

FAITH HEALING CONFRONTS MODERN MEDICINE

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This is the second of a 3-part series analyzing a recent report in the *Journal of Reproductive Medicine* claiming to have shown positive results (a 100% increase in pregnancies from in vitro fertilization) resulting from distant prayers performed simultaneously by 3 different volunteer prayer groups in 3 different countries. Part 1 analyzed the scientific defects of the study. Part 2 analyzes the theological problems and inconsistencies that arise from acceptance of the study's results. Why would God select IVF but not natural conception for answering prayers? Why would God grant pregnancy to just 25% of the subjects? On what basis would God select those worthy of positive results? The problems disappear if one accepts the criticisms in part 1 that the results were likely erroneous.—EDS.

INTRODUCTION

In one of his final essays, noted evolutionary biologist Stephen Jay Gould attempted to end the age-old conflict between science and religion by invoking a concept he termed “nonoverlapping magisteria.” In his words, “No such conflict should exist because each subject has a legitimate magisterium, or domain of teaching authority—and these magisteria do not overlap. The net of

science covers the empirical realm: what is the universe made of (fact) and why does it work this way (theory). The net of religion extends over questions of moral meaning and value.”¹ Gould was no doubt trying to act as a peacemaker, but this example of compartmentalized thinking is not reasonable for at least 2 reasons.

First, it implies that questions of moral meaning and value can be evaluated only by the invocation of deities or other supernatural phenomena. Second, it implies that religious claims, in contrast to any other types of claims, lie fully outside the domain of scientific inquiry. While some may find Gould's theory appealing, the facts show that science and religion hold entirely different views of reality, that these incompatible magisteria frequently do overlap, and that serious conflicts have arisen and will continue to arise along the ideological borders that separate them. Yet the concept of nonoverlapping magisteria does illustrate how some religious people view the world and how they deal with an increasingly rational and technological environment.

One example of science-religion incompatibility is the continuing conflict between science-based medical care and faith healing. Perhaps unaware of Gould's theory, faith healers and their disciples continue to make incursions into the domain of science. The conflict they create has nothing to do with the saving or existence of souls, notions for which medical science makes no claim. Rather, they foster conflict over the treatment of human disease—material issues residing in the realm of science and medicine. Religious healers cross the border that sep-

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arates supernatural beliefs from the natural world. They were once called witch doctors but now prefer to be called faith healers or prayer warriors.

Dozens of recently published books tout the claimed power of prayer. Some foster a concept of warfare, also known as “spiritual” warfare, in which prayers fight against evil spirits and demons in an invisible spirit-filled realm.²⁻¹¹ Scientists and physicians may find this to be nonsensical but millions of highly religious Christians, including many Catholics and evangelical Protestants, believe that such warfare exists and that the outcome will have profound consequences in the material world. While faith healers have performed rituals and cast out demons for millennia, they are now attempting to validate their claims with scientific methods and publish their results in peer-reviewed medical journals. It is one thing to tell an audience at a tent revival that prayers yield miracle cures, but it is quite another to make the same claim in a scientific journal.¹² By doing so, faith healers and prayer warriors cross the line into the domain of science.

THE CHA STUDY

Most published studies involving faith healing have claimed results that barely reach statistical significance.¹² In contrast, the recent study by Cha et al. shows a highly significant effect of prayer on women with chronic infertility.¹² Intractable infertility is a heartbreaking condition, and many infertile women will do almost anything to achieve pregnancy. When all other treatments have failed, the patient may turn to in vitro fertilization (IVF)—the most advanced form of medical treatment currently available. The method is complex and expensive. An embryologist working in a laboratory fertilizes human eggs with husband or donor sperm and the resulting embryo (or embryos; often more than one result) is implanted directly into the patient’s uterus. IVF will not help all infertile women but it is currently the best that medical science has to offer. Therefore, any technique that could increase the success rate of IVF, even by a few percent, would be welcome.

The Cha study claims to have demonstrated, in a carefully designed, randomized, controlled trial, that distant prayer by anonymous groups increased the success rate of IVF by 100%.¹³ The Cha study involved a bewildering study design. Christian prayer groups in the United States, Canada, and Australia prayed over photographs of Korean infertility patients, asking for divine intervention. A recently published report offers an analysis of numerous methodological flaws that probably account for the study’s results.¹⁴ In addition, a discussion

of the statistical limitations of the Cha study can be found at <http://www.skeptdic.com/refuge/bunk18.html>.

