

FINDINGS OF FACT; Saying a Prayer for Science; Studies of the Healing Power of Prayer Pose Challenges Some Call Divine [FINAL Edition]

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Prayer may be the most universally applied form of treatment for sickness, injury and disease. It's used around the world, across cultures and for at least as long as reports of human suffering reach back. But, well . . . nobody seems to know whether it really works.

A surprising number of researchers, some representing mainstream institutions and applying standard research protocols, have taken up this controversial and provocative question in recent years. Studies that have found associations between religious activities or beliefs and good health fail to prove cause and effect. And studies targeting the act of prayer are harder to do and have so far been inconclusive. While some research has demonstrated health benefits from praying for oneself and--perhaps more arrestingly--being prayed for by others (which is known as intercessory prayer), most of these studies have problems that leave experts questioning their validity. Many use too few participants to produce statistically accurate results or apply imprecise measures to such variables as pain and recovery.

And most important, events that believers would consider manifestations of God can be maddeningly difficult to account for in a way that satisfies science.

"Trying to scientifically determine prayer's effect on health is nearly impossible," says Adriane Fugh-Berman, assistant clinical professor of health care science at George Washington University School of Medicine and author of the book "Alternative Medicine: What Works" (Lippincott Williams & Wilkins). "Prayer studies are interesting, but from a public health point of view they are not the best place to put our dollars."

Researchers who head many of the studies acknowledge the topic's inherent challenges, but believe its importance outweighs its problems.

"Can prayer heal? Probably not. And [it's] difficult to prove," says David Larson, president of the National Institute for Healthcare Research (NIHR), a think tank in Rockville that focuses on spirituality and health. "Is prayer associated with [relieving] illness? Yes. And that's why we're interested in prayer studies."

Say a Little Prayer for You

In one of the earliest objective studies of prayer, an English researcher in 1872 found no measurable effects. A double-blind clinical trial of 19 patients in 1965 also found no effects from prayer. Then in 1988, R.B. Byrd, a San Francisco physician, concluded that intercessory prayer had therapeutic results on a group of 393 coronary care patients in a test that was supposedly double-blind and randomized.

The results were published in the Southern Medical Journal, and criticism came immediately. For one, critics said, the study included patients with too wide a variety of illness levels. What's more, Byrd measures outcomes on a nonstandard scale that used such vague terms as "good," "intermediate" and "bad." More conventional yardsticks are number of days hospitalized and number of deaths.

"Byrd used a scale that he made up," says Fugh-Berman, whose book evaluates the science behind dozens of alternative care modalities. "I suspect he created the groupings after the data came in."

Criticism also stemmed from the fact that intercessors were mostly born-again Christians. The study, in other words, was thought to have a pro-religion agenda.

Fast-forward to 1999. In a highly publicized study, researchers at the Duke Clinical Research Institute found that prayers had a positive effect on health outcomes--even prayers from strangers, even when patients did not know they were being prayed for.

One hundred fifty patients with unstable angina (recurrent chest pain) or acute infarction (serious heart attacks) were randomly assigned to five treatment groups. One group received standard medical therapy only. Others received standard treatment plus healing touch, relaxation, imagery or off-site intercessory prayer. The names of those to receive prayer were given to strangers of a variety of religious persuasions--Carmelite nuns living near Baltimore, Buddhist monks in Nepal, a Unity Church congregation in Missouri and others. Using three medically validated scales--visual analog (a verbal test that rates pain or well-being), the Spielberger instrument (for measuring mood and anxiety) and the Koenig Spiritual Activity assessment (which characterizes the patient's personal prayer rituals and involvement in community-based spiritual activities)-- researchers found that patients receiving nonstandard treatments showed a 30 percent reduction in "adverse outcomes" compared with people in the standard-care-only group. Patients in the prayer group fared best, with adverse outcomes reduced 50 to 100 percent relative to the standard therapy group.

Results of this pilot study were considered significant enough to provide a basis for further research, but insufficient to support any conclusions. Now underway at the same clinic is a 700-patient, randomized, double-blind study. This time, researchers will ask people in the prayer group whether they believe they are being prayed for. Such information might take into account the influence of positive thinking--in other words, those who believe they're being prayed for--even though they are not--may show similar results to those who are actually being prayed for.

