Does Prayer Really Help?

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Cardiovascular disease is a frequent health problem in the US, and major cause of death. It is not surprising, then, that when people are confronted with cardiovascular health problems, they seek standard medical care, as well as turning to prayer. Prayer as an intervention takes one of two forms. Petitionary prayer, praying for oneself, is the most frequently studied form. The second form, intercessory prayer, is prayer by one person on behalf of another. Studies on the effects of intercessory prayer are limited. How does intercessory prayer influence the recovery of patients hospitalized with a cardiac diagnosis?

Background and Significance

Prayer is communication with God. It can be verbal (spoken prayer) or non-verbal (a thought). In intercessory prayer, the root word means "to stand between, that is to stand between the one being prayed for and God."[1] Thus, intercessory prayer can be asking God for protection, help or healing for another person.

From the late 1800s until well into the 1900s, the scientific community viewed any spiritual subject, including prayer, as unscientific, so research interest in the effects of prayer tended to wane. A resurgence of interest occurred in the mid-1960s and has continued in the '90s.[2] Most studies on the therapeutic effects of intercessory prayer reviewed in medical, nursing, psychology and parapsychology literature describe positive effects.

Sir Francis Galton published the first such study. He hypothesized that nobility received more intercessory prayer than commoners and thus should live longer. Using statistical analysis of death records of common people and nobility in England, he was unable to support prayer as an effective intervention[3].

Although Galton's 1872 study lacked scientific rigor, more recent studies have used designs intended to control unwanted and extraneous variance. In 1988 Dr. Randolph C. Byrd, for example, used a double blind study to study 393 patients admitted with a cardiac diagnosis to San Francisco General Medical Center's CCU. Subjects were randomized after signing informed consent. During their hospitalization, the experimental group received intercessory prayer by a group of Christians outside the hospital.

When the intercessory prayer was employed, one or more outcomes described as good were experienced in 163 of 192 subjects in the experimental group. The control group experience was 147 or 201, for a value of $p<0.01$. A *good* outcome was defined as: "No new diagnoses, problems or therapies were recorded for the patient, or if events occurred that only minimally increased the patient's morbidity or risk of death."[4] When multivariant analysis was used to separate the groups based on outcome variables, the value became more significant at $p<0.0001$. The multivariant analysis selected ventilatory support, antibiotics or diuretics as the criteria.

In a much smaller 1969 study, n = 18. Platon J. Collipp found that children with leukemia who received prayer lived longer than those who did not. At the end of the fifteen-month study, seven of the children in the experimental group were alive. In the control group only two of eight children were living at the end of the study.[5] The difference in survival was statistically significant. The efficacy of intercessory prayer as an intervention was supported. But because the study was small, it lacked the power to be generalized across a population.

C.R.B. Joyce and R.M.C. Weldon in 1965 conducted a double blind clinical trial at two outpatient clinics at the London Hospital Medical College, London, England. They identified forty-eight patients suffering from chronic stationary or progressively deteriorating psychological or rheumatic disease. The patients were matched in pairs as closely as possible for gender, age and primary clinical diagnoses. Nineteen pairs were also matched based on religious faith and marital status. Subjects were not informed that they were part of a research study. One member of each pair was selected by a coin toss to be in experimental group. Both groups continued to receive the appropriate medical treatment. Each subject received approximately fifteen hours of prayer during the study.

At the conclusion of the six-month study, subjects who received intercessory prayer as therapeutic intervention along with their medical treatment, rated higher on clinical state and attitude scales than those who had not received intercessory prayer. Although not statistically different, subjects in the experimental group were considered to have a more positive outcome; five of sixteen patients showed improvement in the clinical state and attitude scales.[6]

A study at Duke University is currently in process, examining the impact of intercessory prayer on seriously ill patients undergoing cardiac catheterization.[7] The research basis relative to studies examining the therapeutic effects of intercessory prayer is growing. Of the studies reviewed, the findings of three of them supported the intervention of intercessory prayer as yielding important beneficial effects.

Research Question and Variables

The question *Does intercessory prayer to the Judeo-Christian God have effect on the patient's medical condition and recovery while in the hospital?* served as the basis for the study. The researchers hypothesized that the experimental group would have fewer hospital days, fewer ICU days, and fewer complications than the control group.

The independent variable, intercessory prayer, was defined conceptually as a request directed to God for the recovery of an individual with cardiovascular health problems. Operationally, intercessory prayer was defined as an individual offering a prayer for a minimum of three minutes or behalf of another. The prayer was a request for a rapid recover and for prevention of complications and death. Each intercessor kept a prayer log showing the amount of time spent in prayer each day and the subjects for whom the prayers were offered. Five women, members of an organized prayer chain at a local church, served as intercessors. The church was a recognized religious organization, part of an international Christian denomination.

