

# Long Term Health Conditions Brief Evidence Digest

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## Cancer

### [Cancer-bereaved siblings' advice to peers – A nationwide follow-up survey](#)

Wallin AE, et al.

Death Studies; Oct 2020; Vol. 44 (9); (561-568)

The aim of this nationwide survey was to explore, based on an open-ended question, cancer-bereaved siblings' advice to peers with a brother or sister with cancer. Half of the advice related to being with the ill sibling and cherishing the time together. Other advice related to the value of communicating about the situation, letting go of guilt, and living life as usual. The results highlight the importance of health care professionals, family, and others facilitating for siblings to spend time together and communicate openly.

### [End-of-Life Trajectories of Patients With Hematological Malignancies and Patients With Advanced Solid Tumors Visiting the Emergency Department: The Need for a Proactive Integrated Care Approach](#)

Verhoef MJ, et al.

American Journal of Hospice & Palliative Medicine; Sep 2020; Vol 37 (9); (692-700)

Purpose: Patients with hematological malignancies (HM) have more unpredictable disease trajectories compared to patients with advanced solid tumors (STs) and miss opportunities for a palliative care approach. They often undergo intensive disease-directed treatments until the end of life with frequent emergency department (ED) visits and in-hospital deaths. Insight into end-of-life trajectories and quality of end-of-life care can support arranging appropriate care according to patients' wishes. Method: Mortality follow-back study to compare of end-of-life trajectories of HM and ST patients who died <3 months after their ED visit. Five indicators based on Earle et al. for quality of end-of-life care were assessed: intensive anticancer treatment <3 months, ED visits <6 months, in-hospital death, death in the intensive care unit (ICU), and in-hospice death. Results: We included 78 HM patients and 420 ST patients, with a median age of 63 years; 35% had Eastern Cooperative Oncology Group performance status 3-4. At the ED, common symptoms were dyspnea (22%), pain (18%), and fever (11%). After ED visit, 91% of HM patients versus 76% of ST patients were hospitalized (P =.001). Median survival was 17 days (95% confidence interval [CI]: 15-19): 15 days in HM patients (95% CI: 10-20) versus 18 days in ST patients (95% CI: 15-21), P =.028. Compared to ST patients, HM patients more often died in hospital (68% vs 30%, P <.0001) and in the ICU or ED (30% vs 3%, P <.0001). Conclusion: Because end-of-life care is more aggressive in HM patients compared to ST patients, a proactive integrated care approach with early start of palliative care alongside curative care is warranted.

Timely discussions with patients and family about advance care planning and end-of-life choices can avoid inappropriate care at the end of life.

**[Individualising difference, negotiating culture: Intersections of culture and care](#)**

Broom A, et al.

Health: An Interdisciplinary Journal for the Social Study of Health, Illness & Medicine; Sep 2020; Vol 24 (5); (552-571)

In this article, we focus on developing a critical sociology of 'cultural and linguistic diversity' as evident in cancer care praxis, drawing on the perspectives of cancer care health professionals. Set within the context of increasing efforts on the part of healthcare providers to 'accommodate difference' and 'incorporate diversity', we aimed to utilise participants' accounts of practice to ask: how do we and how should we think about and operationalise 'culture' (if at all) in cancer care settings. Drawing on eight focus groups with doctors, nurses, allied health staff and multicultural community workers, here we explore their accounts of: othering and over-simplification; the role of absences in biographical reciprocity; intimacy, care and carelessness; and entanglements of culture with other aspects of the person. Based on their accounts, we argue for a broadening of the examination of the nexus of culture and care, to focus on the problematics of othering, intimacy, reciprocity and complexity.

**[Nutritional status in patients with advanced lung cancer undergoing chemotherapy: a prospective observational study](#)**

Lin T, et al.

