

Integrative Medicine

Evidence-based summaries and critical reviews on
the latest developments in integrative therapies [ALERT]

CANCER

ABSTRACT & COMMENTARY

Therapeutic Touch for Cancer Pain: An RCT

By David Kiefer, MD, Editor

SYNOPSIS: In a study of 90 men with cancer-related pain, the arm receiving seven sessions of therapeutic touch derived more benefit than a placebo group or a control arm of no intervention.

SOURCE: Tabatabaee A, et al. Effect of therapeutic touch on pain related parameters in patients with cancer: A randomized clinical trial. *Mater Sociomed* 2016;28:220-223.

Many modalities could be considered energy, or biofield, medicine (also referred to as touch therapies), including healing touch, therapeutic touch (TT), and Reiki.¹ The effect of these treatments is being explored for many health conditions; pain, including cancer-related pain, is a common reason energy therapies are used.^{2,3} Tabatabaee et al studied the effect of TT in cancer patients who were suffering from pain, in part, because of the fact that the prevalence of cancer pain is high, as is cancer patients' use of complementary and alternative (CAM) medicine.

The study took place in Mashhad, Iran. Ninety men referred for oncology treatment were included in this trial if they met the criteria outlined in Table 1. Subsequently, these men were randomized into three groups: a TT group, a placebo group, and a

control group. The TT touch group received a 10- to 15-minute session every three days for a total of seven sessions. During a session, the patient was brought to a quiet room, asked to close his eyes and breathe deeply as the TT practitioner used his/her hands to scan the biofield energy, perform an energy "cleansing," and then administer positive energy treatments with his/her hands at a distance of 5-10 centimeters from the patient's body. Similarly, the placebo group spent 10-15 minutes in a quiet room while a practitioner randomly moved his/her hands over the patient at a similar distance from the patient. The TT and placebo sessions were administered over a four-week period. The control group received no additional treatments other than standard medical care, which, of note, the TT and placebo groups also received. The authors collected demographic information, as was patients' answers

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Summary Points

- This randomized, controlled study examined the use of therapeutic touch for cancer-related pain in men.
- Study participants were randomized to one of three equal groups: therapeutic touch plus standard care, a placebo intervention plus standard care, or standard care only.
- There were seven therapeutic touch and placebo sessions, each lasting 10-15 minutes and administered approximately every three days for four weeks.
- Only the therapeutic touch group showed a statistically significant improvement in various sub-parameters of pain by a validated pain scale.

to the Brief Pain Inventory (BPI), for all patients. The BPI is a validated scale that rates pain's effects on general activity, mood, walking ability, interpersonal relations, and sleep.

The baseline characteristics of the three groups were statistically similar. For the BPI testing post-intervention, the TT group showed a statistically significant improvement compared to both the placebo group and the control group ($P < 0.001$). As the statistics were displayed (Table 2 in Tabatabaee et al's article), it is unclear of the significance for the baseline vs. post-intervention for the TT group, although it appears that the BPI sub-groups all improved whereas baseline vs. post-intervention for placebo and control groups did not change. The authors noted that there was no statistically significant difference between the placebo and control groups post-intervention. Again, mentioned in the text but not displayed graphically, was the fact that the TT group had both less worsening of pain with walking over time, but also possibly an improvement in pain with walking over time; essentially, both the prevention of pain worsening and the treatment of existing pain that occurred with walking.

Table 1: Inclusion Criteria for Study Participation

- Consent to participate
- Male between the ages of 20-65 years
- Conscious
- Cancer-related pain as per a physician
- Diagnosis and treatment for ≥ 1 year, but in remission
- No pending surgery
- No history of TT treatments

There was no discussion of adverse effects in any of the groups, nor the estimate of any study participant as to which group they were assigned (relevant only to the TT and placebo groups, obviously). No dropouts were mentioned over the course of the trial.

■ COMMENTARY

Therapeutic, or healing, touch often is delivered as light or no-touch through the hands, that are meant to balance and promote the flow of energy in the human body.^{1,4,5,6} Such biofield therapies are described as “intentional” and “compassionate,” and holistically address the recipient's body, mind, and spirit.⁴ They have begun to be studied in a variety of medical conditions, which have shed light on their efficacy and confirmed their widely accepted safety. It could be argued that there is nothing more timely than the search for modalities to help patients with pain of any type, especially given the worldwide attention to the epidemic surrounding the use of narcotic pain medicines. In this study, TT was effective in lessening cancer-related pain in men across several sub-types of pain as per a validated pain scale. At the very least, this study should raise our eyebrows, if not change our practice or referral patterns to take advantage of its findings.