The dependent variable, patient outcomes, was conceptually defined as the hospital recovery progression for the patient. It was operationally defined as the number of days in the ICU, number of days in the hospital, and the number and type of complications each subject experienced. The attribute variables included age, gender, and primary and secondary cardiac diagnoses.

Methods and Procedures

A post-test control group design guided the study. Through random assignment, subjects in the hospital ICU were placed in either the experimental or the control group. The study used a double blind design, with only the research assistant having knowledge of the assignment of the sample members. Both the experimental and control group received the same medical and nursing care, as neither the nursing or medical staff were aware of whether or not the patients were participating in the study.

Uncontrolled threats to design validity included the inability of the researcher to prevent prayer for the control group by family, friends or other religious groups. Because prayer is an integral part of many religious systems and the patients hospitalized with cardiac pathology could be part of a religious group, there was no way to control for the intercessory prayers being offered for members of both groups. Therefore, a member of the control group could have received the intervention of prayer to the same or greater design than the experimental group member. The presence of the chaplain service at this agency could have also confounded results if a member of the control group requested to see and pray with the chaplain.

Furthermore, the chaplains met daily and prayed for all patients in the hospital. They also maintained a prayer basket in the hospital chapel as the request vehicle for intercessory prayer. Members of either the control or experimental group could have had their names placed in the basket by family members, friends or hospital staff. Some of the nursing staff began their shift with prayers for the patients and for God's guidance in providing care. As this was not discontinued during the study, this practice could have impacted the patients of those nurses, regardless of the patient's status in the study. Although a prayer log was kept by the intercessors during the study, the offering of prayers on a daily basis by the intercessors was not monitored. Therefore, it was possible that the intercessory prayer group would not fulfill their commitment to pray for the experimental group members.

Criteria for inclusion were a primary cardiac diagnosis and admission to ICU. Approval from the clinical agency and informed written consent from each subject was obtained. No risk was involved with this study, as patient caregivers were unaware of the presence or absence of the intervention. No direct contact with patients was made once consent was obtained. Thus, no positive or negative placebo effect was possible.

Fifty patients with a cardiac-related diagnosis admitted to the ICU of a 200-bed acute care medical center in a metropolitan area, were selected to participate in the study. The twelve-bed ICU served critically ill patients with a variety of medical/surgical diagnoses. The unit had a occupancy rate of seventy-five percent, with an average daily census of eight. Of these ten patients, approximately three-fourths had a cardiac diagnosis and thus were considered eligible for inclusion in the study. After obtaining informed consent, subjects were randomly assigned to either the experimental or control group. The assignments were made with a coin toss, placing the first subject into the experimental group and alternating thereafter. Twenty-five were assigned to each group.

Demographic information was obtained by chart review. Age was reported in actual years. Length of stay was tabulated in days. Gender was coded as one for male and two for female. Primary and secondary diagnoses were coded as nominal data, either absent or present. Outcomes were determined by collecting data from the narrative of the chart (nursing notes, physician

orders and progress reports). The data was taken from the chart by the researcher, prior to knowing subject assignments.

After subjects were randomly grouped, each intercessor was informed to begin praying for the assigned individual. The intercessory prayer group was instructed to pray as they normally do on a daily basis, for a rapid recovery, decreased hospital stay, and for prevention of complications and death. The prayer group did not meet or in any way interact with the patients. Study results were shared with the prayer group only at the conclusion of the study.

The mean amount of prayer time was 29.97 minutes for each subject over the course of his or her hospital stay. Intercessors prayed from twenty-seven to eighty-eight minutes total and averaged three to six minutes per day for each subject. Self-reporting logs indicated the amount of prayer given for each subject in the experimental group.

Results

Following chart review of the fifty patients, who agreed to participate, thirty-nine were assigned to the groups. Eleven subjects were excluded from the study, as they did not meet the sample criteria. Twenty-two were assigned to the experimental group and seventeen to the control group; information was coded concerning gender, age, primary and secondary cardiac diagnoses, hospital length of stay, ICU length of stay and disposition.

The groups were determined to be equivalent for age (t-test), gender, primary and secondary diagnoses (chi square). Twenty-four males and fifteen females participated, with eight males and nine females in the control group and sixteen males and six females in the experimental group. The mean age of the sample was 62.0 years. The experimental group mean was 62.4, and the control group mean was 61.6.