Nutrition & Cancer; Sep 2020; Vol. 72 (7); (1225-1230)

**Purpose:** The consequences of malnutrition include increased risk of many complications. The assessment and management of nutritional problems are essential in supportive care of patients undergoing therapy. The primary objective of the present study was to assess changes in the nutritional status in lung cancer patients who had undergone chemotherapy. **Patients and methods:** Preliminary and post-chemotherapy assessments of patients' nutritional status and medical characteristics were conducted using the Patient-Generated Subjective Global Assessment (PG-SGA) from July 2014 to May 2016 at Harbin Medical University Cancer Hospital. Four hundred sixty-five advanced lung cancer patients (51.8% men and 48.2% women with a mean (SD) age of  $60.2 \pm 9.8$  years) participated in the present study. PG-SGA was assessed prior to the initiation of chemotherapy and after four cycles of chemotherapy. **Results:** We found that 11.4% of the patients were severely malnourished and 65.6% of the patients were moderately malnourished prior to chemotherapy. After chemotherapy, 52.9% of the patients were considered moderately malnourished, whereas 33.8% were severely malnourished. The nutritional status had deteriorated in the majority of patients. After chemotherapy, there was a rise in the prevalence of nutrition impact symptoms. **Conclusions:** A deteriorated nutritional status was the result of the side effects caused by chemotherapy in the patients of the present study. These findings highlight that more attention should be paid to improve the nutritional status in patients with advanced lung cancer undergoing chemotherapy, and proper nutrition education and nutritional support should be provided to these patients.

## Cardiovascular Diseases

### [Executive dysfunction is associated with self-care confidence in patients with heart failure](#)

Viveiros J, Sethares KA, Westlake C.

Applied Nursing Research; Aug 2020; Vol 54 (151312)

To explore differences in self-care maintenance, management and confidence levels between American heart failure (HF) patients with and without executive dysfunction. Evidence indicates some aspect of cognitive impairment is prevalent in up to 75% of the HF patient population. Moreover, cognitive impairment has been identified as a barrier to adequate self-care contributing to poor outcomes. There is limited understanding of the role executive function, a domain of cognitive performance, has on self-care behaviours for patients with HF. This secondary analysis examined the role of executive function, measured by the Clock Drawing Test (CDT), in relation to self-care measures. The Self Care of Heart Failure Index v6.2 (SCHFI v6.2) was used to measure self-care maintenance, management, and confidence. Participants had a mean age of  $75.1 \pm 12.5$  years, identified as male (59.4%), with New York Heart Association (NYHA) class III (57.3%). Executive function impairment was present in 28% of the sample. Comparison of self-care maintenance and management scores between the two groups were not significant. However, participants with executive dysfunction demonstrated an average self-care confidence score of  $48.6 \pm 23.3$ , while participants with no executive function impairment demonstrated a higher average self-care confidence score of  $61.5 \pm 18.4$ . Differences in self-care confidence scores between the groups were statistically significant ( $p = .014$ ). HF self-care confidence is considered a moderator of self-care behaviours. Understanding the influence executive function has on self-care confidence may lead to a better understanding of those needing greater support with self-care behaviours? • Cognitive impairment has been identified as a barrier to adequate self-care contributing to poor outcomes. • There is limited understanding of the role executive function has on self-care behaviours for patients with HF. • HF patients with executive dysfunction had significantly poorer self-care confidence scores than those without dysfunction. • Understanding the role of executive function in HF may assist in identifying interventions to improve HF self-care.

### [Factors influencing care-seeking delay or avoidance of heart failure management: A mixed-methods study](#)

Ivynian SE, et al.

