July 2014 Article of the Month

This month's article selection is by Chaplain John Ehman,
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Reynolds, N., Mrug, S., Britton, L., Guion, K., Wolfe, K. and Gutierrez, H. "**Spiritual coping predicts 5-year health outcomes in adolescents with cystic fibrosis**." *Journal of Cystic Fibrosis* 13, no. 5 (September 2014): 593-600.

SUMMARY and COMMENT: This month's article, on the one hand, offers a straightforward analysis of health outcomes and some speculation about causation which should be of value to chaplains generally, and on the other hand, it offers a good bit of detailed statistics [-see pp. 595-598] that should pique the interest of researchers and advanced research students. It is distinguished by its 5-year prospective design.

"Adolescents [12-18 years old] were recruited during outpatient medical visits at the CF clinic at a Children's Hospital in the southeast U.S. in 2008–2009 (baseline)" [p. 594]. They were given a battery of questionnaires, including the frequently-used Brief RCOPE measure of positive/negative religious coping, a measure of secular coping that focuses on optimistic/pessimistic attributional styles, and assessments of pulmonary function, body mass, hospitalizations, and baseline medical complications, as well as a query about demographic information. Then, in 2013, for a 5-year follow-up, data on "pulmonary function (%FEV1 scores [i.e., a spirometric measure of Forced Expiratory Volume, calculated as a percentage of the most air a person can forcefully exhale in one second as compared to normal lung capacity in a population]), nutritional status (BMI [Body Mass Index] percentiles), hospitalizations, and medical complications were collected from patients' records in the CF Foundation registry..." [p. 594].

In light of existing literature on spiritual/religious coping, the authors hypothesized:

> ...[P]ositive spiritual coping would be associated with better health functioning over the 5-year period, while negative spiritual coping would be related to faster health decline. We expected that spiritual coping would remain a significant predictor of health outcomes even after accounting for baseline health and secular coping. [p. 594]

Among the results:

> Positive spiritual coping was protective against declines in pulmonary function and nutritional status, and predicted fewer hospitalizations over time. Specifically, patients who did not use positive spiritual coping experienced decline from mild to moderate pulmonary obstruction (from 82% to 51% of predicted FEV1) compared to a slower decline within the mild range (from 82% to 78%) among those using the highest level of positive spiritual coping. Patients who did not use positive spiritual coping also spent an estimated 122 more days hospitalized each year than those using high levels of positive spiritual coping. High use of positive spiritual coping was also

> associated with stable nutritional status (from 41st to 44th BMI percentile) compared to a decline from initially higher BMI (from 77th to 41st percentile) among those not using positive spiritual coping. These effects of positive spiritual coping were present even after adjusting for a number of demographic variables, secular coping, and baseline health indicators, including major CF complications, bacterial infections, and hospitalizations. [p. 598]

The authors go on to note:

> The health outcomes assessed in this study, pulmonary function, nutritional status, and hospitalizations, are key predictors of mortality in patients with CF. Based on estimates from those studies, the health declines observed in our patients who did not use positive spiritual coping vs. those who used high levels of such coping translate into a 2–3 fold increase in mortality risk....
> ...[O]ur results showed that spiritual coping predicts physical health even after controlling for secular coping. This suggests that positive *spiritual* coping provides a unique cognitive framework and resources to deal with the challenges of having a progressive chronic illness, than secular cognitions, such as optimistic attributions. [p. 598]

The data do not establish causation, but the authors speculate about possible mechanisms, including: "spiritually-related positive emotions (e.g., hopefulness, sense of peace) that facilitate treatment adherence and healthy immunological response" [p. 598] and protective effects of spiritual coping against depression and anxiety that may in turn lead to greater treatment adherence during the critical adolescent period when adherence often declines. "Positive spiritual coping may also reduce stress and ensuing physiological responses to stress (e.g., higher cortisol levels; lower antibody levels) that could compromise patients' health and accelerate disease progression (e.g., via pulmonary infections and exacerbations)" [p. 598]. Religious social support, they reason, may also play a role.

The study is limited by its "relatively small number of patients" and the fact that the population was "predominately Christian" [p. 599] and from one region of the U.S. However, the results speak not only to the potential significance of positive spiritual coping for health outcomes but to the particular context of adolescent health.

