ABSTRACT SECTION

1. Career Fit and Burnout Among Academic Faculty

Tait D. Shanafelt, MD; Colin P. West, MD, PhD; Jeff A. Sloan, PhD; Paul J. Novotny, MS; Greg A. Poland, MD; Ron Menaker, EdD; Teresa A. Rummans, MD; Lotte N. Dyrbye, MD

Background Extensive literature documents personal distress among physicians and a decrease in their satisfaction with the practice of medicine over recent years. We hypothesized that physicians who spent more of their time in the aspect of work that they found most meaningful would have a lower risk of burnout.

Methods Faculty physicians in the Department of Internal Medicine at a large academic medical center were surveyed in the fall of 2007. The survey evaluated demographic variables, work characteristics, and career satisfaction. Burnout was measured using the Maslach Burnout Inventory. Additional questions evaluated which professional activity (eg, research, education, patient care, or administration) was most personally meaningful and the percentage of effort that was devoted to each activity.

Results Of 556 physicians sampled, 465 (84%) returned surveys. A majority (68%) reported that patient care was the aspect of work that they found most meaningful, with smaller percentages reporting research (19%), education (9%), or administration (3%) as being most meaningful. Overall, 34% of faculty members met the criteria for burnout. The amount of time spent working on the most meaningful activity was strongly related to the risk of burnout. Those spending less than 20% of their time (approximately 1 d/wk) on the activity that is most meaningful to them had higher rates of burnout (53.8% vs 29.9%; $P<.001$). Time spent on the most meaningful activity was the largest predictor of burnout on multivariate analysis (odds ratio, 2.75; $P = .001$).

Conclusions The extent to which faculty physicians are able to focus on the aspect of work that is most meaningful to them has a strong inverse relationship to their risk of burnout. Efforts to optimize career fit may promote physician satisfaction and help to reduce attrition among academic faculty physicians.

2. A Randomized Trial Comparing Acupuncture, Simulated Acupuncture, and Usual Care for Chronic Low Back Pain

Daniel C. Cherkin, PhD; Karen J. Sherman, PhD; Andrew L. Avins, MD, MPH; Janet H. Erro, RN, MN; Laura Ichikawa, MS; William E. Barlow, PhD; Kristin Delaney, MPH; Rene Hawkes, BA; Luisa Hamilton, MD; Alice Pressman, MS; Partap S. Khalsa, DC, PhD; Richard A. Deyo, MD, MPH

Background Acupuncture is a popular complementary and alternative treatment for chronic back pain. Recent European trials suggest similar short-term benefits from real and sham acupuncture needling. This trial addresses the importance of needle placement and skin penetration in eliciting acupuncture effects for patients with chronic low back pain.

Methods A total of 638 adults with chronic mechanical low back pain were randomized to individualized acupuncture, standardized acupuncture, simulated acupuncture, or usual care. Ten treatments were provided over 7 weeks by experienced acupuncturists. The primary outcomes were back-related dysfunction (Roland-Morris Disability Questionnaire score; range, 0-23) and symptom bothersomeness (0-10 scale). Outcomes were assessed at baseline and after 8, 26, and 52 weeks.

Results At 8 weeks, mean dysfunction scores for the individualized, standardized, and simulated acupuncture groups improved by 4.4, 4.5, and 4.4 points, respectively, compared with 2.1 points for those receiving usual care ($P < .001$). Participants receiving

real or simulated acupuncture were more likely than those receiving usual care to experience clinically meaningful improvements on the dysfunction scale (60% vs 39%; $P < .001$). Symptoms improved by 1.6 to 1.9 points in the treatment groups compared with 0.7 points in the usual care group ($P < .001$). After 1 year, participants in the treatment groups were morelikely than those receiving usual care to experience clinically meaningful improvements in dysfunction (59% to 65% vs 50%, respectively; $P = .02$) but not in symptoms ($P > .05$).

Conclusions Although acupuncture was found effective for chronic low back pain, tailoring needling sites to each patient and penetration of the skin appear to be unimportant in eliciting therapeutic benefits. These findings raise questions about acupuncture's purported mechanisms of action. It remains unclear whether acupuncture or our simulated method of acupuncture provide physiologically important stimulation or represent placebo or nonspecific effects.

3. Prognostic Value of Nocturnal Blood Pressure Reduction in Resistant Hypertension

Elizabeth Silaid Muxfeldt, PhD; Claudia Regina Lopes Cardoso, PhD; Gil Fernando Salles, PhD

Background The prognostic value of nocturnal blood pressure (BP) reduction in resistant hypertension (RH) is unknown. The objective of this prospective study was to evaluate its importance as a predictor of cardiovascular morbidity and mortality.

Methods At baseline, 556 patients with RH underwent clinical and laboratory examinations and 24-hour ambulatory BP monitoring. The primary end points were a composite of fatal or nonfatal cardiovascular events, all-cause mortality, and cardiovascular mortality. Multiple Cox regression was used to assess associations between the nocturnal BP reduction and the subsequent end points.

Results After a mean follow-up of 4.8 years (range, 1-103 months), 109 patients (19.6%) reached the composite end point, with 70 all-cause and 46 cardiovascular deaths. A nondipping pattern was present in 360 patients (65.0%). After adjustment for age, sex, body mass index, diabetes, smoking status, physical inactivity, dyslipidemia, previous cardiovascular disease, number of antihypertensive drugs in use, and office and 24-hour ambulatory BP readings, the nondipping pattern was an independent predictor of the composite end point (hazard ratio [HR], 1.74; 95% confidence interval [CI], 1.12-2.71) and of cardiovascular mortality (HR, 2.31; 95% CI, 1.09-4.92). In subgroup analysis, the reduced (HR, 1.71; 95% CI, 1.03-2.83) and reverted (HR, 1.89; 95% CI,1.04-3.43) dipping patterns were predictive of total cardiovascular events. The effect of the nondipping pattern on cardiovascular prognosis was stronger in younger patients and in those with true RH.

Conclusions The nocturnal BP variability patterns provide valuable prognostic information for stratification of cardiovascular morbidity and mortality risk in patients with RH, above and beyond other traditional cardiovascular risk factors and mean ambulatory BP levels.