

Prayer and Health: Let's Get Up Close and Personal

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Who prays?

- Gallup polls over 50 years in US
 - About 9 in 10 people pray
 - About 3 in 4 pray daily
- Women > Men
- African American > White
- Older > Younger
 - Differences small

Who prays for health?

Christians

- Biblical examples of prayers for healing (Matthew 8:1-13; 15:29-31; John 2:1-13)
- A common part of contemporary small group gatherings of Christian believers
- Often said during public worship by leaders
- May be for specific individuals or general classes of humans (e.g., all those suffering from AIDS)

Who prays for health?

Muslims

- Different types
 - must be said in person in mosque vs. may be offered from anywhere
- In addition to daily prayers (5 x/day) may offer du'a or prayer of personal supplication (Qur'an 2:186, 40:60)
- Iman may be asked to pray at end of daily services for sick person with those gathered offering affirmation

Who prays for health?

Jews

- An ancient practice that continues into present
- Old Testament – Hebrew references (II Kings 2:5; Psalm 24:17-19)
- Members of synagogue may ask rabbi to announce names of the ill or call them out

Prayer as medicine?

- Barnes et al. (2002)
 - 62% of Americans use some type of alternative medicine
 - Of 10 most often utilized “treatments”
 - #1 – prayer for self (43%)
 - #2 - prayer for others (24.4%)
 - #5 – being in a prayer group (9.6%)

Prayer as medicine?

- Yeh et al. (2002) U.S. national survey of individuals with diabetes
 - 46% utilized prayer for health
 - 28% prayer for their diabetes specifically
- Studies in Malaysia and Brazil show prayer to be “most commonly used health intervention.”

Prayer among healthcare providers

- Tracey et al. (2005): US national survey of critical care nurses
 - 73% used prayer in their practices
 - 81% had recommended it to patients
 - 79% had been requested by patients to pray on their behalf

Historical context

- Prayer from Latin *precari* – to entreat or ask earnestly
 - Same root as precarious
- William James (1902) prayer is “...the very soul and essence of religion”

Definition of prayer

- "Prayer, to be prayer at all, is an intimate address to or communication with divine realities that are truly believed to be real and efficacious. In the Abrahamic religions (Christianity, Islam, Judaism), prayer is an intimate expression of a deeply personal relationship" – Anonymous reviewer, 2007

Definition of prayer

- to speak to a god either privately or in a religious ceremony in order to express love, admiration or thanks or in order to ask for something

Cambridge Dictionary

Empirical study of types of prayers

Poloma & Pendleton (1989)

1. Meditative ($\alpha=.81$)
 - Worship or feel presence of God
2. Ritualistic ($\alpha=.59$)
 - Book of prayer, memorized prayer
3. Petitionary ($\alpha=.78$)
 - Ask for something
4. Colloquial ($\alpha=.85$)
 - Ask for guidance, talk to God in own words

Hood, Morris, & Pendleton, (1993)

1. Contemplative ($\alpha=.82$)
 - Seek to be one with God, perfect harmony
2. Liturgical ($\alpha=.81$)
 - Recite sacred phrase, read from sacred texts
3. Material ($\alpha=.65$)
 - Ask for something
4. Petitionary ($\alpha=.90$)
 - Seek blessing for others, seek forgiveness for self

Another way of conceptualizing prayer and its relation with health

- No currently recognized natural mechanism
 - Distant intercessory prayer
- Possible to hypothesize natural (psychological) mechanisms
 - Frequency of prayer
 - Content of prayer
 - Prayer as coping

Studies of Distant Intercessory Prayer

- "It is asserted by some, that men possess the faculty of obtaining results over which they have little or no direct personal control, by means of devout and earnest prayer, while others doubt the truth of this assertion. The question regards a matter of fact, that has to be determined by observation and not by authority; and it is one that appears to be a very suitable topic for statistical inquiry...Are prayers answered or are they not?...Do sick persons who pray or are prayed for, recover on the average more rapidly than others?"