Two final comments about future study: First, in addition to the broad directions for further research that the authors suggest [--see pp. 598-599], this chaplain reader was left wondering about the day-to-day lived experiences of adolescents coping through their religiosith/spirituality, for instance: CF patients' sense of confidence in using spiritual practices to bring exacerbation episodes under control, and how that may either promote or be a function of adolescents' overall approach to their disease management. Second, since the present study worked from only a 5-year data point follow-up to the baseline, this reader was curious about the potential twists and turns in spiritual coping during the often-tumultuous time of adolescence. Chaplain researchers might consider their ongoing access to adolescent CF groups (e.g., through religious circles as well as clinical settings) to map the details of a spiritual coping trajectory in this population.

Suggestions for the Use of the Article for Discussion in CPE:

While advanced students interested in methodology have much in this article to consider[--see pp. 595-598], the Discussion section [--see esp. p. 598] is a concise summary of the findings that would be easily accessible to newer students. The authors' speculation about possible mechanisms offers a number of thought-provoking ideas that are worthy of reflection in a CPE group and hint at the complex interplay of factors by which spirituality/religion may affect health outcomes. The article in general opens up the topic of adolescent health and of cystic fibrosis (and might be paired with an article about adult CF patients: e.g., see our November 2012 Article-of-the-Month). For ACPE centers that are not located in children's hospitals, discussion could raise awareness of pediatric/adolescent issues, and a physician or nurse could be invited to participate as a guest. Students should also use this as an opportunity to look closely at the popular Brief RCOPE measure, not just as

an instrument in and of itself but as the basis for most of the ways that spiritual coping is classified as positive or negative [--see Related Item of Interest §III (below)]. Finally, students should be encouraged to extend their exploration of CF by looking particularly at the research of Chaplain Daniel Grossoehme and the Grossoehme Lab at Cincinnati Children's Hospital [--see Related Item of Interest §II (below)].

Related Items of Interest:

I. Additional recent articles by Nina Reynolds with Sylvie Mrug, Kimberly Guion, and others:

Reynolds, N., Mrug, S. and Guion, K. "**Spiritual coping and psychosocial adjustment of adolescents with chronic illness: the role of cognitive attributions, age, and disease group**." *Journal of Adolescent Health* 52, no. 5 (May 2013): 559-565. [(Abstract:) PURPOSE: Spiritual coping is an important determinant of adjustment in youth with chronic illness, but the mechanisms through which it affects outcomes have not been elucidated. It is also unknown whether the role of spiritual coping varies by age or disease group. This study evaluated whether general cognitive attributions explain the effects of spiritual coping on internalizing and externalizing problems in adolescents with cystic fibrosis and diabetes and whether these relationships vary by age or disease group. METHODS: In this cross-sectional study, adolescents (N = 128; M = 14.7 yrs) diagnosed with cystic fibrosis or diabetes completed measures of spiritual coping and attributional style. Adolescents and their caregivers reported on adolescents' internalizing and externalizing problems. RESULTS: Overall, positive spiritual coping was associated with fewer internalizing and externalizing problems. Negative spiritual coping was related to more externalizing problems, and for adolescents with cystic fibrosis only, also internalizing problems. Optimistic attributions mediated the effects of positive spiritual coping among adolescents with diabetes. The results did not vary by age. CONCLUSIONS: An optimistic attribution style may help explain the effects of positive, but not negative, spiritual coping on adjustment of youth with diabetes. Youth with progressive, life-threatening illnesses, such as cystic fibrosis, may be more vulnerable to the harmful effects of negative spiritual coping. Future research should examine whether addressing spiritual concerns and promoting optimistic attributions improves adolescents' emotional and behavioral functioning.]

Reynolds, N., Mrug, S., Hensler, M., Guion, K. and Madan-Swain, A. "**Spiritual coping and adjustment in adolescents with chronic illness: a 2-year prospective study**." *Journal of Pediatric Psychology* 39, no. 5 (June 2014): 542-551. [(Abstract:) Objective Examine longitudinal relationships between spiritual coping and psychological adjustment among adolescents with chronic illness. Methods Adolescents (N = 128; M = 14.7 years) with cystic fibrosis or diabetes completed measures of spiritual coping and adjustment at 2 time points ~2 years apart; parents also reported on adolescent adjustment. Prospective relationships between spiritual coping and adjustment were evaluated with an autoregressive cross-lagged path model. Results Positive spiritual coping predicted fewer symptoms of depression and less negative spiritual coping over time, whereas negative spiritual coping predicted more positive spiritual coping. Depressive symptoms predicted higher levels of negative spiritual coping and conduct problems over time. The results did not vary by disease. Conclusions Positive spiritual coping may buffer adolescent patients from developing depression and maladaptive coping strategies. Results also highlight the harmful role of depression in subsequent behavior difficulties and maladaptive coping. Addressing spiritual beliefs and depressive symptoms in pediatric medical care is warranted.]

