Scientific Evidence for the Efficacy of Prayer

Dr. Peter Fenwick

In our Judaeo-Christian society, prayer has always been recognised as a way of ameliorating distress. Let us start by looking at the way in which the power of prayer was regarded over a century ago. This is a story told by a country lawyer in the mid-west of the US around 1880. There had been a prolonged drought in the area, so long, so severe that the little farming community in which he lived was facing grave difficulties. Without rain, and rain soon, the harvest would be ruined. All the ministers of the various churches in the community put their heads together, and it was resolved that at midday on a certain day, the whole community would pray for rain. On the day in question, at midday, work in the town came to a standstill and as a body, the town prayed for rain.

After a couple of hours, the sky clouded over and the rain came. It came in bucketsful, accompanied by thunder and by lightning. Unfortunately the lightning struck and completely destroyed a barn, which was, again unfortunately, not insured. The owner of the barn, a sceptical town worthy, decided to sue the preacher whose idea this had been, and the lawyer was asked by the priest to represent him. The case achieved some notoriety and in fact went all the way to the US Supreme Court. Did the plaintiff, asked the judge, believe in prayer? The plaintiff started to say he did not, but realising this would be undermining his own case, finally mumbled that Yes, he did. Did he pray for rain? Yes. Did he pray also for lightning? Why, no. Then, said the judge, the lightning is an act of God and the case is dismissed!

In 1872 Sir Francis Galton was interested in investigating the power of prayer scientifically. He carried out a small survey, arguing that those who were involved in prayer should live longer than those who were not. He found that priests lived longer than doctors, who lived longer than lawyers, and felt that this was some support for his theory. However, he did note that if the priests were eminent they lived the shortest of all these three groups, which raises the question that possibly Galton was monitoring an effect of lifestyle rather than prayer. Galton also went on to see how long the crowned heads of Europe lived, particularly in this country where a long life for the head of state is regularly prayed for by many people each week. Galton reported that heads of state did not live longer than their subjects.

In India, sons are to be preferred to daughters as they contribute significantly to the finances of the family. Thus prayers are most often offered for the birth of a boy child. However, the ratio of boys to girls in India remains 106 boys to 100 girls, which is much the same as in any Western country.

The BMJ has published two articles on miracles, which are certainly worth reading. While Ross and Jancey (1987) do not look at modern examples of healing, in a paper on the miracles of St. Thomas of Hereford (1218 - 82) the miracles reviewed do suggest a strong effect of prayer. Gardner (1983) asked whether if St. Cuthbert was alive today in our society, healing miracles of the type that occurred during his lifetime would still be found. His article concludes that this is indeed so, and he gives a number of examples where prayer has been effective. Gardner asks why miracles and miraculous healings are not reported so frequently today, and he tells this story:

'When modern missionaries left some Gospel books behind in Ethiopia and returned many years later, they not only found a flourishing Church, but a community of believers among whom miracles like those mentioned in the New Testament happened every day - because there had been no missionaries to teach that such things were not to be taken literally.'

Possibly it is scientific missionaries who now tell us that we should not believe in prayer.

Over the last 20 years a major change in scientific thinking has occurred, with a much more widespread recognition of spiritual values. One of the early indications of the general acknowledgement of the relevance of spirituality was a paper on prayer (Byrd et al. 1988), which showed that patients in a coronary care unit who were prayed for had shorter in-patient stays, fewer complications and a reduced drug usage.

Prayer is a widespread practice in the US: Newsweek found in a 1992 survey that nine of ten Americans prayed at least once a week. In 1994 Life magazine found the same proportion believed that God answers their prayers, while Time found in 1996 that 82% of Americans believe that prayer heals. And maybe they are right. In the last few years there have been a number of high quality double blind randomised control trials of intercessory prayer, the majority of which have been positive, and which have produced good supportive evidence that prayer is effective; numerous other studies have shown the success of spiritual medicine in general. These studies come from a wide number of fields and deal with many aspects of religious and spiritual practice. A study of over 65s by Koenig et al. (1999), for example, was able to show that church attenders were more likely to be alive after six years. A further study by Koenig et al. (2001) has shown that over 65 year olds who went to church at least once a week had lower levels of cancer and heart disease, suggesting an up-regulation of the immune system and showing the beneficial influence on health of having a religious or spiritual belief. A strong faith, a supportive social network, positive relationships and positive thinking up-regulate the immune system, reducing the risk of cancer and heart disease and improving general health.

Prayer has been looked at by the Cochrane Committee who keep a database of reviews of double blind randomised controlled trials that have been properly conducted. Cochrane points out that proper double blind trials may be difficult to do if God is involved in the process of prayer, as God may not wish to comply with the conditions of such a trial. They also note that there is a significant background of prayer, as there are general prayers from many churches asking for the healing of the sick. Their conclusion after reviewing a very small sample of prayer studies is that there is no evidence for the efficacy of prayer, but they add, significantly, that there is also no evidence against it.

The first good double blind randomised control trial of prayer is that already mentioned, of Byrd et al. (1988) carried out in a coronary care unit. The names of the active group were sent to a prayer group who were instructed to pray that those named would get better more quickly and have fewer complications etc. The results were significant. In the prayed for group there was a five-fold reduction in the use of antibiotics, a three-fold reduction in the occurrence of pulmonary oedema, fewer subjects required intubation and fewer subjects (though not significantly fewer) died than in the control group. This paper became the model for a number of further studies.

Harris et al. (1999) looked at 999 consecutive patients attending a coronary care unit. They were randomised to a group who were to be prayed for and a control group. The names of those in the subject group were sent to local prayer groups. The patients were unaware that they were being prayed for. The measures were the outcome of their coronary care and the length of their hospital admission. There were no differences in their coronary care and length of hospital admission, but when a coronary care unit score, comprising many different variables, was analysed, those in the prayer group had a significantly lower value than those who were not prayed for.