The Cha faith-healing study will be used as a model to investigate the questions and consequences that necessarily arise when studies claiming divine intervention are published in medical journals. This article will also demonstrate the paradoxes in such studies and emphasize the inherent dangers resulting from such reports. Readers interested in more critical analyses of faith healing are referred to several review articles and books.¹⁵⁻²⁰

REDUCTIO AD ABSURDUM

If one assumes that the Cha study results are valid, then one must conclude that the authors have also confirmed the existence of supernatural phenomena. First, no known physical principle could explain how prayers or healing thoughts of prayer group participants could be transmitted over thousands of miles to reach infertility patients in Korea. Second, no known physical principle could explain how such thoughts could in any way influence the success rate of infertility treatment.

As noted above, the Cha study is one of several studies published in peer-reviewed medical journals claiming to have demonstrated healing from prayer. If one assumes that the results of even one of these studies are valid, then the physical validity of at least 3 concepts would have to be entertained. Either God exists and also responds to prayer (concept 1), or some other deity or supernatural force exists and responds to prayer (concept 2), or some type of psychic power exists that can, independent of any deity, influence material phenomena over distances by some as yet unknown mechanism (concept 3). The implications of any of these 3 possibilities, if confirmed, would be revolutionary.

Prayer group participants in the Cha study and millions of other faithful would likely favor the first of the concepts. If one assumes this study’s outcome reflects the existence of God, who both hears and responds to prayers, then perplexing questions arise. Although these questions may appear to be beyond the scope of scientific inquiry, the appearance of studies claiming to have proven the efficacy of faith healing in scientific journals demands that science and rational thought be applied to evaluate them.

1. Why did only 50% of the prayed-for group achieve pregnancy?

Although the 50% pregnancy rate in the prayed-for group was a vast improvement over the non-prayed-for group, it was still far from 100%. Why did fully 50% of the prayed-for group fail to conceive in spite of the earnest prayers of

dozens of prayer group participants in 3 nations? One possibility is that God received all the prayers and wanted to fulfill them but was unable to do so. In other words, perhaps God does not have sufficient knowledge or power to correct all types of infertility problems. This, of course, contradicts the concept of an omniscient and omnipotent God. Alternatively, since all study patients were Korean, perhaps 50% were Buddhists or other non-Christians, and God therefore refused to help them even though dozens of Christians prayed for them. Alternatively, perhaps 50% of the Korean patients in the prayed-for group had “sinned” in some way (either patient or partner) and thus offended God and were therefore deemed not worthy of pregnancy despite the intercessory prayers on their behalf. On the other hand, perhaps in spite of being devout Christians, 50% of the prayer group participants had committed serious sins and thus God chose not to listen to or respond to their prayers. Or perhaps some of the photographs transmitted to the prayer group participants were of such poor quality that God was not able to recognize 50% of the patients in the prayed-for group. Alternatively, perhaps the photographs were crystal clear but the mental vibrations of 50% of prayer group participants were faulty and did not clearly transmit the images to God. Alternatively, since “prayer” was not specifically defined in the study, perhaps 50% of the prayer group participants were not praying in the “correct” fashion, and hence, God did not answer their prayers. Finally, since the study involved several tiers of overlapping and intertwining layers of prayer group participants praying for several different outcomes, perhaps even God was confused by the bewildering study design! Obviously, with a little imagination the list of potential answers to this first question could continue on ad infinitum, clearly demonstrating that once the line separating the natural realm of science from the supernatural realm of faith is crossed, the number of potential confounding variables and alternative explanations for any observed event approaches infinity.

2. Why was IVF required in the prayed-for group?

Why would an omnipotent God require the assistance of the Korean doctors and laboratory technicians to achieve pregnancies in infertility patients? If attempts are made to replicate this study, a far better study design would be to treat the study patients with intercessory prayer only and the control patients with IVF only. After appropriate informed consent, neither group would be told if they were being prayed for and placebo IVF procedures in the prayed-for group would control for suggestion bias. This simple study design could also solve the age-old “structure versus function” problem (described below) that

plagues all faith-healing claims.

3. Why would God allow this study to reveal his existence?

Dozens of prior studies on faith healing by intercessory prayer claimed to have demonstrated some small effects on health, but the Cha study seemed to show a huge effect. If God is omniscient then he knew this study was in progress and also knew that the dramatic results would provide strong evidence for his existence. It would seem unlikely that God would choose an obscure infertility study published in a rather obscure medical journal to scientifically confirm his existence. I predict that this argument, i.e., that God does not want to reveal his presence, will be used in an attempt to explain why any and all attempts to replicate the Cha study will fail.

