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Introductory Chapter: Acupuncture - What Controversies? What Pathways?

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1. A constant board game

This is a short chapter, with intention to be introductory for the nature and purpose of the book subject matter, as well as the significance of its contents for the readers. The field of acupuncture as a scientifically accepted therapy in the West is constantly evolving. All proponents of acupuncture are well convinced of the value of this therapy, and they are quite satisfied with the current documentation regarding its safety, efficiency, effectiveness, and cost-benefit ratio [1]. However, there are still many gaps on this knowledge, equally evidenced in the scholar literature. Very often, proponents of acupuncture have to justify all over again and again their point to the academic-scientific community, since critics are always remembering the flaws.

This duality looks like the antagonism in a board game, represented by the clash between the positive and negative aspects of the technique. In this analogy, the pieces of both sides are in a continuous struggle between the forces strengthening the validity of acupuncture and the movements reducing its legitimacy (**Figure 1**). The positive aspects include everything science recognizes and endorses objectively, added to everything the patients who use the technique feel subjectively. The negative aspects include everything acupuncture is objectively owing to science while researches do not provide all the answers, added to everything subjectively derived from prejudice and ignorance against this technique.

Following this analogy, the new pathways are represented by the strategies the proponents of acupuncture will use to strengthen their arguments and weaken the detractors' arguments, to advance beyond this standoff. This chapter will put the reader on the position of a player interested on the acupuncture advancement. The adversary is virtual, embodying all the closed minds focused only on the acupuncture frailties. To win any game, the player must know his own strengths as well as his own weaknesses. Then, the player will identify threats and opportunities on the distribution of pieces along the board. Finally, he will work to keep the maximum amount of pieces, at the same time eliminating the opponent pieces. The lines below will discourse about intriguing this game.

2. The pieces on our part of the board

2.1 A millenary tradition

The longevity of acupuncture already speaks enough for itself. Acupuncture and correlated techniques have been practiced in China and other Asian countries for millennia. The generally accepted history of acupuncture in China can be



Figure 1.
This board game is an allegory on the constant clash between the elements that sustain acupuncture (the white pieces, on the first-person player's side) and the weaknesses that destabilize acupuncture (the black pieces, on the side of the opponent).

traced back at least 3000 years (the sources diverge, some cites 4000 years), when rudimentary stone needles were used. Besides these archeological clues, the earliest recorded mention of acupuncture is on the classic Yellow Emperor's Inner Classic, written on the second century B.C. Currently, it is routinely practiced in China, Japan, Korea, Hong Kong, and Taiwan as part of the whole healthcare system.

2.2 Worldwide diffusion and acceptance

Acupuncture arrived in Europe in the seventeenth century through the contact of Christian missionaries and European merchants with the Chinese. A resurgent interest among clinicians came only by the nineteenth century in Britain, France, and Germany, when acupuncture arrived also to North America. However, the advances of standard medicine and biological sciences have marginalized acupuncture, and this technique was almost restricted to the Eastern districts of large cities. Acupuncture has gained popularity in the media just about 40 years ago. While in China in 1971, James Reston, a famous journalist and vice president of the New York Times, had an acute appendicitis. Chinese physicians performed an emergency appendectomy, and his postoperative pain was relieved by acupuncture. Reston reported his experience in an historical article in his newspaper [2]. This fact brought great publicity to acupuncture and renewed Western interest in this form of treatment.

2.3 Scientific acceptance through the front door

Scientific publication on acupuncture grew slowly from the 1970s and quickly increased in the last few decades. Some milestones are noteworthy: the

North American National Institutes of Health Consensus Development Panel on Acupuncture, published in 1998 [3], and the World Health Organization (WHO) Review and Analysis of Reports on Controlled Clinical Trials, in 2002 [4]. Today, an extensive bibliography supports the appropriateness of acupuncture use for many defined clinical conditions. Both efficacy and effectiveness of acupuncture have been examined through research with strong methodology. Efficacy is a concept related to mechanisms of action, mainly the effects beyond the placebo. Efficacy measures the impact of an intervention on outcome in ideal conditions, with an emphasis on controlling for placebo effects. Effectiveness is related to how something works in clinical healthcare. This real-world benefit is a measure of the overall impact of an intervention on outcome, as would be expected in routine care. Some trials attempting to address the questions of efficacy and effectiveness are designed with three arms, including true acupuncture, sham procedure, and a comparison treatment.

2.4 East and West can learn with each other

The integration of this strange needling therapy was facilitated with the concept of “Western Medical Acupuncture,” a method of peripheral neural stimulation, adapting the Chinese tradition to the knowledge of physiology and other sciences. In such approach, the classic acupoints are selected considering the best places to stimulate the nervous system, inducing local and distant reflexes and neuromodulation. Old and new approaches need not to be mutually exclusive, since modern Western ideas can complement Eastern millennial wisdom. The Eastern thought has holistic views, nonlinear logic, and empirical observation. The Western reasoning is based on reductionist theories, linear causalities, and scientific endorsement. If opposites attract themselves, this can be a perfect marriage [5].