II. The Grossoehme Lab at Cincinnati Children's Hospital is an excellent source for research on cystic fibrosis regarding young patients, adult patients, and parents of patients. See, for example, the November 2012 Article-of-the-Month: Grossoehme, D. H., Ragsdale, J. R., Cotton, S., Meyers, M. A., Clancy, J. P., Seid, M. and Joseph, P. M., "**Using spirituality after an adult CF diagnosis: cognitive reframing and adherence motivation**," *Journal of Healthcare Chaplaincy* 18, nos. 3-4 (July 2012): 110-120. Other recent articles include:

Grossoehme, D. H., Cotton, S. and McPhail, G. "**Use and sanctification of complementary and alternative medicine by parents of children with cystic fibrosis**." *Journal of Health Care Chaplaincy* 19, no. 1 (2013): 22-32. [(Abstract:) Complementary and alternative medicine (CAM) use, including spiritual modalities, is common in pediatric chronic diseases. However, few users discuss CAM treatments with their child's physician. Semi-structured interviews of 25 parents of children who have cystic fibrosis (CF) were completed. Primary themes were identified by thematic analyses. Most parents (19/25) used at least one CAM modality with their child. Only two reported discussing CAM use with their child's pulmonologist. Most reported prayer as helpful (81%) and multi-faceted, including individual and group prayer; using aromatherapy or scented candles as an adjunct for relaxation; and the child's sleeping with a blessed prayer. Parents ascribed sacred significance to natural oral supplements. CAM use is relevant to the majority of participating parents of children under age 13 with CF. Chaplains can play a significant role by reframing prayer's integration into chronic disease care, co-creating rituals with pediatric patients, and mediating conversations between parents and providers.]

Grossoehme, D. H., Cotton, S., Ragsdale, J., Quittner, A. L., McPhail, G. and Seid, M. "**'I honestly believe god keeps me healthy so I can take care of my child': parental use of faith related to treatment adherence**." *Journal of Health Care Chaplaincy* 19, no. 2 (2013): 66-78. [A limited number of studies address parental faith and its relationship to their children's health. Using cystic fibrosis as a disease exemplar in which religion/spirituality have been shown to play a role and parental health behaviors (adherence to their child's daily recommended home treatments) are important, this study explored whether parents with different levels of adherence would describe use of faith differently. Twenty-five interviews were completed and analyzed using grounded theory methodology. Some parents described no relationship between faith and treatment adherence. However, of those who did, higher-adherence parents believed God empowered them to care for their child and they used prayer to change themselves, while lower-adherence parents described trusting God to care for their child and used prayer to change God. Clinical implications for chaplains' differential engagement with parents are presented.]

Grossoehme, D. H., Opipari-Arrigan, L., VanDyke, R., Thurmond, S. and Seid, M. "**Relationship of adherence determinants and parental spirituality in cystic fibrosis**." *Pediatric Pulmonology* 47, no. 6 (June 2012): 558-566. [(Abstract:) The course of cystic fibrosis (CF) progression in children is affected by parent adherence to treatment plans. The Theory of Reasoned Action (TRA) posits that intentions are the best behavioral predictors and that intentions reasonably follow from beliefs ("determinants"). Determinants are affected by multiple "background factors," including spirituality. This study's purpose was to understand whether two parental adherence determinants (attitude towards treatment and self-efficacy) were associated with spirituality (religious coping and sanctification of the body). We hypothesized that parents' attitudes toward treatment adherence are associated with these spiritual constructs. A convenience sample of parents of children with CF aged 3-12 years

(n=28) participated by completing surveys of adherence and spirituality during a regular outpatient clinic visit. Type and degree of religious coping was examined using principal component analysis. Adherence measures were compared based on religious coping styles and sanctification of the body using unpaired t-tests. Collaborative religious coping was associated with higher self-efficacy for completing airway clearance (M=1070.8; SD=35.8; P=0.012), for completing aerosolized medication administration (M=1077.1; SD=37.4; P=0.018), and for attitude towards treatment utility (M=38.8; SD=2.36; P=0.038). Parents who attributed sacred qualities to their child's body (e.g., "blessed" or "miraculous") had higher mean scores for self-efficacy (airway clearance, M=1058.6; SD=37.7; P=0.023; aerosols M=1070.8; SD=41.6; P=0.020). Parents for whom God was manifested in their child's body (e.g., "My child's body is created in God's image") had higher mean scores for self-efficacy for airway clearance (M=1056.4; SD=59.0; P=0.039), aerosolized medications (M=1068.8; SD=42.6; P=0.033) and treatment utility (M=38.8; SD=2.4; P=0.025). Spiritual constructs show promising significance and are currently undervalued in chronic disease management.]