Sir Francis Galton, 1872

Studies of Distant Intercessory Prayer

- Intercessory prayer – prayer said on behalf of someone else
 - Could be present
 - Could be distant
- 15 studies of distant intercessory prayer
- Two relatively recent, large N , multi-center trials
 - Krucoff et al., 2005, *The Lancet*
 - Benson et al., 2006, *American Heart Journal*

Studies of Distant Intercessory Prayer - Methods

- Divide patients into 2 groups, usually on a random basis; those prayed for and those not prayed for
- Typically recruit patients from a hospital unit
- Patients are blind as to what group are in
- Patients are sometimes even blind to whether they are in a study at all
- Patients' health care providers are also blind to prayer condition (and sometimes study)

Studies of Distant Intercessory Prayer – Methods; Types of Patients

- Coronary Care Unit
 - one study specifically of cardiac bypass patients
- Fertility Clinic
- Leukemia patients
- Kidney dialysis clinic
- Alcohol treatment
- Various mental health problems

Studies of Distant Intercessory Prayer – Methods; Types of Prayers

- Usual prayer with added phrase, “for a successful surgery with a quick, healthy recovery and no complications” (Benson et al)
 - 3 Christian groups (2 Catholic, 1 Protestant)
- Prayer in customary fashion (Krucoff et al)
 - Liberal Christian, Fundamentalist Christian, Buddhist, Catholic, Jewish, Baptist, Moravian
- Prayer for a rapid recovery and for prevention of complications and death, in addition to other areas believed beneficial to patient (Byrd)
 - “born again” Christians based on John 3:3 with active Christian life (Catholic and Protestant included)

Studies of Distant Intercessory Prayer – Methods; Types of Intercessors

- Christian (11 studies)
- Jewish (2 studies)
- Buddhist (1 study)
- Unknown (4 studies)

Studies of Distant Intercessory Prayer – Meta-Analysis

Methods

1. Used intercessory prayer as an intervention for a medical or mental health problem
2. Provided data that allowed for calculation of effect size
3. Compared intercessory prayer to a control group
4. Participants blinded to experimental condition