The most frequent primary diagnosis for the sample was acute myocardial infarction (AMI) and chest pain (CP). In the experimental group, nine had a primary diagnosis of AMI, and ten had a primary diagnosis of CP. In the control group, AMI was the primary diagnosis for seven subjects and CP for ten. The most frequent secondary diagnoses were coronary artery disease (CAD) and congestive heart failure (CHF). In the experimental group, CAD was the secondary diagnosis for eight members and six had CHF. In the control group, CAD was the secondary diagnosis for six subjects and CHF for five.

After careful consideration of the sample characteristics, one subject was dropped from the study as being atypical, leaving thirty-eight subjects, with twenty-one in the experimental group and seventeen in the control group. Results of the study were significant for hospital length of stay (LOS) and ICU length of stay at the 0.003 and the 0.002 levels respectively. However, the complication rate was statistically insignificant. The LOS ranged from one to eight days. The experimental group mean was 2.59 and the control group mean was 5.17. The ICU length of stay ranged from one to six days. The experimental group mean was 1.82, and the control group mean was 2.65 days, significant at the 0.002 levels.

Complications were also determined by chart review. Twenty-one possible complications were identified at the beginning of the study. Only six complications were consistently identified. These six were included in the severity rating for the subjects. The six were 1) no complications, 2) mild unstable angina, 3) mild CHF with pulmonary edema, 4) heart catheterization, 5) CHF with pulmonary edema, and 6) moderate to severe angina. Using the six factors and ranking them based on severity, a scale was developed. The experimental group mean was 1.1 and the control group mean was 1.2. The findings regarding complications were not statistically significant.

Discussion

The study question was partially supported, as patients assigned to the experimental group and who had received intercessory prayer experienced a shorter length of stay in both the hospital and the ICU. However, the two groups were not significantly different relative to the number and type of complications experienced.

The results were similar to those reported by Byrd[8], Collipp[9], and Joyce and Welldon[10], who each reported that prayer had a positive impact on the subjects' well-being, when included as an intervention. The study did not parallel Byrd's results with regard to complication rates.[11] No attempt was made to determine the reason for this. However, Byrd's study was conducted in a nonparochial institution and this one in a facility with a religious affiliation.

Findings in more recent research related to the effects of intercessory prayer were mixed, with one study producing insignificant results, and two studies supporting the positive effects of intercessory prayer. Although the populations studied and the outcomes being measured were different from the current study, all studies identified the need for additional research in the area of intercessory prayer.

A case study by Christine E. Hughes in 1997 described the practice of prayer as an alternative form of therapy in a single subject. While receiving petitionary and intercessory prayer over a period of weeks, the subject's previous laboratory results changed from abnormal and possible cancerous cells to normal cells. The physician had no explanation for the change in the patient's laboratory values and acknowledged the possible impact of prayer on her health status.[12]

A second study by Father Sean O'Laoire, also in 1997, examined the effects of distant intercessory prayer on the persons saying the prayers, as well as on the persons for whom the prayers were said. Both groups significantly improved in select areas of psychological well being. Those being prayed for improved on all eleven measures (self-esteem, trait-anxiety, state-anxiety, depression, and total mood distribution: self-perceived changes in physical, emotional, intellectual and spiritual,

health and relationships, and creative expression). Those praying improved in ten of the eleven areas.[13]

Although the findings in this study were statistically significant, because of the small sample size, the findings cannot be generalized to the population at large. A second limiting factor was the religious affiliation of the facility. Patients choosing to be admitted to a religiously affiliated hospital are more likely to be Christians who pray and receive the prayers of friends and fellow Christians.

A possible strength in the study which could address the impact of others outside of the study praying for the subjects might be that the intercessors for the experimental group were asked to pray specifically for rapid recovery, as well as few complications. Other persons offering prayer would likely pray for recovery and not be concerned about the length of stay specifically.

In conclusion, the findings from this study on the effects of intercessory prayer showed positive therapeutic effects for those who received intercessory prayer, supported previous findings, and provided encouragement for prayer as a therapeutic intervention in a population that had not previously been studied.

By replicating the study in a variety of populations and types of settings (public and private), possible spiritual bias associated with the subjects or the settings could be reduced or eliminated. Larger sample sizes and the inclusion of religious groups other than Christians could also broaden the applicability of the research. The development of a questionnaire to determine the importance of spirituality in the sample population prior to conducting a study about prayer might also decrease study bias. The information could be used to estimate the likelihood of extraneous prayers being offered.

Because of the controversy associated with the idea of examining the effects of prayer, further research is needed to support prayer and other spiritual interventions as a health care therapy. Studies with rigorous controls are necessary to provide supportive data. If, indeed, prayer is an effective intervention in physiological recovery, it should be included in treatment regimens.[14]

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