International Journal of Nursing Studies; Aug 2020; Vol 108 (103603)

Delayed care-seeking for heart failure symptoms increases the risk of unplanned and frequent hospitalization. Presenting to hospital at a later stage when symptoms are severe requires more complex treatment, contributing to longer lengths of stay and higher risk of mortality. Patient-related factors such as knowledge have been highlighted as key contributors to care-seeking delay, yet little is known about how previous experiences within the healthcare setting, including relationships with providers, influence decisions to engage with health services when required. To assess patient-related factors thought to impact care-seeking, and examine the role of previous healthcare experiences in decisions to seek or avoid professional care. Sequential mixed-methods study with a phenomenological approach. A cardiology in-patient ward in a quaternary referral hospital in Sydney, Australia. A total of 72 symptomatic in-patients diagnosed with heart failure. Self-efficacy, heart failure knowledge and health literacy were assessed quantitatively. Semi-structured, in-depth interviews were undertaken with a subset of participants to elicit previous healthcare experiences and their influence on seeking care when symptoms worsened. Qualitative data were analysed using interpretative phenomenological analysis and interpreted in the context of quantitative findings. Three major themes were identified that impacted decisions to seek or avoid professional care: (i) preference for continuity; (ii) previous hospital

experience and; (iii) patient-provider relationships. Avoidance of care-seeking was described, despite quantitative data reflecting high levels of self-efficacy, heart failure knowledge (12.3±1.9 out of 15), and above-average health literacy levels (75% adequate – 15% higher than average in heart failure). The qualitative and quantitative data together demonstrate that participants delayed seeking care for heart failure symptoms despite having sound knowledge and self-efficacy to seek professional care when necessary. Previous healthcare experience affects patient's subsequent action, despite having skills and heart failure knowledge. Interactions with the healthcare system and those within it may impact decisions to avoid seeking treatment more than patient-related factors such as condition-specific understanding.

### **[Inflammation and cardiovascular diseases: lessons from seminal clinical trials](#)**

Liberale L, et al.

Cardiovascular research; Jul 2020 (e-pub ahead of publication)

Inflammation has been long regarded as a key contributor to atherosclerosis. Inflammatory cells and soluble mediators play critical roles throughout arterial plaque development and accordingly, targeting inflammatory pathways effectively reduces atherosclerotic burden in animal models of cardiovascular (CV) diseases. Yet, clinical translation often led to inconclusive or even contradictory results. The Canakinumab Anti-inflammatory Thrombosis Outcome Study (CANTOS) followed by the Colchicine Cardiovascular Outcomes Trial (COLCOT) were the first two randomized clinical trials (RCTs) to convincingly demonstrate the effectiveness of specific anti-inflammatory treatments in the field of CV prevention, while other phase III trials - including the Cardiovascular Inflammation Reduction Trial (CIRT) one using methotrexate - were futile. This manuscript reviews the main characteristics and findings of recent anti-inflammatory phase III trials in cardiology and discusses their similarities and differences in order to get further insights into the contribution of specific inflammatory pathways on CV outcomes. CANTOS and COLCOT demonstrated efficacy of two anti-inflammatory drugs (canakinumab and colchicine, respectively) in the secondary prevention of major adverse CV events (MACE) thus providing the first confirmation of the involvement of a specific inflammatory pathway in human atherosclerotic CV disease (ASCVD). Also, they highlighted the NOD-, LRR- and pyrin domain-containing protein 3 (NLRP3) inflammasome-related pathway as an effective therapeutic target to blunt ASCVD. In contrast, other trials interfering with a number of inflammasome-independent pathways failed to provide benefit. Lastly, all anti-inflammatory trials underscored the importance of balancing the risk of impaired host defence with an increase in infections and the prevention of MACE in CV patients with residual inflammatory risk. Copyright Published on behalf of the European Society of Cardiology. All rights reserved. © The Author(s) 2020. For permissions please email: journals.permissions@oup.com.

### **[Recommendations on how to provide cardiac rehabilitation services during the COVID-19 pandemic](#)**

Kemps HMC, et al.

