

# The remote prayer delusion: clinical trials that attempt to detect supernatural intervention are as futile as they are unethical

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## ABSTRACT

Extreme rates of premature death prior to the advent of modern medicine, very low rates of premature death in First World nations with low rates of prayer, and the least flawed of a large series of clinical trials indicate that remote prayer is not efficacious in treating illness. Mass contamination of sample cohorts renders such clinical studies inherently ineffectual. The required supernatural and paranormal mechanisms render them implausible. The possibility that the latter are not benign, and the potentially adverse psychological impact of certain protocols, renders these medical trials unethical. Resources should no longer be wasted on medical efforts to detect the supernatural and paranormal.

Direct supportive prayer in the presence of an ailing conscious person may have the potential to alter the course of the illness by modifying the psychological state of the patient. Remote supportive prayer (RSP) cannot directly influence the patient. Despite this lack of a connective mechanism a number of clinical studies have attempted to test the efficacy of RSP as a medical treatment.<sup>1-3</sup> Some of the trials have reported positive results,<sup>1-3</sup> and have been widely cited as supporting the use of remote prayer, but they have been severely criticised on methodological and other grounds.<sup>6-21</sup> One of these studies is apparently a spoof for instructive purposes,<sup>4 19</sup> another may be fraudulent.<sup>5 19 20</sup> The other, more rigorous, studies have not verified the affirmative conclusions.<sup>5-6</sup> In the most extensive examination to date, the cohort that was informed they were being prayed for experienced an elevated rate of medical complications.<sup>8</sup>

## RESULTS AND ANALYSIS

The sole study to compare rates of prayer and juvenile and adult mortality on a cross-national, epidemiological basis found that higher rates of general prayer are generally associated with elevated rates of premature death, especially of children in the prosperous democracies where advanced medical care is widely available (fig 1).<sup>21</sup> The western nation with the highest rates of prayer, the United States, suffers from an exceptionally high level of premature death despite its unusually high per capita income. Countries where prayer is much less frequent, especially the Scandinavian nations, France and Japan, enjoy unprecedentedly low rates of juvenile and adult mortality. Large scale epidemiological data supporting the effectiveness of RSP is therefore absent.

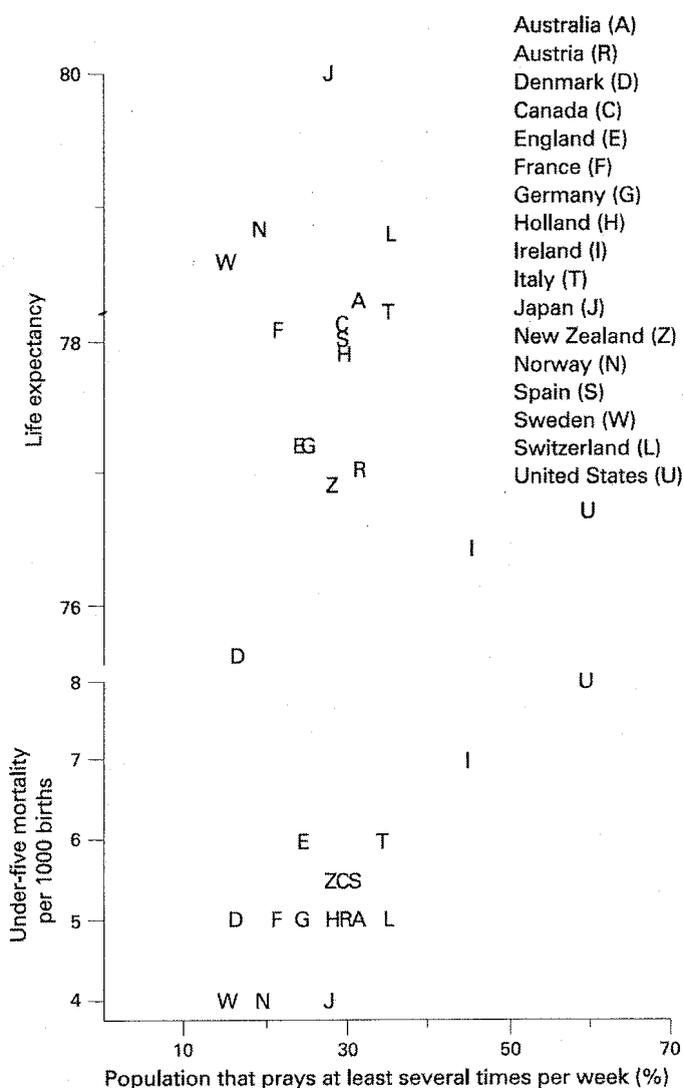
In addition, history has served as a *de facto* test of alternative forms of healthcare. Until approximately the last two centuries effective medical techniques to treat and cure serious illnesses were largely absent. During that period prayer and other religious rites were commonly employed medical interventions. Juvenile mortality rates were probably over 50% (they still exceeded 25% in 1900 Britain and the United States), young adult mortality rates were high, and average life spans were as low as two decades.<sup>22-27</sup> The number of children lost probably exceeded 50 billion, only a modest minority of those born made it to old age. Significantly higher rates of mortality would have probably collapsed the human population and led to extinction of the species, so it appears that death rates were near their highest sustainable maximum. The evidence indicates that supportive prayer whether remote or in the presence of or by the patient has been a largely or entirely ineffective treatment for most or all of human history.