Yes, there were methodological flaws with this study. There was no discussion of blinding; patients might have been aware that they were in the placebo group unless the practitioners were masters at pretending they were delivering a biofield therapy. However, even if the patients benefited from the presence of a session when someone was in the room with

them with their hands hovering close, there should have been some finding as compared to the control group. The lack of a difference between placebo and control, and the obvious benefit of the TT as per the authors' statistical analysis, lends some credence that placebo was intact. Also, most studies have adverse effects of some sort, so the lack of mention makes us think that they did not collect data on that parameter. Such "risks" are an important part of a clinician's risk-benefit analysis and ultimate incorporation of a therapy in clinic and counseling about its use. Clinicians need to know exactly what to tell patients about a treatment. Furthermore, there was no mention of the type of cancer nor the specific type of pain that study participants had. It's difficult to imagine that headache and hip pain, for example, would be treated in the same way or would achieve the same magnitude of benefit. Even with these minor glitches, assuming that TT is well tolerated, clinicians absolutely should consider exploring the use of this

modality for patients in pain, either as an adjuvant therapy or standalone treatment. The next important steps, after clarification of efficacy and safety from future clinical trials, will be to establish access (geographic, financial) with trained TT practitioners, an issue a bit beyond the scope of this article. ■

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EXERCISE

ABSTRACT & COMMENTARY

Health Benefits of Turning 'Bus Drivers' into Conductors

By Ellen Feldman, MD

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Dr. Feldman reports no financial relationships relevant to this field of study.

SYNOPSIS: A large meta-analysis including data from more than one million subjects and 16 studies revealed that specified levels of moderate-intensity physical activity can significantly lessen the health risks of sedentary lifestyles.

SOURCE: Ekelund U, Steene-Johannessen J, Brown WJ, et al; Lancet Physical Activity Series 2 Executive Committee; Lancet Sedentary Behaviour Working Group. Does physical activity attenuate, or even eliminate, the detrimental association of sitting time with mortality? A harmonised meta-analysis of data from more than 1 million men and women. *Lancet* 2016; Jul 27. doi: 10.1016/S0140-6736(16)30370-1. [Epub ahead of print].

The 2012 Olympics in London provided a backdrop for the first *Lancet* series on the health implications of physical activity.¹ The articles in this series definitively established physical inactivity as a global pandemic with public health implications.² This year, *Lancet* published a second physical activity series with four papers, each one contributing to the field in a slightly different manner.³ Updated information on national health strategies, scaling interventions to affect large and diverse populations, and the economic burden of physical inactivity are topics covered in three of the papers. The fourth paper, discussed here, took an analytical look at mitigating the health risk of inactivity by analyzing data regarding sitting time independent from physical activity. A major goal was to determine if physical

activity can reduce the health risk of long periods of inactivity.

The title of this discussion is borrowed from the topic of a 1953 *Lancet* paper,⁴ which looked at the increased risk of coronary heart disease among London bus drivers when compared with conductors. Since that time, several meta-analyses have studied prolonged TV viewing time and sitting time.^{5,6} Clear evidence exists of an elevated risk of type 2 diabetes, cardiovascular disease, stroke, specific cancers, and premature death associated with both of these sedentary habits. Ekelund et al set out to determine if these risks remained independent of physical activity or if specified amounts of physical activity could affect and/or reverse the risks.

Summary Points

- The goal of this meta-analysis was to evaluate the evidence that physical activity can attenuate the health risks of prolonged sitting and/or TV viewing time.
- Results of analysis of data regarding prolonged sitting time found that 60-75 minutes of moderate-intensity physical activity eliminated the increased risk of all-cause mortality seen with prolonged sitting; lesser amounts of activity time appeared to attenuate the risk.
- Results of the TV viewing time data suggested that TV viewing time for more than three hours daily was associated with an increased risk of all-cause mortality except at the highest level of exercise.
- For all groups, the risk of all-cause mortality associated with higher time spent in sedentary activities was attenuated with physical activity, although to varying degrees.

This meta-analysis involved 16 studies, 13 of which included data regarding sitting and all-cause mortality and morbidity. More than 1 million people followed from 2-18 years were involved in these studies (including 84,609 deaths.) Three of the 13 studies and three additional studies contained data on TV viewing time and were analyzed separately. These involved 465,450 individuals and 43,740 deaths.

The team faced a task of reconciling data from different sources. To compare levels of physical inactivity and TV viewing, data from each study were reanalyzed and placed into one of several time-dependent groups. Physical activity categories were calculated by contacting the authors of the contributing studies and asking for a translation from the original reports of intensity of physical activity into a standardized format to allow comparisons between studies.

Results were reported according to several different perspectives. Across all categories of sitting time, the risk of all-cause mortality appeared reduced at higher levels of physical activity and eliminated at the highest level (65-75 minutes of moderate intensity exercise/day). For TV viewing time, the results showed a similar pattern, except that at the highest level of TV viewing (> 5 hours/day) even the highest level of physical activity could not eradicate the risk of all-cause mortality, although there is clear

attenuation of risk.