Netherlands Heart Journal; 2020 (e-pub 16/07/2020)

The ongoing coronavirus disease 2019 (COVID-19) crisis is having a large impact on acute and chronic cardiac care. Due to public health measures and the reorganisation of outpatient cardiac care, traditional centre-based cardiac rehabilitation is currently almost impossible. In addition, public health measures are having a potentially negative impact on lifestyle behaviour and general well-being. Therefore, the Working Group of Cardiovascular Prevention and Rehabilitation of the Dutch Society of Cardiology has formulated practical recommendations for the provision of cardiac rehabilitation during the COVID-19 pandemic, by using tele rehabilitation programmes without face-to-face

contact based on current guidelines supplemented with new insights and experiences. Copyright © 2020, The Author(s).

## Diabetes

### [Adherence to a food group-based dietary guideline and incidence of prediabetes and type 2 diabetes](#)

Den Braver NR, et al.

European Journal of Nutrition; Aug 2020; Vol 59 (5); (2159-2169)

**Purpose:** In this study, we investigated the association between adherence to the Dutch Healthy Diet index 2015 (DHD15-index) and incidence of prediabetes (preT2D) and Type 2 Diabetes (T2D) in a representative sample for the general Dutch population. **Methods:** Two prospective cohort studies, The Hoorn and The New Hoorn Study, were used for data analyses. In total, data from 2951 participants without diabetes at baseline (mean age  $56.5 \pm 7.5$  years; 49.6% male) were harmonized. Baseline dietary intake was assessed with validated Food Frequency Questionnaires and adherence to the DHD15-index was calculated (range 0–130). PreT2D and T2D were classified according to the WHO criteria 2011. Poisson regression was used to estimate prevalence ratios between participant scores on the DHD15-index and preT2D and T2D, adjusted for follow-up duration, energy intake, socio-demographic, and lifestyle factors. Change in fasting plasma glucose levels (mmol/L) over follow-up was analysed using linear regression analyses, additionally adjusted for baseline value. **Results:** During a mean follow-up of  $6.3 \pm 0.7$  years, 837 participants developed preT2D and 321 participants developed T2D. The highest adherence to the DHD15-index was significantly associated with lower T2D incidence [model 3, PRT3vsT1: 0.70 (0.53; 0.92), ptrend = 0.01]. The highest adherence to the DHD15-index pointed towards a lower incidence of preT2D [PRT3vsT1: 0.87 (0.74; 1.03), ptrend = 0.11]. Higher adherence to the DHD15-index was not associated with change in fasting plasma glucose levels [ $\beta$ 10point:  $-0.012$  ( $-0.034$ ;  $0.009$ ) mmol/L]. **Conclusion:** The present study showed that the highest compared to the lowest adherence to the DHD15-index was associated with a lower T2D incidence, and pointed towards a lower incidence of preT2D. These results support the benefits of adhering to the guidelines in T2D prevention.

### [Cardiovascular Risk, Risk Knowledge, and Related Factors in Patients With Type 2 Diabetes](#)

Zehirlioglu M, et al.

Clinical Nursing Research; Jul 2020; Vol 29 (5); (322-330)

Individuals with diabetes must be informed about cardiovascular diseases (CVDs), which is the most important cause of mortality of diabetes, and the interventions should be planned according to their risk status. The aim of this study was to investigate cardiovascular risk, risk knowledge, and related factors in patients with type 2 diabetes. A total of 188 participants were included in this descriptive study. Data were collected using Heart Disease Fact Questionnaire (HDFQ) and Systematic Coronary Risk Evaluation (SCORE) Calculator. Spearman test and multiple regression analysis were used for statistical analysis. Participants did not have sufficient knowledge related to CVD risk factors, and they were in the moderate CVD risk group. CVD risk was lower in subjects with high level of knowledge regarding CVD risk and lower duration of diabetes. Our findings highlight the need for interventions related to CVD, which can reduce its risk. These interventions can be specifically targeted at individuals with advanced age, a long duration of diabetes, low education level, and decreased metabolic control.

