COCHRANE COLUMN

Synopses of Cochrane Reviews from Cochrane Library Issue 12 2020 Through Issue 3 2021

L. Susan Wieland, MPH, PhD*

Editor's Note: JACM is proud to commence a new column partnership with L. Susan Wieland, PhD, and the Cochrane Complementary Medicine Field. Dr. Wieland, who is Co-Director of the Field, and JACM Editor-in-Chief Holger Cramer, PhD speak to the value of the Cochrane work in the lead editorial in this issue. The two have a long relationship of collaborating on Cochrane projects. As such, this new column serves doubly as an additional means of declaring for what Dr. Cramer is bringing to JACM since his start in this position in January of this year [WS1]. This set of 10 Cochrane systematic review synopses [WS2] offers strong evidence of Cochrane's recent work in the JACM space. Wieland includes pieces related to interventions such as vegan diets, CoQ10, intermittent fasting, acupuncture, melatonin and more. A part of the selection speaks also to the integrative field's overlap with whole health, with abstracts that relate, for instance to walking and smoking cessation. I can comfortably speak for Dr. Cramer and the rest of the JACM team that we are pleased to play this ongoing role in the dissemination of these reviews. —John Weeks, Contributing Editor, Special Projects and Collaborations, JACM (johnweeks-integrator.com).

Intermittent Fasting for the Prevention of Cardiovascular Disease

Allaf M, Elghazaly H, Mohamed OG, Fareen MF, Zaman S, Salmasi A-M, Tsilidis K, Dehghan A. Intermittent fasting for the prevention of cardiovascular disease. Cochrane Database of Systematic Reviews 2021, Issue 1. Art. No.: CD013496. DOI: 10.1002/14651858.CD013496.pub2. <https://www.cochrane-library.com/cdsr/doi/10.1002/14651858.CD013496.pub2>

Intermittent fasting is the restriction of eating to certain times of day or days of the week. This is a popular dietary approach that may possibly reduce the risk of developing cardiovascular disease (CVD). This Cochrane review looked at the primary prevention of CVD with intermittent fasting, compared with usual eating or to calorie restriction without intermittent fasting. The authors found 26 studies and used data available from 18 studies with 1125 adult participants who did not have CVD to estimate the effects of intermittent fasting on cardiovascular risk factors and events. Based on this evidence, the authors stated that people may lose slightly more weight at 3 months with intermittent fasting than with usual eating, but there may be no difference between intermittent fasting and calorie restriction. There did not appear to be any differences in blood sugar levels with the different diets. There was no information on risk of stroke, heart attack, heart failure, or mortality. The authors concluded that there was not yet sufficient good-quality evidence to be certain about the effects of intermittent fasting on cardiovascular risk factors or disease.

Coenzyme Q10 for Heart Failure

Al Saadi T, Assaf Y, Farwati M, Turkmani K, Al-Mouakeh A, Shebli B, Khoja M, Essali A, Madmani ME. Coenzyme

Q10 for heart failure. Cochrane Database of Systematic Reviews 2021, Issue 1. Art. No.: CD008684. DOI: 10.1002/14651858.CD008684.pub3. <https://www.cochranelibrary.com/cdsr/doi/10.1002/14651858.CD008684.pub3>

Coenzyme Q10 is an antioxidant dietary supplement that is sometimes used by people with heart failure. This updated Cochrane review summarized the most current evidence on the safety and efficacy of coenzyme Q10 in the treatment of heart failure. Based on 11 randomized trials with 1573 participants, the review authors stated it is possible that coenzyme Q10 may reduce the risk of death from any cause and reduce the risk of hospitalization due to heart failure. However, the effect of coenzyme Q10 on the risk of heart attacks and strokes is unclear and information on the safety of coenzyme Q10 is limited. The studies varied in coenzyme Q10 dose, duration of follow-up, and measurement of outcomes, and there were some problems with the conduct of many of the studies. Based on the totality of this evidence, the authors stated that it is not yet possible to confirm the safety and efficacy of Q10 for heart failure, and additional good-quality trials are needed.