Figures 1 and 2 show the effect of varying levels of sitting (see Figure 1) or TV viewing (see Figure 2) within each quartile of physical activity. The referent was assigned a value of 1 and all-cause mortality was measured. For each case (sitting time or TV viewing time), the referent was the least amount of time — < 4 hours/day sitting time or < 1 hour/day TV viewing time.

Figure 1 shows these results with grouping representing progressive levels of physical activity. Each group was standardized within itself. These results were not meant to compare between levels of activity but within each activity level to determine if activity level could affect all-cause mortality at different levels of sitting. Note that the risk of mortality associated with sitting longer disappears in the most active group. The other three quartiles of physical activity showed increased mortality with increased sitting time compared to the referent level of sitting < 4 hours/day. Note the moderation of effect for those sitting > 8 hours/day, even in quartile 2 and 3 of physical activity.

Figure 2 looks at TV viewing time with a referent value of 1 assigned to those watching < 1 hour of TV/day. Figure 2 shows the association between TV viewing time and all-cause mortality in each quartile of physical activity. Note the progressive increase in duration of physical activity has a clear effect only for the highest level of physical activity (60-75 minutes.)

■ COMMENTARY

Lack of activity destroys the good condition of every human being, while movement and methodical physical exercise save it and preserve it. ~Plato

The second *Lancet* series on physical activity brings us new information in a methodical form, but also reminds us of what we have known for centuries — the importance of movement and exercise in maintaining and attaining physical health. The analytic nature and results from Ekeland's group can help practitioners communicate to patients definitive information about duration and intensity of exercise and about the benefits of activity.

It is interesting that the results of TV viewing differ from the results seen when looking just at sitting time and that the effect of progressively higher levels of exercise does not seem as significant when looking at higher amounts of viewing time. Notably, there were fewer studies and fewer number of participants in the TV viewing studies, which may have affected results. The authors speculated that the frequent association

Figure 1: Sitting Time and All- cause Mortality Across Quartiles of Physical Activity

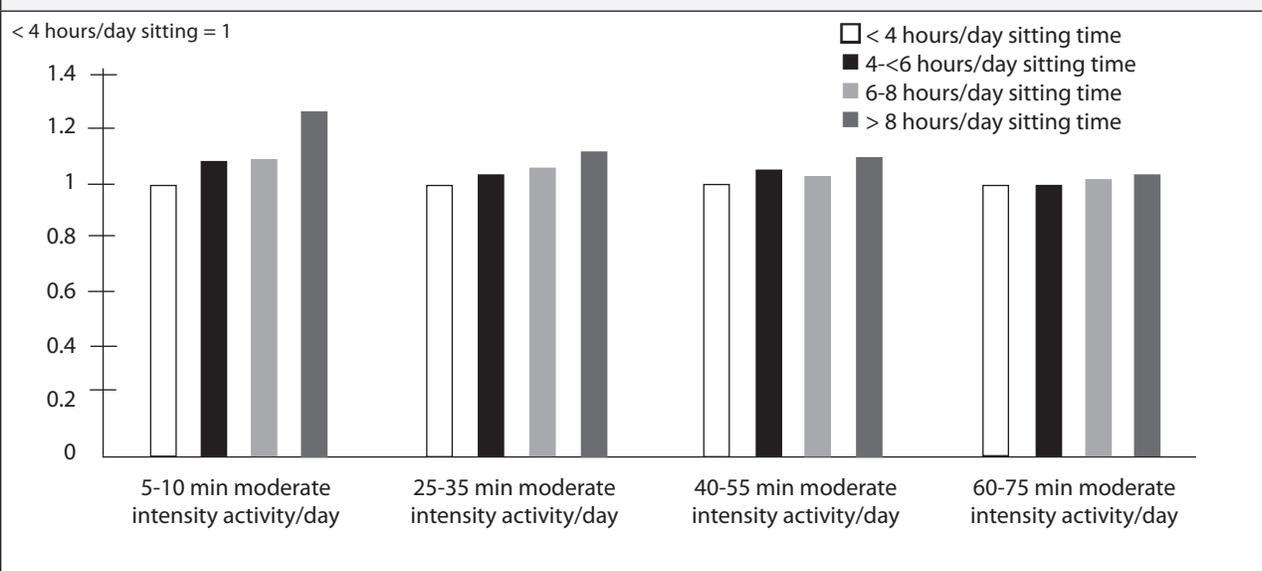
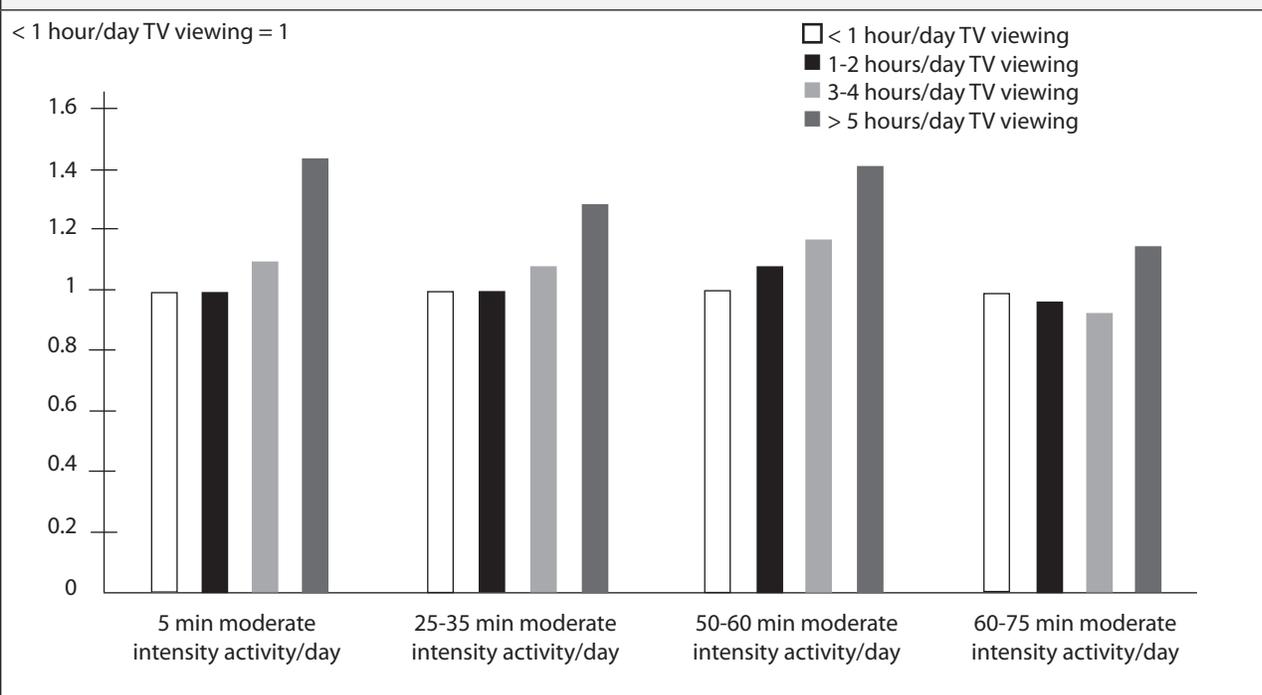