## **Effect of a Diabetes Self-Efficacy Enhancing Program on Older Adults With Type 2 Diabetes: A Randomized Controlled Trial**

Tan C, et al.

Clinical Nursing Research; Jul 2020; Vol 29 (5); (293-303)

This randomized controlled trial examined the effect of a diabetes self-efficacy enhancing program (DSEEP) on older adults with type 2 diabetes. The 8-week DSEEP consisted of a guidebook on diabetes self-care, a 1-day workshop, and fortnightly follow-up telephone calls. In total, 113 participants (56 in intervention group and 57 in control group) completed the study. Data were collected at baseline and at 8 weeks from the baseline. Outcome measures included self-efficacy, diabetes self-care activities, health-related quality of life, glycated hemoglobin (HbA1c) and unplanned health care service usage. Compared with participants in the control group, those who received DSEEP had significantly higher increase in self-efficacy and diabetes self-care activities, lower HbA1c, and lesser unplanned health service usage. However, there was no significant difference in health-related quality of life between the two groups. The DSEEP increased self-efficacy, which successfully enhanced self-care activities and reduced HbA1c.

## **Evaluation of mortality risk factors in diabetic foot infections**

Sen P, Demirdal T.

International Wound Journal; Aug 2020; Vol 17 (4); (880-889)

Identifying risk factors for mortality is crucial in the management of diabetic foot syndrome. We aimed to evaluate risk factors for mortality in patients with diabetic foot infection (DFI). A retrospective chart review was conducted on 401 patients from 2010 through 2019. Our primary endpoint was in-hospital mortality. Patients were divided into two groups according to the outcome (survival or death). Clinical data were compared between the two groups statistically. A total of 401 patients were enrolled in the study, 280 (69.8%) of them were male and the mean age was  $59.6 \pm 11.1$  years. The mean follow-up period was  $23.7 \pm 22.9$  months. In-hospital mortality rate was 3%. Univariate analysis indicated that ischaemic wound ( $P = .023$ ), hindfoot infection ( $P = .038$ ), whole foot infection ( $P = .010$ ), peripheral arterial disease ( $P = .024$ ), high leucocyte levels ( $>12\ 040\ K/\mu L$ ) ( $P = .001$ ), high thrombocyte levels ( $>378\ 000\ K/\mu L$ ) ( $P = 8.81\ mg/dL$ ) ( $P = .022$ ), and polymicrobial growth in deep tissue culture ( $P = .041$ ) were significant parameters in predicting mortality. In multivariate analysis, peripheral arterial disease (odds ratio [OR]: 13.430, 95% confidence interval [CI]: 1.129-59.692;  $P = .040$ ), high thrombocyte levels (OR: 1.000, 95% CI: 1.000-1.000;  $P = .022$ ), and polymicrobial growth in deep tissue culture (OR: 7.790, 95% CI: 1.592-38.118;  $P = .011$ ) were independent risk factors for mortality. In conclusion, peripheral arterial disease, high thrombocyte levels, and polymicrobial growth in deep tissue culture were independent risk factors for mortality in DFI.

## **Patient-Centered Health Education Intervention to Empower Preventive Diabetic Foot Self-care**

Makiling M, Hiske S.

Advances in Skin & Wound Care; Jul 2020; Vol 33 (7); (360-365)

**BACKGROUND:** Diabetes impairs the body's ability to produce or respond to the hormone insulin resulting in abnormal metabolism of carbohydrates and elevated glucose levels in the body. Because of these factors, diabetes can cause several complications that include heart disease, stroke, hypertension, eye complications, kidney disease, skin complications, vascular disease, nerve damage, and foot problems. Diabetes education allows patients to explore effective interventions into living their life with diabetes and incorporate the necessary changes to improve their lifestyle.

