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Putting Acupuncture Research into Perspective

An overlooked but critical fact in the study of acupuncture is that acupuncture works by facilitating adjustments within the body/mind's own resources. The focus of medical research over the last century has been regarding the impact of outside interventions taken upon the body to alter the course of disease or symptoms directly via exogenous resources. Little attention has been paid to the potential of a therapy designed to spark the body/mind's better usage of endogenous resources. This being the case, researching acupuncture with the methods designed to study external interventions has proven quite a tricky proposition.

Over the past 60 years there have been thousands of studies (including over 7,400 RCTs) done on acupuncture. Unfortunately, it is our belief that many of these studies were of poor quality in two major categories; the methodological rigor of the study design/implementation and the level of acupuncture expertise employed. Many of the more methodologically sound studies were done by researchers with methodology expertise but not expertise in the clinical application of acupuncture. Conversely, studies done by those with expertise in the clinical application of acupuncture tended to have lower methodological rigor or, in the case of some of the studies done in East Asia, were mainly concerned with answering questions about a therapy already accepted and in widespread use rather than questions exploring if a new therapy now under consideration was valid or not.

This tendency toward studies with higher methodological standards employing relatively lower quality clinical application of acupuncture and those of higher quality clinical application of acupuncture having lower quality study designs has led to a mixture of results. Studies with higher quality clinical applications of acupuncture treatment tend to yield results showing higher levels of effectiveness and efficacy (degree of improvement beyond the sham/placebo control). However, due to their lower quality methodological designs many of these studies end up being excluded from systematic reviews by Western researchers. The studies with higher methodological qualities that tend to show a lower rate of effectiveness and efficacy end up dominating systematic reviews by Western researchers.

As more studies were conducted, Western reviews of acupuncture research tended to conclude that there was no trend toward homogeneity of positive results as one would expect to find of a therapy with true efficacy. Instead, reviewers often concluded the results were heterogeneous. Again and again, single studies would show acupuncture to have positive clinical effects but those showing the "real" acupuncture outperforming the "sham" were hit and miss – heterogeneous. Amid that backdrop, those with an opinion on the merits of acupuncture can be roughly divided into four categories:

1. Those who feel certain acupuncture is nothing more than a placebo. This group is dominated by self-proclaimed "skeptics" who will cite the findings of "better designed" studies showing "real" acupuncture not outperforming sham and discount "poorly designed" studies showing the opposite. This group also roundly criticizes traditional ancient Eastern theories regarding acupuncture as being based on superstitious beliefs.

This is the only group that actively argues against the use of acupuncture even when studies show impressive positive clinical effects, believing it unethical for physicians to recommend something believed to be a placebo. Quite active in the blogosphere, those espousing this point of view have helped to spread the belief that acupuncture is only a placebo.

2. Those who believe acupuncture has real physiological and positive clinical effects but that those effects are not due to “point specificity” i.e., sticking needles anywhere does as well as following traditional theories of point indications. Many people who study research on acupuncture fall into this group. But, unlike the skeptics who see proof acupuncture is only a placebo, this group often interprets the same evidence as showing both “real” and “sham” acupuncture causes changes in body chemistry/physiology that can have positive effects but don’t see evidence of point specificity.

3. Those who believe sticking needles anywhere can cause positive physiological changes but also believe that following traditional theories of point selection and treatment protocols produces superior results, i.e. that there is at least some degree of point specificity. This group sees limits to acupuncture but also believes it has broad clinical applications and that many studies fail to give it the best chance to succeed. Some in this group believe the ancient traditional theories are valid and involve concepts unknown and perhaps even unprovable in modern science terms. Others may believe traditional theories questionable and that acupuncture’s effects take place and can be understood within concepts known to modern science.

4. Those who believe acupuncture has the ability to cure almost anything if done by a great Master of traditional skills. Some in this group may be prone to believe the ancient Chinese discovered great mysterious truths of nature involving the traditional concepts of *qi* and *yin/yang* and that modern science is inherently incapable of seeing the more subtle aspects of nature and prone to causing harm because of this tunnel vision.