Vegan Dietary Pattern for the Primary and Secondary Prevention of Cardiovascular Diseases

Rees K, Al-Khudairy L, Takeda A, Stranges S. Vegan dietary pattern for the primary and secondary prevention of cardiovascular diseases. Cochrane Database of Systematic Reviews 2021, Issue 2. Art. No.: CD013501. DOI: 10.1002/14651858.CD013501.pub2. <https://doi.org/10.1002/14651858.CD013501.pub2>

Vegan dietary patterns eliminate meat, fish, eggs, dairy, and other animal products from the diet and many people believe

Center for Integrative Medicine, Department of Family and Community Medicine, University of Maryland School of Medicine, Baltimore, MD, USA.

*ORCID ID (<https://orcid.org/0000-0003-2157-0603>).

that this may reduce the risk of developing CVD. This Cochrane review looked at effectiveness of vegan diets for the primary and secondary prevention of CVD, compared with no intervention or to a different dietary intervention. The authors found a total of 13 randomized controlled trials. They concluded that compared with no intervention, vegan diets probably lead to a small decrease in total cholesterol and low-density lipoprotein (LDL) but also a very small decrease in high-density lipoprotein (HDL) and a very small increase in triglycerides, and to no difference in blood pressure. Compared with other dietary interventions (including low-calorie, vegetarian, and others), there was no evidence for an effect on total cholesterol, and probably no difference for LDL, HDL, or triglycerides. Evidence on blood pressure was uncertain. Only one trial provided information on secondary prevention of CVD with a vegan versus other diet, and the evidence on blood lipids and blood pressure was uncertain. The authors concluded that there is not yet sufficient evidence to be certain about the effects of vegan diets on CVD risk factors or development of CVD but note that there are eight ongoing studies evaluating the effects of vegan diets on primary prevention of CVD and that further information from these trials will be incorporated in an update.

Melatonin for Preoperative and Postoperative Anxiety in Adults

Madsen BK, Zetner D, Møller AM, Rosenberg J. Melatonin for preoperative and postoperative anxiety in adults. Cochrane Database of Systematic Reviews 2020, Issue 12. Art. No.: CD009861. DOI: 10.1002/14651858.CD009861.pub3. <https://www.cochranelibrary.com/cdsr/doi/10.1002/14651858.CD009861.pub3>

Many people experience anxiety surrounding surgery, and it has been suggested that melatonin may help reduce levels of anxiety either before or after surgery, or both. This Cochrane review summarized the evidence on the effects of melatonin, compared with either placebo or benzodiazepines, for preoperative or postoperative anxiety. The authors found 27 relevant randomized controlled trials with 2319 participants. Based on these trials, the authors concluded that compared with placebo, melatonin probably reduces preoperative anxiety and may slightly reduce postoperative anxiety. They also concluded that there is probably little or no difference between benzodiazepines (midazolam or alprazolam) and melatonin for preoperative anxiety and there may be little or no difference for postoperative anxiety. Seven studies reported on adverse events; none of them were serious. Based on 11 studies, melatonin had more sedative properties than placebo but less than benzodiazepines. However, the authors stated that because of limited reporting, it is not possible to be certain that melatonin has a better tolerance profile than benzodiazepines. The authors concluded that melatonin may be similar to benzodiazepines in decreasing both preoperative and postoperative anxiety.

Probiotics for Treating Acute Infectious Diarrhea

Collinson S, Deans A, Padua-Zamora A, Gregorio GV, Li C, Dans LF, Allen SJ. Probiotics for treating acute infectious diarrhoea. Cochrane Database of Systematic Reviews 2020, Issue 12. Art. No.: CD003048. DOI: 10.1002/14651858.CD003048.pub4. <https://www.cochranelibrary.com/cdsr/doi/10.1002/14651858.CD003048.pub4>