**OBJECTIVE:** To educate patients diagnosed with diabetes or followed up for diabetes

management by other departments with regard to their own responsibility in maintaining preventive foot self-care. **METHODS:** Ten patients completed a validated educational foot care knowledge assessment pretest to determine their existing knowledge about their own foot care after a thorough foot assessment. Preventive diabetic foot self-care education was conducted through a lecture, visual aids, and a return demonstration. Patients then took a posttest questionnaire with the same content as the pretest to determine their uptake of the educational content. **RESULTS:** Correct toenail cutting was the most identified educational need. It was a limitation in the pretest (30%), and it remained the lowest-scoring item on the posttest (70%). Walking barefoot was thought to be safe by 60% of participants pretest, but with remedial education, all participants identified this as a dangerous activity posttest. Participants also understood the high importance of having corns and calluses looked after by a health professional. **CONCLUSIONS:** Effective communication with patients by healthcare providers who can mold educational content to identified patient needs by teaching much needed skills is a key driver in rendering safe, quality healthcare education interventions.

**[A randomized, double-blind, placebo-controlled crossover clinical trial to evaluate the anti-diabetic effects of Allium hookeri extract in the subjects with prediabetes](#)**

Park B, et al.

BMC Complementary Medicine & Therapies; Jul 2020; Vol 20 (1); (1-8)

Background: Allium hookeri is widely consumed as a vegetable and herbal medicine in Asia. A. hookeri has been reported anti-inflammatory, anti-obesity, osteoblastic, anti-oxidant, and anti-diabetic effects in animal studies. We investigated the anti-diabetic effects of A. hookeri aqueous extract (AHE) in the Korean subjects. Methods: Prediabetic subjects ( $100 \leq$  fasting plasma glucose (FPG)  $< 126$  mg/dL) who met the inclusion criteria were recruited for this study. The enrolled subjects (n = 30) were randomly divided into either an AHE (n = 15, 486 mg/day) or placebo (n = 15) group. Outcomes were measurements of FPG, glycemic response to an oral glucose tolerance test (OGTT), insulin, C-peptide, hemoglobin A1c (HbA1c), total cholesterol, triglyceride, HDL-cholesterol, and LDL-cholesterol. The t-test was used to assess differences between the groups. A p-value  $< 0.05$  was considered statistically significant. Results: Eight weeks after AHE supplementation, HbA1c level was significantly decreased in the AHE group compared with the placebo group. No clinically significant changes in any safety parameter were observed. Conclusion: The findings suggest that AHE can be effective in reducing HbA1c, indicating it as an adjunctive tool for improving glycemic control. Trial registration: The study protocol was retrospectively registered at [www.clinicaltrials.gov](http://www.clinicaltrials.gov) (NCT03330366, October 30, 2017).

## **Epilepsy**

**[The efficacy of perampanel as adjunctive therapy in drug-resistant focal epilepsy in a "real world" context: focus on temporal lobe epilepsy](#)**

Pascarella A, et al.

Journal of the neurological sciences; Aug 2020; Vol 415 (116903)

BACKGROUND: Perampanel (PER) is a novel antiepileptic drug approved as an add-on therapy for focal onset seizures with or without generalization and primary generalized tonic-clonic seizures. Aim of this study was to evaluate PER efficacy and tolerability as add-on therapy in patients with drug-resistant focal onset seizures and especially temporal lobe epilepsy (TLE). **METHODS:** An observational, prospective, multicentre