Praying for Good Results

Some researchers are critical of intercessory studies altogether. Larson, co-author with Harold Koenig and Michael McCullough of the forthcoming "Handbook of Religion and Health" (Oxford University), has been examining spirituality and health for 10 years, and

he warns that this area of study is rife with complications. "How do you include God in a study? How do you randomize God?" he asks Larson.

Other complications: If a heart patient agrees to join a study at 11, gets randomized to the prayer group, successfully undergoes surgery at 11:30 but isn't prayed for until 5 p.m., is it too late for that prayer to be considered potentially beneficial? Also, what's a proper dose of prayer? Is it more powerful to pray for 10 minutes than two minutes? Are 10 people praying better than one?

Control is the real issue in conducting studies of intercessory prayer, both ethically and practically. Some researchers might want a control group composed of people who neither pray for themselves nor have anyone pray for them. Such a study would raise the ethical problem of asking people who may be deeply religious to not pray for a sick loved one. And from a practical standpoint, slippage is common: A relative visiting a control participant might whisper, "God help him." There goes the study. There's no such thing as a prayer-proof room.

The National Institutes of Health is funding a four-year intercessory prayer study at Johns Hopkins University in which 80 women with breast cancer will be randomized into two groups after having received a lumpectomy and radiation treatment. One group will not participate in prayer activities or be prayed for by a selected group of intercessors for six months; those in the other group will receive prayer one day a week (five people will join the patient in a prayer circle) and also pray for themselves two to three times a day. The study will measure adrenaline and cortisol levels to determine the body's ability to generate immunity to specific breast cancer cells.

"We're not testing [to determine] if a divine power exists," says Diane Becker, director of the Center for Health Promotion at Hopkins. "The study will show whether meditative prayer can help us improve our capacity to heal ourselves."

The Mind-Body Medical Institute, a nonprofit research institution founded by Herbert Benson, an associate professor of medicine at Harvard Medical School, is also conducting a study on intercessory prayer involving five medical centers throughout the U.S. Benson said he expects results within 12 months.

Religion Is Good for You

While serious, large-scale studies of intercessory prayer are relatively new and continue to be subject to challenge, recent studies have consistently shown positive health benefits to be associated with religious activity. Researchers have found, for example, that people who pray for themselves, attend church regularly and/or have an active spiritual life have better health, including lower blood pressure, lower incidences of cancer and obesity, less heart disease, lower stress, better mental health and longer lives.

"Studies can't prove that a supernatural being is influencing the outcome," says Koenig, a researcher at Duke University Medical Center who has been studying religion and health

for about 15 years. "All we know is that prayer, or religious activity of any kind, seems to have a positive effect on health and recovery."

Of course, these effects may have explanations more concrete than mystical. For example, healthy people are more likely to attend church and several religions forbid unhealthful habits, such as smoking and drinking, which might account for longer lives.

Some look to psychosocial rather than supernatural explanations for the apparent benefits of being religious. The medical community has long recognized that members of social groups benefit psychologically from group interaction, which then benefits physical health. Also, much has been written about the consequences of mental relaxation and well-being (through prayer, yoga or meditation) on the immune and endocrine systems. So those who go to church may benefit for reasons unconnected to the power of prayer.

"The effects of prayer," says Koenig, "could be strictly psychological."

Most recently, neuroscientists have become increasingly interested in how the brain functions during spiritual experiences and how such functions are related to other parts of the body. Almost half of all medical schools in the United States have or will soon begin teaching courses in how spirituality and religion relate to medicine. In a 1998 random survey of 750 U.S. family practice physicians, more than half said they were willing to collaborate with religious professionals in the care of their patients, according to the NIH.

Which brings us back to God. Future studies may address the healing power of prayer by finding people who have been cured and then investigating their level of religious involvement. Others will look at prayer as a coping strategy rather than a cure. Scientists also hope to understand the differences between the spiritual experiences of, for example, going to church, climbing a mountain and attending Alcoholics Anonymous meetings. Larson says he hopes to look at whether members of any group sharing a collective belief system and camaraderie--members of Greenpeace, for example--might show identical results as the churchgoers.

Like any unbiased scientist, he also intends to examine the negative sides of prayer. "People turn to God when they are ill and often get disappointed when they get more sick" rather than better, says Larson. Their subsequent disappointment or depression affects the immune system and other physiological systems.

Asks Larson: "Does their condition actually worsen as a result of prayer?"

Pamela Gerhardt last wrote for the Health section about creating memoirs.

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