4. Why does God not help couples when the male partner has an infertility problem?

Intercessory prayer was found to be of no benefit to the 25% of couples with male-factor infertility. Why would this be true? Does God lack the knowledge or power to correct male-factor infertility? Is there a theological difference between male and female infertility? Does God simply choose not to respond to prayers if it is the male partner who is infertile? Apparently, prayer group participants prayed only over photographs of infertile Korean women, not their partners. Perhaps future studies should include photographs of male partners to assist God with the proper identification of all study participants.

5. Why did prayers help only the patients of certain doctors?

Three of the 7 doctors who carried out the IVF procedures had greatly increased success rates when their patients were prayed for, but the other 4 doctors had little or no improvement when their patients received the exact same prayers. Were these 4 Korean doctors Buddhists? Had these 4 doctors sinned or offended God in some way? Will God fulfill prayers for patients only if their doctors meet certain criteria? Maybe some of the doctors were atheists or agnostics, and God therefore refused to help their patients. Or perhaps the doctors with higher success rates were actually atheists or Buddhists and God was using this study to send them a message. Alternatively, could Buddha have intervened and interfered with the study in some way? This list could go on essentially forever, again demonstrating that when a study claims supernatural intervention the number of potential explanations for any given finding has essentially no limit.

6. Why would God need to be told what he desires?

Many of the Christian prayer group participants in this

study prayed specifically that “God’s will or desire be fulfilled in the life of the patient.” This seems inconsistent with the Christian concept of an omniscient and omnipotent God. If God is omniscient then he was already fully aware of the study patients’ inability to conceive and would certainly not need foreign prayer group participants to inform him about their infertility problems. Moreover, if God is omnipotent then he not only was aware of their infertility problems but was also the cause of them. Why would anyone, particularly devout Christians, assume that God did not already know his own “will or desire” for these infertility patients?

7. Is intercessory prayer a popularity contest in which the one with the most prayers wins?

Why would prayers by recruited participants, who knew essentially nothing about the people for whom they were praying, change the mind of God? Is God so busy that he can help people only when enough prayers come in on their behalf? A benevolent (but not omniscient) God might change his mind and reverse the infertility he had sanctioned or even inflicted upon a particular woman if intercessory prayers convinced him that she had repented and was now indeed worthy of pregnancy. But the prayer group participants knew nothing about the patients for whom they were praying except for their appearance in a single photograph. Why would a deity choose to answer such apparently vapid prayers?

8. Why were prestudy IVF success rates similar in the United States and Korea?

The year before this study, IVF success rates were quite similar in the United States and Korea. In the United States, the majority of people profess to being Christians, whereas the majority of Koreans are Buddhists, Shamanists, “other” religions, or atheists.^{21,22} Christian infertility patients in the United States frequently pray for the success of their infertility treatments, as do their friends and relatives, but, at least prior to this unusual study, these Christians were certainly not praying to enhance the fertility of patients in pagan Korea. If Christian intercessory prayer is efficacious, then why were the IVF success rates in the 2 nations essentially identical prior to the study?

9. Can God heal only functional defects?

In his book *The Faith Healers*, James Randi has pointed out the fact that faith healers attempt to heal only functional defects, not structural defects.¹⁵ Prayers and faith healers have seemingly helped countless “invalids” to get up and walk away from wheelchairs if their problem is some type of weakness (functional defect), but never if

their problem is a missing leg (structural defect). Obviously an omnipotent God would be able to easily cure either type of problem. Yet despite countless prayers, no amputated or congenitally absent limb has ever grown back. Similarly, infertility may be due to hormonal problems (functional defect) or blocked fallopian tubes (structural defect). Any attempts to replicate the Cha study should therefore include preprayer and postprayer infused fallopian tube X-rays (hysterosalpingograms) to determine if prayer can cure structural defects.