Many people believe that taking probiotics can help shorten the duration of infectious diarrhea. This updated Cochrane review summarized the most recent evidence on the effectiveness of probiotics, compared with placebo or no probiotic, for treating infectious diarrhea. The authors found 82 randomized controlled trials with 12,127 participants, mostly children. Based on the results from the best conducted of these trials, the authors concluded that taking probiotics probably makes no difference in the number of people who have diarrhea for 48 h or more, and it is uncertain whether probiotics shorten the overall duration of diarrhea. Additional analyses including all studies showed similar effects. There were no serious adverse events attributed to probiotics although adverse event reporting was poor. While earlier versions of this review suggested probiotics might shorten the duration of diarrhea, the authors stated that those findings were based on several small studies and probably due to publication bias. (In publication bias, small studies showing benefit are more likely to be published than small studies not showing benefit, while larger studies may be more likely to be published regardless of findings.) The authors concluded by highlighting the heterogeneity between studies in most analyses and suggesting that future research use standardized outcome definitions and take into account the different infectious agents, strains of probiotics, and study populations.

Souvenaid for Alzheimer's Disease

Burckhardt M, Watzke S, Wienke A, Langer G, Fink A. Souvenaid for Alzheimer's disease. Cochrane Database of Systematic Reviews 2020, Issue 12. Art. No.: CD011679. DOI: 10.1002/14651858.CD011679.pub2. <https://www.cochranelibrary.com/cdsr/doi/10.1002/14651858.CD011679.pub2>

Souvenaid is a dietary supplement that some people take to improve the symptoms of Alzheimer's disease (AD) and to prevent progression from prodromal AD (with mild cognitive impairment) to AD with dementia. This Cochrane review summarized the evidence on the safety and effectiveness of Souvenaid for people with AD. The authors found three randomized controlled trials with 1097 people at different stages of AD. Based on one trial in people with prodromal AD, they concluded there is probably little to no difference in the risk of developing dementia between people taking Souvenaid and people taking placebo for 24 months. There is also probably little or no effect on memory or other cognitive abilities although there may be a small benefit for combined cognitive and functional abilities. Based on two trials in people with mild-to-moderate AD, the authors concluded there is probably little or no difference in cognitive abilities or ability to manage daily activities between people taking Souvenaid and people taking placebo for 24 weeks, and no difference in combined cognitive and functional abilities. Information on adverse events was limited. The authors stated that the inconsistent evidence on combined cognitive and functional abilities should be investigated further and noted that there is no evidence on Souvenaid in severe AD or in people with nutritional deficiencies.

Acupuncture for Chronic Nonspecific Low Back Pain

Mu J, Furlan AD, Lam WY, Hsu MY, Ning Z, Lao L. Acupuncture for chronic nonspecific low back pain.

Cochrane Database of Systematic Reviews 2020, Issue 12. Art. No.: CD013814. DOI: 10.1002/14651858.CD013814. <https://doi.org/10.1002/14651858.CD013814>

Acupuncture is often used to treat pain and improve back-specific function in people with low back pain (LBP). This Cochrane review is an update of the 2006 Cochrane review on acupuncture for LBP, focusing on chronic nonspecific LBP. The authors found 33 randomized controlled trials with 8270 participants in which acupuncture was compared with sham acupuncture, no treatment, or usual care. The authors found that acupuncture may be better than sham acupuncture for pain in the short term, but the difference is not clinically important. Acupuncture may not be better for quality of life and it is uncertain whether there is any difference for back-related function. Acupuncture is probably better than no treatment for pain and the difference is clinically important. Acupuncture is probably also better than no treatment for back function but there is no information on quality of life. Acupuncture may be better than usual care for pain, but the difference is not clinically important. Acupuncture may also be better than usual care for back function and is probably better for physical quality of life but not mental quality of life. There may be no difference between the incidence of adverse events with acupuncture and sham acupuncture; there is no information on adverse events in trials comparing acupuncture and no treatment and very limited information in one trial comparing acupuncture and usual care. The authors concluded that the decision to use acupuncture may depend on patient preference and other contextual factors.