Figure 2: TV Viewing Time and All-cause Mortality Across Quartiles of Physical Activity



of TV viewing with eating also may play a role; this is certainly an area “ripe” for further exploration given the potential for remediation.

It also would be useful in further studies to study whether computer time or any “screen time” differs from TV viewing time in risk of all-cause mortality. For example, do individuals who play video or computer games for > 5 hours/day carry the same risk of all-cause mortality as do TV viewers at comparable lengths of time? A hard look at this may help better delineate the specific risks of TV viewing. All studies included in the meta-analysis attempted

to control for chronic or debilitating illnesses. However, the possibility that an underlying illness confounded the results by affecting time in sedentary activities (and independently led to a higher risk of all-cause mortality) cannot be excluded based on the information presented.

Although the authors freely noted the studies were weakened by the self-reported nature of both the inactivity and physical activity sets of data (as well as the possibility of unrecognized factors affecting ability to engage in activity), there was certainly an impressive strength in number of participants

and data generated that cannot be overlooked or dismissed. Informing patients that there are health risks to inactivity, but that these risks can be mitigated by activity, will be welcome news to many.

Of course, the most powerful level of mitigation may feel like an intimidating amount of physical activity. Data from this large meta-analysis show that 60-75 minutes of moderate intensity activity/day is the level at which the health risk of sitting eight hours a day or more disappears. Notably, this is above the level of most physical activity recommendations for public health and at the high end (“for even greater health benefits”) of U.S. recommendations:

U.S. Department of Health Physical Activity Guidelines⁷

For substantial health benefits, do one of the following:

- 150 minutes each week of moderate-intensity aerobic physical activity (such as brisk walking or tennis)
- 75 minutes each week of vigorous-intensity aerobic physical activity (such as jogging or swimming laps)
- An equivalent combination of moderate- and vigorous-intensity aerobic physical activity

Do aerobic physical activity in episodes of at least 10 minutes and, if possible, spread it out through the week. For even greater health benefits, do one of the following:

- Increase moderate-intensity aerobic physical activity to 300 minutes each week
- Increase vigorous-intensity aerobic physical activity for 150 minutes each week

When this study is viewed as part of the overall *Lancet* series, the global, economic, and public health

implications of physical inactivity become clear and alarming. There is a clear place here not only for the individual practitioner, but also for policy and public health experts.

