members in the management of disease, or support groups with the presence of other patients and healthcare professionals, can help the patient to cope with their own condition and help others suffering from a similar disease. This helps the patient's empowerment process.

Environmental Overview: The Ecology and the Skin

How do the external and internal environments contribute to the development, exacerbation, or improvement of the skin condition?

Environment is defined as the circumstances, objects, or conditions by which one is surrounded [34]. The environment plays an important role in the skin's health. Exposures to smoke, pollution, ultraviolet radiation, different temperatures, toxic chemicals, or prolonged/repeated exposure to water are environmental stressors [35]. It is the level of exposure that determines if damage to the organism will result. Diseases such as contact dermatitis, halogen acne, chemical depigmentation, connective tissue diseases, and skin cancer, etc. have the influence of the environment in their etiology [29]. The effects of environmental stressors on the skin were described by França et al. These authors defined the concept of "Environmental Psychodermatology" as a developing area that studies the interaction between environmental and psychological stressors and the skin [36]. On the other hand, the environment can contribute to the improvement of certain skin conditions. For example, some patients with psoriasis may improve during summertime due to the exposure to UV rays. As part of the integrative approach, it is important to explore and understand the environment surrounding the patient and how this can affect the skin.

Another way of exploring the environmental perspective is considering the "internal environment." The microbiota are an important part of the internal environment and

Table 1.1 Integrative dermatology healthcare model: key questions- by França and Lotti.

Physical	What does the patient present and is visible to the physician?
Biological	What is the identity of the patient?
Psychological	How does the patient think, feel, and behave ?
Social	How does the condition affect the patient's social life? How can social interactions improve or worsen the patient's condition?
Environmental	How do the external and internal environments contribute to the development, exacerbation, or improvement of the skin condition?

understanding how these bacteria interact with the innate immune cells to generate immune tolerance, as well as how they interact with the brain through the gut-brain connection, may open up opportunities for development of new therapeutic strategies in dermatology. [37, 38] (Table 1.1)

Conclusion

Integrative dermatology is an upcoming field of study that encompasses the coordination of conventional dermatology with evidence-based complementary therapies. The integrative dermatology approach considers the physical, biological, psychological, social, and environmental aspects of the patient's life.

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