Walking for Hypertension

Lee LL, Mulvaney CA, Wong YK, Chan ESY, Watson MC, Lin HH. Walking for hypertension. Cochrane Database of Systematic Reviews 2021, Issue 2. Art. No.: CD008823. DOI: 10.1002/14651858.CD008823.pub2 <https://doi.org/10.1002/14651858.CD008823.pub2>

Walking is a common low-cost form of exercise that may improve cardiovascular health. This Cochrane review looked at the safety and effectiveness of walking as an exercise intervention to improve blood pressure and heart rate. The authors found a total of 73 randomized controlled trials with 5763 participants. Based on the information from these studies, they concluded that walking probably reduces systolic blood pressure and may reduce diastolic blood pressure and heart rate. They found similar findings across different age groups and for both men and women. Only 21 of the included studies reported on adverse events, and of these, 16 studies reported no adverse events, 5 studies reported eight adverse events, primarily knee injury. The authors concluded that walking is a relatively inexpensive and safe intervention for the prevention and management of high blood pressure.

Prevention of Depression in Adults with Long-Term Physical Conditions

Kamplung H, Baumeister H, Bengel J, Mittag O. Prevention of depression in adults with long-term physical conditions. Cochrane Database of Systematic Reviews 2021, Issue 3. Art. No.: CD011246. DOI: 10.1002/14651858.CD011246.pub2. <https://www.cochranelibrary.com/cdsr/doi/10.1002/14651858.CD011246.pub2>

People with chronic illness or other long-term physical problems have an increased risk of developing depression. This Cochrane review summarized the evidence on psychological or pharmacological interventions to prevent the development of depression in people with long-term physical conditions. Based on one trial with 194 participants, the authors stated that problem-solving therapy may be slightly more effective than treatment as usual in preventing the incidence of depression immediately after treatment, although there may be no difference between groups at 6 months after treatment. Based on 10 trials with 1009 participants, the authors stated that pharmacological treatments (including citalopram, escitalopram, sertraline, fluoxetine/nortriptyline, milnacipran, or melatonin) may be more effective than placebo in preventing the incidence of depression immediately after treatment, although there may be no difference between groups at longer follow-up. The evidence for all comparisons was uncertain due to concerns about the conduct of the studies, small sample sizes, variations between studies, and potential publication bias. There was also insufficient information on the tolerability and acceptability of the treatments. Based on the currently available evidence, the authors concluded that the effectiveness of psychological or pharmacological interventions to prevent depression in people with long-term physical conditions is uncertain, and further research is necessary.

Smoking Cessation for Improving Mental Health

Taylor GMJ, Lindson N, Farley A, Leinberger-Jabari A, Sawyer K, te Water Naudé R, Theodoulou A, King N, Burke C, Aveyard P. Smoking cessation for improving mental health. Cochrane Database of Systematic Reviews 2021, Issue 3. Art. No.: CD013522. DOI: 10.1002/14651858.CD013522.pub2. <https://www.cochranelibrary.com/cdsr/doi/10.1002/14651858.CD013522.pub2>

Although some people use tobacco smoking to manage their stress, it is possible that habitual smoking worsens mental health and quitting smoking may actually improve mental health. This updated Cochrane review summarized the most current evidence on the association between quitting tobacco smoking and changes in mental health. Based on evidence from 102 controlled before–after studies and longitudinal cohort studies with a total of >169,500 participants, the authors stated that quitting smoking was associated with small-to-moderate improvements in anxiety and depression symptoms, reductions in symptoms of stress, and improvements in mental quality of life. There was also evidence of no decrease in social quality of life, and a possible increase in social well-being. However, the authors had concerns about the design and conduct of many of the studies, and the possibility of publication bias. For these reasons, the certainty of evidence on the effects of quitting smoking ranged from moderate to very low. Overall, the authors concluded that mental health does not worsen as a result of quitting smoking, that quitting smoking may improve mental health, and that additional studies may further clarify these findings.

Address correspondence to:
L. Susan Wieland, MPH, PhD
Center for Integrative Medicine
University of Maryland School of Medicine
520 W. Lombard Street
Baltimore, MD 21201
USA

E-mail: swieland@som.umaryland.edu