10. Does the Christian God endorse assisted reproductive technologies?

Many Christians believe that assisted reproductive technologies, including artificial insemination and especially IVF, are against the will of God. Catholics represent, by far, the largest single Christian denomination in the United States. Official Catholic doctrine, as delineated in the Catechism of the Catholic Church, states that “[t]echniques that entail the dissociation of husband and wife are gravely immoral” and that “[t]echniques involving only the married couple (with no donor sperm or eggs) are perhaps less reprehensible, yet remain morally unacceptable. They dissociate the sexual act from the procreative act.”²³ In discussing IVF, Benedictine Monk Gregory-David Jones explains that “[t]he Church’s moral principles dictate that an evil means for a perceived good end is never warranted ethically.”²⁴ Did the Christian prayer group participants in the Cha study pray to the same Christian God worshiped by Catholics? If so, why would he assist with gravely immoral acts? Do the results of the Cha study confirm that the Pope and the millions of Catholics who oppose IVF and other assisted reproductive technologies have failed to understand God’s position on this matter?

CONCLUSION

Unless replicated under strictly controlled conditions, studies claiming to have demonstrated “miracle cures” belong in religious magazines, not scientific journals. This is true regardless of whether the claimed “miracle cure” involves supposed actions of deities, ghosts, psychic powers, or other claimed supernatural phenomena. It must be emphasized that, in the entire history of modern science, no claim of any type of supernatural phenomena has ever been replicated under strictly controlled conditions. The importance of this fact cannot be overstated—all editors and peer reviewers of scientific and medical journals should be fully aware of it. Yet unreplicated and almost certainly unreplicable “miracle cure” studies continue to

sneak into scientific journals, often by implying rather than openly stating supernatural causation or by emphasizing that the miraculous results are “only preliminary.” But make no mistake—once a “miracle cure” study is published in a peer-reviewed medical journal, the damage has already been done. The fact that the study was deemed to be suitable for publication implies at least tacit endorsement by the medical journal, and the media will be quick to disseminate the “preliminary” but miraculous results in newspaper articles and television reports.⁴⁻⁶ The fact that the study is never replicated will, of course, never be newsworthy. The public is thus left with a continuing stream of preliminary but apparently miraculous reports.

Organizations such as the John Templeton Foundation (www.templeton.org), which supplies millions of dollars annually for research into spirituality, will assure a continuing flow of manuscripts that claim miraculous results. Ample funding combined with the sincere desire of religious believers to demonstrate the validity of faith healing is an invitation for publication bias—studies with favorable results will flow into journal offices while studies that show no benefit to faith-based methods may not be submitted for publication. It has been suggested that a registry should be established for investigations of the alleged medical effects of supernatural forces.²⁵ Because of the extraordinary nature of these claims, no journal should publish the findings of any such work unless the experimental protocol was filed before the study was carried out.

The phrase “God’s mysterious ways,” used in writings such as the Cha paper, is sometimes used to answer various questions raised about irrational faith-healing studies. Although the phrase may satisfy the religiously oriented, it is ill placed in a scientific journal.

If the results of the Cha study are actually valid and reproducible, the authors will have done far more than greatly enhance the treatment of infertility. These results, if confirmed, would have implications beyond those of any previous medical publication in any medical field. In fact, the authors could surpass even Newton and Einstein to become the most famous names in the history of scientific investigation. If confirmed, these results would represent one of the greatest discoveries in history, perhaps the greatest discovery in history. If verified, these results would necessitate a complete reassessment of many fundamental scientific principles. Several laws of physics and essentially all scientific and medical books would have to be rewritten. One would think that with the stakes so high, scientists all over the world would be rushing to replicate the study and be the first to confirm the results. Perhaps we should remember that the “faith”

in faith healing refers to a belief, unsupported by evidence or even contrary to all available evidence, that magic or prayer or hope can cure physical ailments.

Finally, as we reflect upon the credibility of the Cha et al. study, we must also ponder the fact that, in response to an investigation of this study by the US Department of Health Services, Columbia University’s vice president for health sciences, Thomas Morris, reported that coauthor Rogerio Lobo had not even heard of the study until 6 to 12 months after its completion.²⁶ This conflicts with a Columbia University press release, which stated that Lobo, chairman of obstetrics and gynecology at Columbia, led the study.^{27,*} Dr Lobo was also identified as the lead author of the report by the New York Times, syndicated newspaper reports, and ABC’s Good Morning America.²⁸⁻³⁰ Furthermore, the credibility of the Cha et al. study must now be evaluated in light of the fact that coauthor Daniel Wirth has been indicted by the FBI on multiple felony charges, including 13 counts of mail fraud and 12 counts of interstate transportation of stolen money, and is now under house arrest awaiting trial in federal court.³¹⁻³³

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