2.5 Multi-institutional acknowledgement of acupuncture

Since 1979, the WHO has proclaimed acupuncture as a clinical practice. In 1996, the North American Food and Drug Administration (FDA) reclassified the needles to a category of accepted medical instruments. In Brazil, acupuncture is officially recognized as a medical specialty since 1995. In the United Kingdom, acupuncture is used in many National Health Service general practices, as well as the majority of pain clinics and hospices. In 2010, the United Nations Educational, Scientific and Cultural Organization (UNESCO) decreed acupuncture as Intangible Cultural Heritage of Humanity. The World Federation of Acupuncture-Moxibustion Societies is currently one of the non-state actors in official relations with the WHO.

2.6 A respectable complementary therapy (CT)

A CT is a procedure used along with standard treatments, although it is not considered orthodox. On the other hand, an alternative therapy is used instead of standard treatments, which is not the best medical practice. In the last decades, acupuncture left the category of a suspect doubtful alternative therapy to become a respectable complementary therapy. Acupuncture can be offered in full compatibility with conventional treatment, because no conceptual conflict surges if they are simultaneously used. This characteristic is different from some alternative therapies, in which some paradigm conflict with conventional treatment, and even sometimes demands its abandonment. This appraisal boosts acupuncture to figure among treatment options in clinical guidelines for many conditions [6].

2.7 An advantageous treatment in many senses

Respecting the indications and contraindications, the combination of acupuncture with conventional resources tends to lead to more complete and long-lasting results [7]. An important factor for such acceptance is acupuncture is a relatively safe technique. Acupuncture is a minimally invasive procedure with good risk-benefit ratio. Acupuncture is suitable for almost all people (including children), with few exceptions in very specific conditions. Potential harm is generally restricted to minor adverse effects, such as pain at needling site, bruises, drowsiness, and skin irritation. Major harm is rarely reported, and most serious adverse events appear to be related to negligence, recklessness, and/or malpractice.

2.8 *Vox populi, vox Dei* (the voice of the people is the voice of God)

Despite the astonishing advancements of conventional medicine and technology in the last decades, there was also a parallel growing interest in complementary therapies among many people [8]. More and more patients express their desire to consume less medication, as they say pharmacological approach has limited results, many side effects, and high cost. The clinician really engaged on a real patient-centered care has to be updated with modern developments on acupuncture. The contemporary concept of integrative medicine is a healthcare approach that partners the patient and the clinician on a healing journey. This is done through the appropriate use of both conventional and complementary techniques. The priority of this combination is to use, whenever possible, natural and less invasive interventions, provided they are safe and worthy. Such comprehensive approach takes selectively the most beneficial effects from different disciplines; at the same time, it meets the patient's values.

3. The pieces of the adversary

3.1 Acupuncture and TCM are “not to be sold separately”

Acupuncture was validated by conventional science separately from the traditional Chinese medicine (TCM). This oriental medicine is a coherent system to promote health and treat disease. Its resources, besides acupuncture, include lifestyle modification (e.g., Chinese diet therapy), herbal therapy, mind-body disciplines (e.g., qigong and meditation), physical practices (e.g., breathing exercises and tai chi), and manual therapy (e.g., massage and tui-na). By the way, it is very likely that the other disciplines arose much before acupuncture, being this particular technique an outspread of this major knowledge. Some groups of practitioners claim that it is nonsense to use acupuncture disconnected from a complete TCM approach. One of the arguments is that TCM is eminently a health promotion system, focusing on disease prevention. Thus, it would be a Western misrepresentation to resort to acupuncture only when the patient is ill.

3.2 Classical theory has “mystical” and confused elements

TCM is based on the concept that qi (the putative vital energy) flows along supposed network of meridians through the body. The harmony between natural opposing forces of yin and yang modulates the balance of spiritual, emotional, mental, and physical health. Diagnosis of an unbalance state is based on tongue and pulse parameters. The so-called triple warmer has no correspondence with an

organic structure. Ordinary people will have a huge difficulty to understand terms like “fire on the liver.” In addition, most practitioners don’t speak the same terms for acupoints and meridians, with some using an alphanumeric code and others the transliterations from the Chinese alphabet [9]. The WHO scientific group proposed in 1991 a standard international nomenclature on acupuncture; however, it is adopted more by researches than by practitioners.