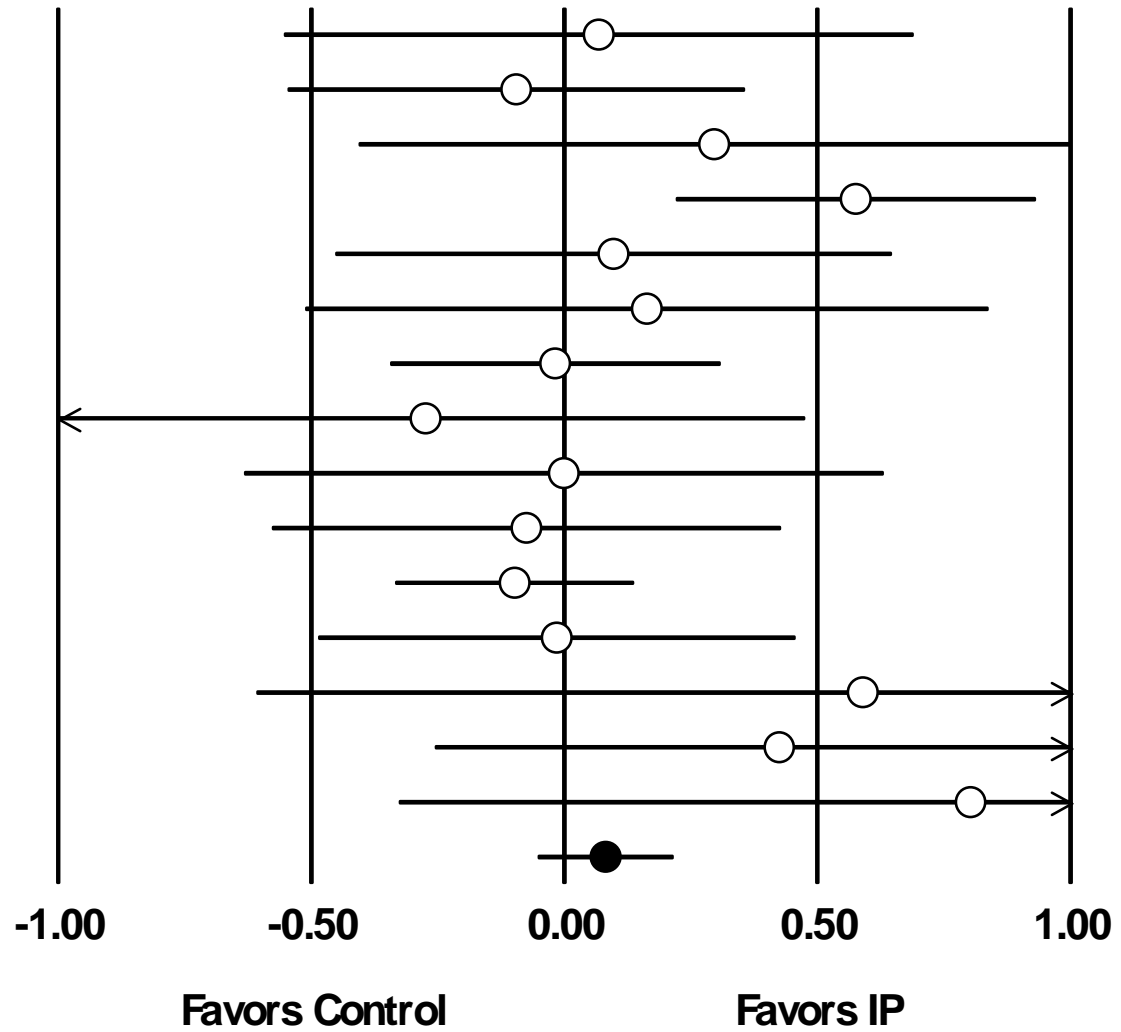
Studies of Distant Intercessory Prayer – Methods

- Outcomes pooled across DVs to provide one omnibus effect size for each study
- Effect sizes weighted by their inverse variance – provide a control for N in study
- Hedges' g used for effect size (corrects a small bias in Cohen's d)
- Used random effects model (though also calculated using fixed effects model since random effects is more conservative)

Studies of Distant Intercessory Prayer – Methods, Moderator Analyses

- Patient population (seeking medical or psychological intervention) vs. non-patient population
- Random assignment vs. non-random assignment
- Frequency of prayer (daily vs. less often)
- Duration of prayer intervention

Aviles
Benson
Byrd
Cha
Harris
Joyce
Krucoff
Mathai
Matthews 2000
Matthews 2001
O'Laoire
Palmer
Tloczynski
Walker
Collip



Studies of Distant Intercessory Prayer – Results

Effects of IP Summarized Across Studies

<u>Condition</u>	<u>N of Comp</u>	<u>g</u>	<u>Z</u>	<u>p</u>
Overall	15	.082	1.18	.26
Patient	12	.139	1.68	.09
Healthy	3	-.061	.58	.57
Patient (no C&W)	11	.044	.52	.61
Overall (no C&W)	14	.003	.04	.97

Positive g represents positive effect for intercessory prayer

Studies of Distant Intercessory Prayer – Results, Moderator Analysis

- Patient population vs. non-patient population ($p = .14$)
- Random assignment vs. non-random assignment ($p = .80$)
- Daily vs. less often prayer ($p = .62$)
- Duration of prayer intervention ($p = .83$)
- Homogeneity test ($p = .34$); effect size reasonably representative of each study in the set

Studies of Distant Intercessory Prayer – Discussion

- There is no scientifically discernable effect for distant intercessory prayer on health
- There is no theoretical basis to continue testing distant intercessory prayer
- There is no theological basis, that I am aware of, to support scientific study of distant intercessory prayer
- Perhaps distant “prayer” is different from distant “healing”; but these studies were of prayer
- Distant intercessory prayer studies cannot be conducted ---- **What??**

Studies of Distant Intercessory Prayer – Discussion


- Can you have a true control group, i.e., a no-prayer group?
- Can only have a group not prayed for by the experimenter's intercessors.
- Who cares?