The first two of the above groups will tend to be dominated by those with little or no clinical experience with acupuncture while the last two will be mostly those with clinical experience. A great deal of the confusion over acupuncture’s capabilities is due to the dynamics of disagreements between these groups. At the ANF, however, we believe that a rational approach is to place the evidence of acupuncture’s clinical potential into the context of the times. Even the harshest skeptic will be forced to agree that acupuncture can have positive effects in reducing suffering of both people and animals even if one believes this to be caused by the placebo effect (yes, the hard-core skeptics actually think animals are susceptible to the placebo effect). Any rational review of acupuncture’s safety profile when compared to conventional medical care will show that acupuncture is significantly safer. We are currently in an era when conventional medical care carries the potential to cause harm that may be far worse than the malady being treated. Acupuncture should be evaluated within the context of the benefit to risk/harm ratio. When the evidence shows acupuncture to be nearly as effective, as effective, or more effective than higher risk approaches, it should be promoted as the treatment of first choice.

Currently in the West, acupuncture tends to be used, and in some cases only authorized by policy to be used, as an option when the higher risk care has produced unsatisfactory results. This seems indefensible. Why would the first choice be a higher risk one when a safer, and equally or even more effective one is available?

A prime example this mis-interpretation is found by looking at the research into acupuncture for chronic low back pain.

There have been two landmark studies, one conducted in Germany¹ and paid for by their insurance industry. The second was done in the U.S.² and funded by a grant from the National Institutes of Health. Both these studies found acupuncture to be roughly twice as effective as “conventional care” for the treatment of chronic low back pain. The “conventional care” these studies referred to include the use of pain medications, especially opioid medications. Chronic low back pain is the leading condition for which those medications are prescribed. In the U.S., opioid use for chronic pain has exploded together with an equal explosion in deaths and addiction attributed to those drugs.

Deaths from these drugs have overtaken auto accidents as the leading cause of accidental deaths for U.S. adults and the Center for Disease Control has declared the abuse of those drugs as the worst drug epidemic in the history of the United States.

Considering the seriousness of this epidemic, you would think that these studies would be seen as a major breakthrough in addressing this problem: A body of high quality research demonstrating a safe alternative to be twice as effective as the unsafe drugs that have healthcare policy makers so alarmed. And yet U.S. public health officials seem unaware of this good news; combating this drug epidemic by expanding acupuncture’s role is rarely considered. It is likely there are two main reasons such a potentially game-changing development in treating this difficult problem has not caused a major shift in how that malady is cared for, there is no profit-making vested interest pushing for this change and both of those studies found “sham” acupuncture to be nearly as effective as the “real” acupuncture.

Many people have made convincing arguments that the sham acupuncture employed in many studies are not valid inert controls but are in fact a type of active acupuncture or acupressure. While we at the ANF agree with this conclusion, we are actually highlighting a more important issue; the real acupuncture arm of most studies is clinically substandard and under-performs compared to clinical reality. There is no recognized standard for researchers to use to decide how many acupuncture treatments and at what frequency those treatments should be given to test real acupuncture’s effectiveness/efficacy for any given condition being studied. There is also no standard for the type of training those performing the acupuncture should have to be qualified to give treatments under study. These are two issues we think need much more attention before we can be sure research studies are in fact testing “real” acupuncture. Both the studies showing acupuncture to be twice as effective as conventional care for chronic low back pain found both the sham and real acupuncture to be roughly 50% effective (that’s right, believe it or not, conventional care is only about 25% effective). Clinical surveys of well-trained, experienced Acupuncturists indicate effectiveness to be 75% effective or higher.

The most important myth that needs to be put to rest is the idea promoted by a small group of vocal critics that acupuncture is nothing more than a placebo. Many cite the fact that studies showing acupuncture to be highly effective were of low quality and that several higher quality studies show that, while acupuncture was clinically effective, it usually does not outperform “sham” acupuncture. But those studies are dominated by the first quality issue cited above; studies with higher methodological rigor where the “real” acupuncture was so poorly done as to not be a legitimate comparison. Yet despite the tendency toward poor quality acupuncture in studies with higher methodological standards, a benchmark study was done that showed “real” acupuncture clearly outperforming “sham” acupuncture in four different chronic pain conditions.³ When you add this study together with the fact veterinary acupuncture is used successfully in many different animals, the idea of acupuncture only being placebo must now be considered finally disproven. This is further

supported by studies which show that the underlying physiological pathways activated by acupuncture sometimes overlap, but can be clearly differentiated from those activated by placebo responses.

The questions of importance now are those looking into issues such as what conditions respond best to acupuncture or are unresponsive, cost-effectiveness, safety, etc. At the Acupuncture Now Foundation, we look forward to working with those who are interested in learning about acupuncture's legitimate clinical potential and how to integrate this ill-understood therapy into our modern healthcare system.

References

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3. <http://archinte.jamanetwork.com/article.aspx?articleid=1357513>

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