Roberts, Ahmed and Hall (2000) from Westcott House reviewed the outcome of prayer studies to that date. They looked at randomised trials of personal, focused committed and organised prayer. Their outcomes were reduction in the number of

deaths and in the severity of illness, and improvement in quality of life and well-being. They pointed out that there was little difference in death rates and also little change in heart problems with bad or intermediate outcome. However, there were increased odds against being readmitted to a coronary care unit if you were prayed for. They concluded that it was too early to support a definite effect of prayer.

Aviles et al. (2001) looked at 799 coronary care patients and found that prayer had no significant effect on medical outcome, but the results of all the indicators they looked at were in the direction of prayer being effective.

Walker et al. (1997) studied patients in an alcohol unit. The prayer was that the subjects would stop drinking. There was no difference on this variable between groups, as both showed a delay in drinking reduction. However, those prayed for had reduced drinking in the second and third months only. But most interestingly, if they were prayed for by family members the patients drank significantly more at six months. This is open to interesting interpretations.

Abbot (2000) reviewed the prayer field. He examined 22 full trials of which 10 reported significant effects of healing. However, the methods varied. He noted that two large-scale trials using the same method and well carried out replicated positive effects, but overall in the prayer field the trials were too varied to draw an overall conclusion. But he suggested that there was sufficient positive evidence to continue research.

Astin et al. (2000) from the University of Maryland reviewed 23 trials and noted that they were too heterogeneous for meta-analysis. As 57% of the trials reviewed showed positive treatment effects they concluded that the field merited further research.

One of the most persuasive prayer studies is that of Cha et al. (2001) from the department of obstetrics and gynaecology at Columbia Hospital New York. They carried out a prospective double blind randomised control trial on the effects of intercessory prayer on in vitro fertilization and embryo transfer in a group of patients in Seoul South Korea. There were three praying groups, one in Australia, one in the USA and one in Canada. The results were striking. The prayed for group showed higher implantation rates (16.3% against 8% for the control) ($p=0.0005$) and higher pregnancy rates (50% against 26%) ($p=0.0013$). The high significances suggest again that prayer is effective and the fact that the people praying were widely separated from those they prayed for suggests that action at a distance has to be postulated and that some kind of intention to heal, on the part of those praying, crosses space to influence the target group. This study is thus a parapsychological study on healing and suggests the possibility of direct effects of mind beyond the brain - a possibility that must be considered in any current theory of consciousness.

The prayer field is exciting and contains both positive and negative studies. The work on prayer for the next decade is to formalise and quantify methods of prayer in such a way that mental intent to heal can be standardised. It is very difficult to carry out a scientific prayer study when an appeal is made to God, for all the reasons given by the Cochrane Committee. The evidence so far is that intention to heal is most likely to be the important variable, and thus this will need to be tested. Prayer for the well-being of the prayee is more effective than directed prayer. This would suggest that the attitude of the person praying is all-important. What is clear is that there are sufficient studies now to show that prayer can work, and the evidence suggests that the presence of prayer groups in a hospital setting should be considered.

References:

Abbot NC, (2000) 'Healing as a therapy for human disease: a systematic review' Research Council for Complementary Medicine, London, UK

Astin JA, Harkness E, Ernst E. (2000) 'The efficacy of distant healing: a systematic review of randomised trials'. *Ann Intern Med* 2000; 132:903 -10

Aviles JM, Whelan SE, Hernke DA, Williams BA, Kenny KE, O'Fallon WM, Kopecky SL. (2001) 'Intercessory prayer and cardiovascular disease progression in a coronary care unit population: a randomised controlled trial'. *Mayo Clin Proc* 2001 Dec 76 (12): 1192-8.

Byrd RC (1988) 'Positive therapeutic effects of intercessory prayer in a coronary care unit population' *Southern Medical Journal* 81 826-829

Cha KY, Wirth DP, Lobo RA. (2001) 'Does prayer influence the success of in vitro fertilization-embryo transfer? Report of a masked, randomised trial'. *J Reprod Med* 2001 Sep: 46 (9): 781-7

Gardner R, (1983) 'Miracles of healing in Anglo-Celtic Northumbria as recorded by the Venerable Bede and his contemporaries: a re-appraisal in the light of twentieth century experience'. *British Medical Journal* Dec. 24 - 31 Vol. 287 pp.1927 -33

Ross JH, Jancey M. (1987) 'The Miracles of St. Thomas of Hereford' *British Medical Journal* Dec. 19 - 26 Vol. 295 pp.1590-1594

Harris WS, Gowda M, Kolb J, et al. (1999). 'A Randomised, Controlled Trial of the Effects of Remote, Intercessory Prayer on Outcomes in Patients Admitted to the Coronary Care Unit' *Archives of Internal Medicine* Vol. 159: 2273 - 2278

Koenig HG, Hays JC, George LK, Cohen HJ, McCullough M, Meador K, Blazer DG. (1999) 'Does religious attendance prolong survival? A six-year follow-up study of 3,968 older adults'. *Journal of Gerontology (*medical sciences) 54A: M370-377.

Koenig HG, McCullough M.E, Larson DB. (eds.) *Handbook of Religion and Health* OUP 2001

Roberts L, Ahmed I, Hall S. 'Intercessory prayer for the alleviation of ill health'. Cochrane Database Syst. Rev. 2000: (2):CD000368.

Walker SR, Tonigan JS, Miller RW, Corner S, Kahlich L, et al. (1997). 'Intercessory prayer in the treatment of alcohol abuse independence: A pilot investigation'. *Alternative Therapies in Health and Medicine* 3 (6) 79-86