Studies of intercessory prayer that *could* be based on natural mechanisms

- Studies looking at effects of prayer on the person doing the praying
- Studies looking at effects of prayer on individuals who know they are receiving prayer

Frequency of Prayer

Possibilities:

1. more prayer  psychological/ physical functioning (+)
2. ill individuals pray more (-)
3. if pray while stressed will focus on the stress (-)
4. if pray while stressed will find increased coping through recognition of divine purposes, relaxation, etc. (+)

Frequency of Prayer, Ellison et al. (2001)

- Probability sample from Detroit ($N = 1,139$)
- A series of careful *a priori* analyses
- Frequency of prayer slightly *positive* association with *distress*
- When control for health impairment and family problems positive association with distress eliminated
- Evidence that those with more stressful events pray more

Frequency of Prayer, Helm et al. (2000)

- 6.3 year follow-up longitudinal study of probability sample of elderly adults ($N = 3,851$); 29.5% died
- Those who reported never engaging in private religious activity (PRA; prayer, meditation, Bible study) had increased relative hazard of dying; but became non-significant after adjustment for demographic and health variables

Frequency of Prayer, Helm et al. (2000)

- Divided sample on basis of ADLs into those impaired at start and those unimpaired at start
- Among those impaired at start; no significant advantage for PRA
- Among those unimpaired at start; after adjustment for demographic and health variables; **no engagement in PRA** conferred a significantly increased risk of death; RH 1.63, 95%CI 1.20-2.21
- Major difference between “rarely/never” and others

Frequency of Prayer, Meisenhelder & Chandler (2001)

- Frequency of prayer and SF-36 scores of vitality, general health, mental health
- 1412 active Presbyterian pastors
- Restricted range on both variables, i.e., prayed often and had good health
- After controlling demographic variables; significant positive relationships between prayer and all three outcome variables

Frequency of Prayer, Maltby et al. (1999)

- 474 United Kingdom college students
- Religion variables (frequency of prayer, religious orientation, church attendance)
- Elements of well-being (depression, trait anxiety, self-esteem)
- Frequency of prayer predicted lower depression, lower anxiety, greater self-esteem
- Held for men and women

Frequency of Prayer- Conclusions

- Largely cross-sectional, self-report
- Frequency of prayer typically single item
- Large and often representative samples
- Generally good use of statistical modeling techniques
- Few replications
- Widely varying outcome measures
- Frequency of prayer, like church attendance, not a really exciting psychological variable

Content of Prayer

- Does verbal content of prayer influence any possible relations between prayer and health?
- Can prayer represent a special form of cognitive process?
- Can prayer represent a non-special form of cognitive process, but perhaps one particularly palatable to some people?

Content of Prayer

Poloma & Pendleton (1989)

1. Meditative ($\alpha=.81$)

- Worship or feel presence of God

2. Ritualistic ($\alpha =.59$)

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3. Petitionary ($\alpha=.78$)

- Ask for something

4. Colloquial ($\alpha=.85$)

- Ask for guidance, talk to God in own words

1. Meditative predicted existential well-being and religious satisfaction

2. Ritualistic predicted greater depression, loneliness, tension

3. Petitionary not predictive

4. Colloquial predicted happiness

Footnote – experiences during prayer most predictive of greater well-being

Content of Prayer, Krause (2003)

- National sample; 1,258 White and African American adults at least 66 years old (only Christians included because of nature of items)
- Does praying for others reduce effects of financial strain on self-rated health?
- Measured
 - prayer for 1) others, 2) material things
 - financial strain
 - health