Long periods of inactivity often are part of a modern-day workplace and lifestyle. The integrative practitioner holds a unique role that is well suited to let patients know about the harmful effects and risks associated with inactivity and that “stepping up activity” can help mitigate these risks. Although many questions remain about etiology and specific mechanisms, sound evidence backs a clear recommendation to reduce sitting time and TV viewing time (< 3 hours per day) and to increase time spent on moderate-intensity activity. Specific recommendations can help the “bus drivers” of our society avoid the health risks inherent in sedentary lifestyles. ■

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LIVER DISEASE

ABSTRACT & COMMENTARY

Liver Enzymes, Triglycerides, and Cholesterol Improved in Individuals with Nonalcoholic Steatohepatitis with Artichoke Leaf Extract

By Carrie Decker, ND

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Dr. Decker reports no financial relationships relevant to this field of study.

SYNOPSIS: In this randomized, double-blind study, patients with nonalcoholic steatohepatitis who received 2,700 mg of artichoke leaf extract (*Cynara scolymus*) or placebo daily for two months had a significant improvement in alanine aminotransferase and aspartate aminotransferase, as well as triglycerides and total cholesterol compared to the placebo group.

With increasing rate of obesity and the metabolic syndrome, nonalcoholic steatohepatitis (NASH) and nonalcoholic fatty liver disease (NAFLD) have become increasingly common, such that they are now the most common cause of liver disease in Western countries.¹ As NAFLD progresses to NASH, hepatocyte injury occurs, contributing to an increased risk of cirrhosis, liver failure, and hepatocellular carcinoma. Despite the fairly well-understood factors contributing to NAFLD and NASH, other than weight loss and management of insulin resistance, there is no standard pharmaceutical treatment for these conditions.² As oxidative stress is known to contribute to the progression of NAFLD to NASH, investigations have been made into the possibility of utilizing antioxidants for improving outcomes in individuals with these conditions.³ Many botanicals, including artichoke leaf extract, have antioxidant action, and have been considered as options for the treatment of NAFLD and NASH.^{4,5}

Sixty consecutive patients diagnosed with NASH were enrolled in this double-blind, randomized, clinical trial. Inclusion criteria were elevated liver enzymes (alanine aminotransferase [ALT] and aspartate aminotransferase [AST]; > 30 mg/dL) and evidence of NASH with abdominal sonography, in addition to one of the following criteria: total cholesterol > 200 mg/dL, high-density lipoprotein (HDL) < 40 mg/dL (men) or < 50 mg/dL (women), serum triglycerides > 150 mg/dL, fasting blood sugar > 100 mg/dL, body mass index > 30 kg/m², or blood pressure > 130/85 mmHg. Exclusion criteria included daily consumption of alcohol, known issues of hepatitis B or C, autoimmune hepatitis, Wilson's disease, hemochromatosis, alpha-1-antitrypsin deficiency, biliary obstruction, type 1 diabetes mellitus, or use of hepatotoxic drugs or vitamin C. Groups were shown to be similar initially in baseline characteristics of age, sex, weight, liver enzyme levels, lipid profiles, and fasting blood sugar.

Patients were assigned to receive either artichoke leaf extract (*Cynara scolymus*) at a dosage of 2,700 mg/day (six tablets) or placebo for a period of two months, and instructed to maintain regular physical activity (20 minutes of walking five days a week) and an appropriate diet, calculated based on weight, height, age, and activity. Measurements were made of weight, cholesterol (total and breakdown including low-density lipoprotein [LDL], HDL, and triglycerides), ALT, AST, blood pressure, and fasting blood sugar.

Summary Points

- A recent study found that 2,700 mg of artichoke (*Cynara scolymus*) leaf extract or placebo was provided to individuals with nonalcoholic steatohepatitis daily for a period of two months.
- Compared to placebo, individuals taking the artichoke leaf extract experienced a significant ($P < 0.001$) decrease in alanine aminotransferase and aspartate aminotransferase and a significant ($P < 0.05$) decrease in triglycerides and total cholesterol compared to the placebo group.
- A significant ($P < 0.05$) decrease in fasting blood sugar and low-density lipoprotein cholesterol also was observed in the group receiving artichoke extract; however, this finding was not significant when compared to the placebo group.

The individuals receiving artichoke leaf extract daily were found to have a significant decrease in ALT ($P < 0.001$), AST ($P < 0.001$), total cholesterol ($P = 0.008$), and triglycerides ($P = 0.016$) compared to the placebo group. A significant decrease in fasting blood sugar ($P = 0.029$) and LDL ($P = 0.039$) also was observed within the group receiving the artichoke extract, but was not observed in the placebo group. Both groups were observed to have a significant decrease in weight and systolic blood pressure at the end of the two-month intervention compared to levels at the beginning. The researchers report did not indicate if there any adverse effects were seen with the intervention, or if there was any deviation from adherence to the prescribed intervention. Assessment of results included all 60 individuals enrolled in the study.