In contrast, modern medical science in the form of adequate nutrition, sanitation, vaccines, antibiotics and other procedures has proven highly effective, driving juvenile mortality rates down to about 1% in the prosperous democracies, and average adult lifespans to seven plus decades.<sup>22-25</sup> The primary factor responsible for suppressing premature mortality to the extraordinarily low levels seen in the prosperous democracies is wide distribution of scientifically tested medical procedures, especially when provided via universal healthcare in league with low rates of social disparity.<sup>24-35</sup> Although the suppression of premature death by practical science and technology is perhaps the greatest achievement of humanity, it is remarkably under appreciated. Meanwhile, many people, including some researchers, retain a correspondingly excessive fascination with more speculative means of healthcare.

## DISCUSSION

For a number of reasons, clinical investigations of the power of prayer to heal over a distance are not only questionable science, but may be unethical. The question of whether these expensive studies should be continued must therefore be considered.

Because a direct psychological effect is not operative if the patient is unaware of any prayers directed towards improving their condition, and because naturalistic alternatives have not been observed by modern science, the only means by which RSP could potentially work are by means



**Figure 1** Juvenile mortality and life spans (UN Human Development Report 2000) in the prosperous developed democracies as functions of rates of prayer (International Social Survey Program Religion II).

either supernatural—the intervention of deities or other hidden powers, or paranormal—unknown quantum effects similar to those alleged to allow psychic phenomena have been invoked. These powers or forces would have to in some way alter the cellular structure of the patients, either directly, or by influencing their psychological state. Effective RSP would therefore violate the known laws of physics. That RSP appears to have been ineffective in historical times only renders its ability to operate in the current era all the more mysterious, inexplicable, illogical and implausible. Only if the evidence for the efficacy of RSP were consistently strong would further research be warranted.

The difficulties in explaining how RSP could be effective are so obvious and serious, and the historical evidence for its efficacy is so lacking, that it is necessary to question why these investigations were conducted in the first place. Judging from the background of some of those who have participated in funding and executing these projects it is reasonable to conclude that religious motives may be involved,<sup>16</sup> despite the denial of such intentions in the study funded by the pro-theist Templeton Foundation.<sup>8</sup> If praying to a deity outside the knowledge of the recipient was demonstrated to be operative,

then it would be widely taken, with justification, as potential evidence for a transcendent power.

The problems with the RSP studies go beyond the viability of the hypothesis, and again bring us into the area of religious motivation. An inherent assumption of the supernatural version of the RSP hypothesis is that any supernatural entities responsible for the effect are beneficent by human standards. This corresponds with the Abrahamic doctrine that dominates western culture in which the goodness of God is a basic feature. The paranormal version of the RSP hypothesis also presumes that positive messages are somehow transferred to the patient in a manner that faithfully expresses the caring wishes of the prayer. However, if supernatural or paranormal powers are not benign or reliable—and deities are often hostile to humans in polytheistic faiths—then it is possible that RSP may produce inconsistent or deleterious effects, resulting in an adverse impact upon patients. It is pertinent that some theists with significant influence in some religious communities contend that the creator deliberately designed the disease organisms that are responsible for the great majority of premature deaths.<sup>36</sup>

If the reader has become uncomfortable with such an explicit discussion of matters supernatural and paranormal in a medical journal, then that is yet more reason to query how and why RSP studies have been presented in medical rather than religious journals. The possibility that adverse supernatural or paranormal powers render RSP dangerous is no more implausible than is the possibility that any supernatural or paranormal powers exist. The possibility that RSP could have negative effects—if the supernatural or paranormal realms are real—is therefore obvious. It is correspondingly reasonable to conclude that this possibility was neglected or dismissed because those who funded, participated in and approved of the research presumed that the forces that respond to prayers are in some manner virtuous. Because this religious-based assumption may be incorrect, it is possible that RSP may do more harm than good. Clinical RSP studies therefore risk being unethical.

A more prosaic factor also renders RSP clinical trials unethical. Advising trial patients that they are being prayed for by persons they have had no contact with runs the obvious risk of raising fear related stress factors. This mechanism is probably responsible for the adverse results reported for the informed cohort in Benson *et al.*<sup>8</sup>

In any case, any valid clinical trial requires the total noncontamination of the sample. It is not possible to conduct an uncontaminated clinical RSP trial unless the patients do not receive intercessory prayers outside those solicited by the investigators. This would require preventing all such prayers, including both specific prayers by relatives and friends and medical personnel working on the case, all prayers for the general health and well being of others made by all people around the globe whether by lay persons and professional clerics, and prayers by the patients for themselves. Because it is impossible to achieve such conditions all RSP trials are invalid.

## CONCLUSION

A healthy dose of common sense is called for. It is clear from history and from modern practices that the only truly effective means of minimising illness and premature death are a combination of health optimising lifestyles and science-based medicine distributed through a universally accessible medical care system. Further research funding—so far amounting to millions of dollars<sup>16</sup>—should not be wasted on RSP trials that are unavoidably and massively contaminated, investigate a treatment that violates the known rules of the universe while

invoking supernatural or paranormal forces whose existence and motives are questionable, have not provided convincing results and if anything are showing that RSP is ineffective, and are not ethical. Journals should accept such research for publication only if the study is structured in a manner that is clearly ethical—which may not be possible to achieve—and is scientifically rigorous and uncontaminated—also apparently impossible.

**Competing interests:** None.

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