Grossoehme, D. H., Szczesniak, R., Dodd, C. and Opipari-Arrigan, L. "**Dyadic adjustment and spiritual activities in parents of children with cystic fibrosis**." *Religions* 5, no. 2 (2014): 385-401. [(Abstract:) Children's diseases can negatively impact marital adjustment and contribute to poorer child health outcomes. To cope with increased marital stress and childhood diseases severity, many people turn to spirituality. While most studies show a positive relationship between spirituality and marital adjustment, spirituality has typically been measured only in terms of individual behaviors. Using the Dyadic Adjustment Scale (DAS) and Daily Phone Diary data from a sample of 126 parents of children with cystic fibrosis as a context for increased marital stress, spiritual behavior of mother-father dyads and of whole families were used as predictors of marital adjustment. Frequency and duration of individual, dyadic and familial spiritual activities correlated positively with dyadic adjustment. Significant differences in spiritual activities existed between couples with marital adjustment scores above and below the cutoff for distress. The only significant factors in regressions of spiritual activities on marital adjustment scores were number of pulmonary exacerbations and parent age. Higher odds of maintaining a marital adjustment score greater than 100 were significantly associated with spending approximately twelve minutes per day in individual, but not conjugal or familial, spiritual activities. The Daily Phone Diary is a feasible tool to study conjugal and familial activities and their relationships with beliefs and attitudes, including spirituality.]

Grossoehme, D. H., Szczesniak, R., McPhail, G. L. and Seid, M. "**Is adolescents' religious coping with cystic fibrosis associated with the rate of decline in pulmonary function? --A preliminary study**." *Journal of Health Care Chaplaincy* 19, no. 1 (2013): 33-42. [(Abstract:) Religious coping is associated with health outcomes in adolescents with chronic disease. Identifying potentially modifiable spiritual factors is important for improving health outcomes. The purpose of this study was to determine if associations exist between rate of change in pulmonary function and subsequent religious coping by adolescents with cystic fibrosis (CF). Retrospective cohort design employing the Brief R-COPE and calculated decline in lung function over a three-year period were utilized. Data were obtained for 28 adolescents; median age 13.5 years. Use of pleading or negative religious coping was associated with a worse clinical trajectory. Pleading may be ineffective as disease progression is modifiable through adherence to evidence-based treatments. Given established relationships of religious coping with general coping, the effects of declining pulmonary function may be broader. Changes in pulmonary function suggest

opportunities for chaplains to explore options to cognitively reframe negative religious coping.]

III. The popular Brief RCOPE was developed from a longer RCOPE instrument, which is described in detail by Kenneth I. Pargament, Harold G. Koenig, and Lisa M. Perez in "**The many methods of religious coping: development and initial validation of the RCOPE**" [*Journal of Clinical Psychology* 56, no. 4 (April 2000): 519-543]. For a tabular summary of the Brief RCOPE, pairing its 14 items with religious coping methods and key religious functions, click **HERE**. For a formal and detailed introduction to, and explanation of, the measure, see:

Pargament, K., Feuille, M. and Burdzy, D. "**The Brief RCOPE: current psychometric status of a short measure of religious coping**." *Religions* 2, no. 1 (2011): 51-76. [The Brief RCOPE is a 14-item measure of religious coping with major life stressors. As the most commonly used measure of religious coping in the literature, it has helped contribute to the growth of knowledge about the roles religion serves in the process of dealing with crisis, trauma, and transition. This paper reports on the development of the Brief RCOPE and its psychometric status. The scale developed out of Pargament's (1997) program of theory and research on religious coping. The items themselves were generated through interviews with people experiencing major life stressors. Two overarching forms of religious coping, positive and negative, were articulated through factor analysis of the full RCOPE. Positive religious coping methods reflect a secure relationship with a transcendent force, a sense of spiritual connectedness with others, and a benevolent world view. Negative religious coping methods reflect underlying spiritual tensions and struggles within oneself, with others, and with the divine. Empirical studies document the internal consistency of the positive and negative subscales of the Brief RCOPE. Moreover, empirical studies provide support for the construct validity, predictive validity, and incremental validity of the subscales. The Negative Religious Coping subscale, in particular, has emerged as a robust predictor of health-related outcomes. Initial evidence suggests that the Brief RCOPE may be useful as an evaluative tool that is sensitive to the effects of psychological interventions. In short, the Brief RCOPE has demonstrated its utility as an instrument for research and practice in the psychology of religion and spirituality.] [This is an Open Access article.]