■ COMMENTARY

As a botanical, artichoke is known for its cholagogue and choleric effects, that is, the stimulation of bile flow and bile production, respectively. These effects have been observed in animal studies.⁶ A relationship between increased bile excretion in feces and improvement of lipid profiles also has been observed.⁷ As bile acids are synthesized from cholesterol, a relationship between these two would be expected. Medications such as bile acid sequestrants are effective for reducing cholesterol because they

disrupt bile acid reabsorption as well as increase bile secretion.⁸ Although artichoke extract does not alter bile reabsorption, increased fecal excretion of bile also would inevitably have a similar effect. Artichoke extracts also have been shown to potentially reduce cholesterol by inhibiting HMG-CoA reductase in an animal model.⁹ Increased bile flow also inevitably affects the gut microbiota, which was not assessed in any of these studies but also may play a role.

One mechanism by which artichoke extract affects liver enzymes may be due to the antioxidant effect of several compounds such as chlorogenic acid found in it.¹⁰ Animal and cellular studies have assessed the antioxidant effect of artichoke extracts and how this affects hepatocytes, finding a beneficial effect when subject to oxidative stress.^{11,12} This is the first study assessing the effect of artichoke leaf extract on liver enzymes in humans with NASH; however, animal studies in which NASH was induced with high-fat diet feeding found improvement in ALT with artichoke extract treatment.¹³ Chlorogenic acid also may be the agent responsible for the improvements in glucose and triglycerides that were seen as it has been shown in an animal model to inhibit hepatic glucose 6-phosphatase.¹⁴ Hypoglycemic effects have also been seen with use of artichoke in other human and animal studies.^{15,16} Multiple studies have assessed the effect of artichoke leaf extract on cholesterol, and show reduction of total cholesterol levels with mild and infrequent adverse events.¹⁷

Interestingly, both groups experienced significant changes in multiple parameters from the beginning to the end of the study. The parameters that were decreased within both groups were weight, AST, ALT, and systolic blood pressure. The authors did not speculate on the reason for these improvements, leaving one to wonder if the time of year or general recommendation for maintaining an appropriate diet or regular exercise of 20 minutes of walking five days a week were factors leading to these overall improvements.

Other factors that may affect liver enzymes and progression of liver disease were not fully considered with the study criteria. Although daily alcohol consumption led to exclusion from the study, other drinking patterns or total weekly intake of alcohol was not considered. In addition to this, although the use of hepatotoxic drugs was an exclusion criterion, it was not stated if the use of acetaminophen, which may have an effect on liver enzymes, particularly in combination with alcohol, was to be avoided during the study. Although the use of vitamin C was an exclusion criterion, many other things, such as turmeric and probiotics, have been shown to improve

liver function tests^{18,19} but were not screened for use in this population. A final limitation and drawback of this study was that no assessment of safety or adverse events was included.

Given the findings of this study and other research utilizing artichoke extracts, it would be reasonable to recommend inclusion of an artichoke leaf extract product as a supplement for individuals who have documented evidence of NASH, or those who meet the criteria of metabolic syndrome. The multiple parameters (blood sugar, liver enzyme elevation, and cholesterol) that artichoke leaf extract was observed to affect positively are often issues for these patients. Although tolerability was not assessed in this study, tolerability has been well-documented in other studies. ■

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MINDFULNESS MEDITATION

SHORT REPORT

Peer-led Mindfulness Meditation Program for Medical Students

By Erica Benedicto, PA-C, MPH, YT

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Ms. Benedicto reports no financial relationships relevant to this field of study.

SYNOPSIS: This pilot study shows that a peer-led mindfulness program during medical school enhances self-compassion, altruism, and mental wellness and decreases levels of stress.

SOURCE: Danilewitz M, Bradwejn J, Koszycki D. A pilot feasibility study of a peer-led mindfulness program for medical students. *Can Med Educ J* 2016;7:e31-e37.

Medical school is a challenging experience from even before matriculation, one that stems from both internal and external psychological and cultural pressures. This has led to increased risk of depression throughout the training, sometimes leading to suicide.¹ A 1977 study showed that society loses the equivalent of one small medical school to suicide per year.² Depression, isolation, and anxiety have led to decreased quality of care, reduced empathy, and increases in medical errors.³ Although medical schools are attempting to make student wellness a priority, mental health services use is low among students. Addressing this monumental issue requires a shift in the culture as well as creative ways to engage students to utilize the few resources that are available.

Danilewitz et al looked at the effect of a peer-led mindfulness program on student wellness and professionalism. Participants were recruited from first- and second-year medical students at the University of Ottawa. The study was a randomized waitlist (WL) control design. The first 30 students to reply were chosen and were asked to undergo an eight-week intervention. The study was considered feasible if 75% of participants completed four or more sessions, and compliance with homework was higher than 70%. The study also looked at self-reported psychological distress, empathy, self-compassion, mindfulness, and altruism.