3.3 Acupuncture has many and very heterogeneous expressions

There is a dizzying diversity of treatment designs, considering parameters such as number of needles used, the process of acupoint election, the needling technique, the duration of each session, and the weekly frequency of sessions. Besides needling itself, other classical forms of acupoint stimulation include moxibustion (warming), cupping (negative pressure on the skin), pressure (using devices or fingers), gua sha (scraping), and electrostimulation (either over the skin or through a needle). In addition, acupuncture-correlated techniques are other forms of treatment based on the same principles of acupoint stimulation. They include trigger point needling, laser stimulation, injections on acupuncture point, and the myriad of micro-systems (auricular, scalp, hand, foot, among many others). All this diversity of schools confuses the patients and disrupts the comparison of different papers.

3.4 Mechanisms of action are not totally known

Technically speaking, acupuncture is a method of peripheral neural stimulation by puncturing the skin with a needle on specific anatomical points. It promotes changes in the sensory, motor, autonomic, visceral, hormonal, and immune functions. However, just as physicists seek “The Theory of Everything”, their Holy Grail, acupuncture has not yet been able to fit in all the pieces of the biological puzzle to explain how the whole works. A plethora of neurophysiological pathways is demonstrated in countless researches of the highest quality. However, each finding generally serves to explain a single specific effect. It is as if we could see one tree at a time but could not get away enough to see the whole forest. This difficulty of interconnecting all the accumulated knowledge prevents researchers to explain the differences between good and bad responders, as well as whether the effects observed on healthy populations can be extrapolated for sick people.

3.5 A notion (albeit false) that placebo is the main effect

A recurrent criticism on studies of acupuncture through randomized trials controlled by placebo is that both the sham and real acupuncture lead to positive effects. The hasty conclusion is acupuncture acts mainly through placebo effect. However, this understanding is not appropriate, since the needling is not the only therapeutic element. The lack of difference between real and sham groups may underestimate the total effect of acupuncture treatment. The randomized clinical trial controlled by placebo was designed to test drugs, considering only its pharmacological effects. On acupuncture, the physiological component is intertwined to the non-biological processes, and both can be equally important [10]. The environment in acupuncture (already beginning on anamnesis) surely amplifies the extension of the physiological effects. This limitation to design a research is worsened by an insufficient improvement of placebo models. Attempts for placebo acupuncture could be using a false (sham) acupoint, a superficial puncture

(with skin perforation), or a simulated needle insertion (without skin perforation) using a blunt device. All of them can produce false-positive results.

3.6 Professional competencies are not universally standardized

Questions about the competency to practice acupuncture are discussed world-wide. Today, each country has its local legislation to assign who is allowed to perform acupuncture. Sometimes, anyone with some qualifications or experience is allowed to be called acupuncturist, even people without formal graduation in a healthcare course. In these cases, the practitioner receives education only focusing on acupuncture and/or TCM, and acupuncture will be offered outside a clinical environment. The risk of diagnosis or treatment delay, due to symptoms masking on a serious disease, is increased if clinical red flags are ignored [11]. The patient protection must be the priority when deciding on training standards and licensure requirements for practitioners. In acupuncture, clinical results vary with the level of training and the length of experience of the practitioner.

3.7 A treatment for a few open-minded people

In our consumerist society, most clients seek immediate solutions for their health problems. Compared to drug treatment, acupuncture may seem a boring, tardy, and expensive option to many people. The treatment with acupuncture typically involves several sessions and follow-up, which may be inconvenient for some patients. Many times, a private treatment has to be paid out-of-pocket, when it is not covered by health insurance policies. The cost of a course of sessions varies widely between providers, and the whole treatment can be expensive. Furthermore, it is unpredictable what will happen when the patient reduces the sessions' frequency or stops the treatment. Patients have to be adequately informed on what to expect, in order to be motivated by realistic prospects. They also must understand that the effectiveness of acupuncture cannot be generalized, as its effect varies largely from patient to patient.

3.8 Rejection by a part of clinicians

Some clinicians state they find no reason to indicate stranger therapeutic systems, since the value and success of conventional biomedical science are just enough. For clinicians who think so, having to learn the principles and indications of other practices would be an unnecessary task. Such colleagues would indicate acupuncture only when they have no further resources to offer (or even when they want to get rid of the patient, etc.). In some cases, disregarding acupuncture is actually an excuse (conscious or unconscious) for lack of time (or commitment) to explore everything that could be beneficial to the patient.

4. In short

As the game goes on, acupuncture needs to prove on a daily basis that it has nothing to do with other picturesque therapies. A lot of energy must be spent to unstick acupuncture of weird East prescriptions such as the powder of rhinoceros' horn, a useless pinch of keratin that is leading this animal to extinction. However, this is a fact: acupuncture came to stay. The opposition to this therapeutic modality would never eliminate it from the canon of good complementary therapies. However, such opposition can clutter many advances for acupuncture use, from no

inclusion in clinical guidelines to limitation for reimbursement to health insurance users. More slowly than we would like, the score of this game hangs to the side of the fittest player. It's up to us to continue this game, even though it may not have an end. Anyway, every little advance is a victory.

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