study on adult with drug-resistant focal epilepsy consecutively recruited from six Italian tertiary epilepsy centres. All patients received add-on PER according to indication and clinical judgement. Seizure frequency and adverse events (AEs) were recorded at 6 and 12 months after PER introduction. RESULTS: Study sample comprised 246 patients, 77 of which with TLE. Seventy-five (35.9%) out of 209 and 66 (38.8%) out of 170 patients still taking PER resulted to be responders (i.e.  $\geq 50\%$  of seizure frequency or seizure free) after six and 12 months, respectively. In the TLE group, 39 (57.3%) out of 68 subjects on PER after 6 months and 32 (60.4%) out of 53 subjects taking PER after 12 months were responders. Overall reported incidence of AEs was 26.1%. In 28 cases (11.3%) AEs lead/contributed to PER discontinuation. The most frequently reported AE were dizziness (14/84) and somnolence (14/84). Regarding TLE patients, 25.9% of them experienced at least one AE and discontinuation for AEs occurred in eight (10.4%). CONCLUSIONS: This study confirmed the good efficacy and safety of PER for drug-resistant focal epilepsy in real-life conditions and, above all, for the first time provide its effectiveness in patients with TLE.

### **LGI1-antibody associated epilepsy successfully treated in the outpatient setting**

Uribe-San-Martín R, et al.

Journal of neuroimmunology; Aug 2020; Vol 345 ; (577268)

We report six patients with anti-LGI1 associated epilepsy. Two patients presented with new-onset generalized tonic-clonic seizures, four developed faciobrachial dystonic seizures and two piloerection. All patients had significant cognitive complaints at the time of diagnosis. All patients described seizure reduction during the first week of carbamazepine, and seizure freedom was obtained at a median of 13 days (range 7-22), sustained after the initiation of immunosuppression. Median time from symptom onset to carbamazepine initiation was 164 days (range 38-206 days). We discuss the particular seizure response to sodium channel blocking antiepileptic drugs, alone or associated with immunosuppression in this antibody mediated seizures.

### **Kidney Disease**

#### **Burden of living with multiple concurrent symptoms in patients with end-stage renal disease**

Ng W, et al.

Journal of Clinical Nursing; Jul 2020; Vol 29(13/14); (2589-2601)

Aims and objectives: To explore the experience of multiple concurrent symptoms over time and their impact on daily living in patients with end-stage renal disease undergoing dialysis. Background: Patients undergoing dialysis experienced multiple concurrent symptoms because of the disease and treatment. Evidence suggests that these symptoms cluster around and have a significant impact on quality of life. However, the experience of this impact remained not clear. Design: A longitudinal descriptive qualitative study. Methods: Ten patients were purposely selected from the cohort of a longitudinal quantitative study in Hong Kong. A total of 28 face-to-face semi-structured interviews were conducted between July 2017 and July 2018. Interviews were audiotaped, transcribed and analysed using a thematic analysis approach. Findings were reported following the COREQ checklist. Results: Four themes emerged from the data. The first theme "complex symptom experience" described a dynamic pattern of symptoms among patients. Although patients were unaware of the relationships among symptoms, a cluster of tiredness, breathlessness, dizziness and sleep disturbance was identified in the narratives of individual symptoms. The report of symptom experience and its change revealed a unique pattern of symptom perception. The three other themes illustrated the impact of multiple concurrent symptoms on daily living, namely "decreased physical functioning," "changes in social functioning" and "diet and fluid restrictions." Conclusions: Patients perceived dynamic and complex

symptom experiences. This perception appears to be modulated by a number of factors. In addition, these experiences had negative and positive effects on patients' daily living. Relevance to clinical practice: Patients perceived unique impact of symptoms on daily living. Therefore, a nurse-led person-centred approach of care is warranted. In addition to routine symptom assessment, nurses need to capture the specific impact of symptoms on day-to-day life. Based on this assessment, symptom management interventions (e.g. health education, referral) can be tailor-made and prioritised.

### **[Effect of continuous intraoperative infusion of methoxamine on renal function in elderly patients undergoing gastrointestinal tumor surgery: a randomized controlled trial](#)**

Guo H, et al.