Outcomes also included program satisfaction, which

Summary Point

- Peer-led mindfulness programs may contribute to improving medical student mental health as well as their future practice as physicians.

was found to be high, although compliance was suboptimal. The Mindfulness Medication Program (MMP) was adapted from the mindfulness-based stress reduction program and designed specifically for medical students. Paired t-tests showed the MMP group had changes in levels of stress ($P = 0.019$), self-compassion ($P = 0.024$), and altruism ($P = 0.0333$) from baseline to post-study. The WL group did not have a significant pre-to post-test change. Academic and clinical performance were affected positively, at 88% and 69%, respectively, in those who received the MMP.

According to a study by Durning and Ten Cate, there is a shift in medical school curriculum toward more peer education.⁴ Research has shown that since medical students are reluctant to seek mental health care from professionals, a peer-led program may be one solution toward achieving medical student wellbeing. According to this pilot study, a peer-led MMP is feasible. Further research in the realm of medical student mental health is imperative to the future of our healthcare system and its clinicians. ■

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DEMENTIA

SHORT REPORT

Calcium Supplementation and Increased Dementia Risk

By David Kiefer, MD, Editor

SYNOPSIS: In this five-year observational study, women who were taking calcium supplementation and who had pre-existing cerebrovascular disease were at higher risk of dementia than women not taking extra calcium.

SOURCE: Kern J, et al. Calcium supplementation and risk of dementia in women with cerebrovascular disease. *Neurology* 2016; Aug 17. pii: 10.1212/WNL.0000000000003111.

Calcium is the arguably the most commonly supplemented yet most controversial mineral with respect to what it does and does not do. People of all ages need it, some demographic groups more than others, but it is probably important to not ingest too much.¹ Despite the myriad of clinical trials at one's disposal, clinicians may wonder how to encourage calcium intake so as to decrease the risk of osteoporosis and fractures, but at the same time avoid increased cancer risk (i.e., prostate) or cardiovascular disease.

The study by Kern et al adds to the concern about unrestrained calcium supplementation. In this study, 700 women 70-92 years of age and free of dementia were followed for five years. At baseline, and again at the conclusion of the study, extensive physical examination and neuropsychiatric studies were instituted. In addition, information about the use of calcium supplementation, including dose and form, was collected. In this cohort, 59 women (45 in the non-calcium group, and 14 who had been taking calcium) developed dementia over the course of the study. Also, 98 of the women reported taking supplemental calcium, putting them at higher risk of developing dementia (odds ratio [OR], 2.10; 95% confidence interval [CI], 1.01-4.37; $P = 0.046$), although this risk was barely significant when compared to the 602 women who were not taking calcium supplementation. The association was more significant ($P = 0.006$) for stroke-related dementia (OR, 4.40; CI, 1.54-12.61). In addition, subgroup analyses revealed that the higher calcium-related dementia risk occurred in people who had

Summary Point

- There are concerns about increasing the risk of all-cause dementia by supplementing women with calcium who have cerebrovascular disease, and this study justified those concerns.

had a previous stroke or who, on CT (447 of the 700 people had this imaging done at baseline), showed white matter changes, but not in people without these conditions. The authors described how the white matter changes are evidence of cerebrovascular disease.

Essentially, the higher risk of dementia in women with calcium supplementation occurred mostly in those who already had cerebrovascular disease. These results seem to be in line with some of the concerns about calcium supplementation, or elevated blood calcium levels, and vascular risk.² This trial showed the most pronounced association with vascular-type dementia, and, as mentioned above, the calcium risk added to pre-existing risk. An observational study like this allows associations to be demonstrated but any cause-effects are merely inferred. Besides, the number of dementia cases (14 in the calcium supplementation group) was very small, possibly compromising the statistical power and accuracy of the findings. Clearly, a well-designed, randomized, controlled trial is indicated to corroborate the

calcium-dementia connection. Until then, however, it would behoove clinicians to be cautious about the use of calcium supplementation in women with a history of cerebrovascular disease because of these concerns about dementia risk. ■

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USE OF INTEGRATIVE THERAPIES

SHORT REPORT

Leading Causes of CAM Nondisclosure

By *Concepta Merry, MB, BCh, BAO, BA*

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Dr. Merry reports no financial relationships relevant to this field of study.

SYNOPSIS: More than 40% of patients report nondisclosure of complementary and alternative medicine (CAM; also known as integrative medicine treatments) to their primary care physicians. They cite failure of physicians to initiate conversation on CAM, coupled with a belief that physicians do not need to know about CAM usage, as key factors in nondisclosure, according to patient survey.

SOURCE: Jou J, Johnson PJ. Nondisclosure of complementary and alternative medicine use to primary care physicians: Findings from the 2012 National Health Interview Survey. *JAMA Intern Med* 2016;176:545-546.

According to a recently published study, one-third of the adult population in the United States uses CAM and 42.3% of these CAM users do not disclose this to their primary care provider.¹ Jou and Johnson at the University of Minnesota analyzed data from the 2012 National Health Interview Survey, an annual study carried out by the National Center for Health Statistics.