Content of Prayer, Krause (2003), results

- Older African Americans pray for others significantly more often than did older White Americans ($p < .001$)
 - Size of effect reduced when control for church attendance but not eliminated
- Same findings for praying for material things

Content of Prayer, Krause (2003), results

- As financial strain increases, older people rate health less favorably
- No relations between rated health and prayer for others or prayer for material things
- Significant interaction praying for others X financial strain predicting health status
- No significant interaction praying for material things X financial strain on health status
- Analyzed effects of financial strain on health at various levels of prayer for others.
- Demonstrated that deleterious effects of financial strain on health were reduced significantly for those who pray more often for others; not eliminated

Content of Prayer, Krause (2004)

- Same data set
- Investigated expectancies regarding prayer (trust based – God knows when and what is best answer to prayer vs. my prayers are answered)
- Looked at self-esteem

Content of Prayer, Krause (2004), results

- Self-esteem highest among those who believed that only God knows when it is best to answer a prayer and only God knows best way to answer it
- Self-esteem lower among those who believe prayers are answered right away and believe they get what they ask for

Content of Prayer, conclusions

- The content of prayers may make a difference in psychological and physical outcomes
- Evidence that as individuals age their prayers become less centered around material requests and more around “nonspecific effects – courage, increased morale, etc.
- Mature spirituality or religion (McCulloch)
- Subjective experiences during prayer may be more predictive than verbal content

Prayer as Coping

- Passive?
- Desperate?
- Wishful thinking only to be shattered?

Prayer as Coping

- McCullough & Larson (1999) – prayer more likely used as coping when problems are more severe, chronic, unresponsive to other treatments
- But, prayers are said for transient stressors
- Selim (2001) unplanned finding that 60% of Egyptian patients undergoing MRI prayed to cope with anxiety of the procedure
- Neighbors et al. (1983) 44% of African Americans identified prayer as one coping response that was most helpful in dealing with serious personal problem

Prayer as Coping

- Pargament (1997); McIntosh & Spilka (1990) – prayer as part of general religious coping
 - Deferring – I'll let God do it – prayer passive
 - Collaborative – I'll pray and believe God can help but there are things I am responsible to do
 - Self-directive – God may be relevant but I don't need to pray about this one, I can handle it
- Different styles for different stressors

Future Directions

- Forget the distance prayer – let's get up close and personal
- Theory/theologically driven studies of content and experience of prayer; prayer as coping
- Longitudinal studies
 - Help sort out temporal relationships; health on prayer effects
- Ecological momentary assessment techniques to gain greater understanding of natural practices of prayer and relevant correlates
 - We have a study currently analyzing looking at religious orientation, naturally occurring stress, cardiovascular variables

Future Directions

- Experimentally designed studies (frequency intervention, content intervention). Cross these with denomination; spiritual maturity, religious orientation
- Use of thoughtful control groups (e.g., practice positive thinking through the day vs. daily prayer) and randomized designs
- Utilize multiple dependent variables, from different sources (not all self-report); some may help us understand mechanisms.

More Spirituality and Health at SBM - Montreal

- For God's Sake: Spirituality and Illness;
Thursday, 4:00-5:30, 516c
- Breakfast Roundtable Discussion;
Friday, 7:30-8:30, 516b
- Meditate on This: Advances in
Complementary and Alternative Medicine;
Friday, 3:15-4:45, 510bd
- The Future of Spirituality and Health
Research: Presentations from the 2008
Spirituality and Health SIG Early
Investigator Award Finalists;
Saturday, 10:00-11:30 513def

Definition of prayer

- (1) : an address (as a petition) to God or a god in word or thought <said a *prayer* for the success of the voyage> (2) : a set order of words used in praying **b** : an earnest request or wish
2 : the act or practice of praying to God or a god <kneeling in *prayer*>
3 : a religious service consisting chiefly of prayers -
- often used in plural
4 : something prayed for
5 : a slight chance <haven't got a *prayer*>

Merriam-Webster Dictionary