A total of 34,525 adults completed the 2012 survey and 10,158 (29.6%) respondents reported use of CAM in the previous year. Of the 34,525 CAM users, 7,493 also had a primary care physician. Of the 7,493 participants who had used CAM in the previous year and who had a primary care physician, only 4,399 people (57.7%) disclosed CAM usage to their physician. The 3,094 people (42.3%) who did not disclose the use of CAM to their physician were asked further questions to help understand the factors behind this non-disclosure.

Table 1: Reasons Offered to Participants Regarding Nondisclosure

- Belief that the physician did not need to know
- Past discouragement of CAM by the physician
- Potential discouragement of CAM use by the physician
- Potential negative response from the physician
- Doubts concerning physician knowledge about CAM
- Failure of the physician to ask
- Lack of time
- Not using CAM at the time of the physician visit

Summary Point

- An analysis of the 2012 National Health Interview Survey data showed that 42.3% of people using CAM did not disclose this to the primary care provider, most often because the provider didn't ask or that the patient didn't think that the provider needed to know.

Survey participants were asked to select among several possible reasons for non-disclosure and were able to choose more than one response. (See Table 1.)

The most commonly cited cause for non-disclosure was physicians not asking about CAM (1,759 people [57%]) followed by thinking that the physician did not need to know (1,432 people [46.2%]), not using CAM at the time of the consultation (785 people [26.4%]), and belief that the physician had less knowledge about the CAM type than the participant did (239 people [7.6%]). It comes to no surprise that patients like to use CAM and that they don't always disclose this fact to their own primary care providers. However, it is interesting to note that providers' failure to simply ask patients about CAM is the single biggest factor in nondisclosure. Although it is disappointing that providers are contributing to the problem, on the plus

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side this is something that can be done. The first step would be to improve CAM training and education to equip clinicians with the information to start discussions with patients about CAM. ■

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CME QUESTIONS

1. **For cancer-related pain in men, which of the following is true regarding the benefits of therapeutic touch?**
 - a. It prevented a worsening of pain with walking, but didn't improve pain.
 - b. All sub-groups of the BPI testing improved compared to the placebo and control groups.
 - c. The placebo group also improved compared to the control group.
 - d. Although there were benefits, the therapeutic touch group also had more adverse effects than the placebo or control groups.
2. **Which of the following is true regarding the *Lancet* series on physical activity?**
 - a. It consists of a series of articles revolving around the health benefits of exercise.
 - b. It is a series of papers published in 2012 and 2016 and covers a wide range of potential effects of sedentary lifestyle, including global health and economic effect.
 - c. It is a series of papers published in 2012 that has done little to advance medical knowledge regarding the benefits of physical activity.
 - d. It is already outdated as newer studies have provided updated recommendations.
3. **Moderate intensity exercise at 60-75 minutes daily:**
 - a. can erase the poor health effect and risk of all-cause mortality of > 5 hours of TV viewing daily.
 - b. can erase the poor health effect and elevated risk of all-cause mortality of sitting up to eight hours daily.
 - c. is recommended by U.S. public health policy guidelines.
 - d. has definitive health risks explored in the meta-analysis regarding prolonged sitting times.
4. **Which of the following is correct regarding medical students and their mental health?**
 - a. Medical students readily use mental health resources throughout their education and training.
 - b. Medical students have low rates of depression and suicidal ideation throughout their education and training.
 - c. Medical students have high levels of depression and suicidal ideation and further research should go into studying this preventable trend.
 - d. Medical student mental wellness is not an issue and funding for research should be funneled elsewhere.
5. **In individuals with nonalcoholic steatohepatitis, daily intake of 2,700 mg of artichoke (*Cynara scolymus*) leaf extract was observed to significantly:**
 - a. decrease AST and ALT but not total cholesterol or triglycerides when compared to placebo.
 - b. decrease AST, ALT, total cholesterol, and triglycerides when compared to placebo.
 - c. decrease AST, ALT, fasting blood sugar, and LDL cholesterol when compared to placebo.
 - d. decrease AST, ALT, total cholesterol, and fasting blood sugar when compared to placebo.
6. **In the study about dementia risk and calcium supplementation, which of the following is true?**
 - a. Calcium supplementation lowers dementia risk.
 - b. There is a marked increase in risk of dementia if supplemental calcium is taken, regardless of cerebrovascular disease status.
 - c. Men, but not women, benefitted from calcium supplementation.
 - d. Women who had a prior stroke or who had white matter changes on CT scan were at particular risk of increase dementia with calcium supplementation.
7. **Which of the following is a reason for patient non-disclosure of CAM to physicians?**
 - a. Fear that the physician would disapprove
 - b. Fear that the physician would prohibit CAM usage
 - c. Failure of physicians to ask about CAM use
 - d. All of the above

[IN FUTURE ISSUES]

Acupuncture for fatigue
in breast cancer survivors

Calcium and bone
mineral density and
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and type 1 diabetes

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