BMC Anesthesiology; Jun 2020; Vol 20 (1); (1-10)

Background: Acute renal injury (AKI) caused by hypotension often occurs in elderly patients after gastrointestinal tumor surgery. Although vasoactive drugs can increase effective filtration pressure, they may increase renal vascular resistance and reduce renal blood flow. The effect of methoxamine on renal function is not clear. Methods: After obtaining written informed consent, 180 elderly patients undergoing elective gastrointestinal tumor surgery were randomly allocated into two groups: M group (continuous infusion of methoxamine at 2 µg/kg/min) and N group (continuous infusion of normal saline). The patients' mean arterial pressure was maintained within 20% of baseline by a continuous infusion of methoxamine or normal saline. Maintenance fluid was kept at 5 mL/kg/h. According to Kidney disease improve global outcome (KDIGO) guidelines, creatinine was measured at 1, 2 and 7 days after operation, and urine volume at 6, 12 and 24 h after operation was measured to evaluate the occurrence of AKI. 162 patients were included in the final data analysis. Results: Significant differences in the incidence of postoperative Acute kidney injury (M group: 7.5%; N group: 18.3%;  $P < 0.05$ ), the frequency of hypotension (M group: 1 [1–3]; N group: 3 [1–5];  $P < 0.05$ ), and the duration of intraoperative hypotension (M group: 2[0–10]; N group: 10 [5–16];  $P < 0.05$ ) were identified between the groups. Multivariate logistic regression analyses demonstrated that preoperative creatinine and the frequency of intraoperative hypotension were the common factors leading to the occurrence of postoperative AKI. The results of Cox multivariate analysis showed that age and AKI were independent risk factors for 30-day death. Conclusion: Compared with the intraoperative continuous infusion of placebo and methoxamine, continuous infusion of 2 µg/kg/min methoxamine reduced the incidence of postoperative AKI and other clinical complications in elderly patients undergoing gastrointestinal surgery by raising blood pressure and improved the prognosis of patients. Trial registration: Trial registration: Chinese Clinical Trial Registry, ChiCTR1900020536, registered 7 January, 2019,

### **[Effects of Allopurinol on the Progression of Chronic Kidney Disease](#)**

Badve SV, et al.

New England Journal of Medicine; Jun 2020; vol. 382 (no. 26); p. 2504-2513

Background: Elevated serum urate levels are associated with progression of chronic kidney disease. Whether urate-lowering treatment with allopurinol can attenuate the decline of the estimated glomerular filtration rate (eGFR) in patients with chronic kidney disease who are at risk for progression is not known. Methods: In this randomized, controlled trial, we randomly assigned adults with stage 3 or 4 chronic kidney disease and no history of gout who had a urinary albumin:creatinine ratio of 265

or higher (with albumin measured in milligrams and creatinine in grams) or an eGFR decrease of at least 3.0 ml per minute per 1.73 m<sup>2</sup> of body-surface area in the preceding year to receive allopurinol (100 to 300 mg daily) or placebo. The primary outcome was the change in eGFR from randomization to week 104, calculated with the Chronic Kidney Disease Epidemiology Collaboration creatinine equation. Results: Enrollment was stopped because of slow recruitment after 369 of 620 intended patients were randomly assigned to receive allopurinol (185 patients) or placebo (184 patients). Three patients per group withdrew immediately after randomization. The remaining 363 patients (mean eGFR, 31.7 ml per minute per 1.73 m<sup>2</sup>; median urine albumin:creatinine ratio, 716.9; mean serum urate level, 8.2 mg per deciliter) were included in the assessment of the primary outcome. The change in eGFR did not differ significantly between the allopurinol group and the placebo group (-3.33 ml per minute per 1.73 m<sup>2</sup> per year [95% confidence interval {CI}, -4.11 to -2.55] and -3.23 ml per minute per 1.73 m<sup>2</sup> per year [95% CI, -3.98 to -2.47], respectively; mean difference, -0.10 ml per minute per 1.73 m<sup>2</sup> per year [95% CI, -1.18 to 0.97]; P = 0.85). Serious adverse events were reported in 84 of 182 patients (46%) in the allopurinol group and in 79 of 181 patients (44%) in the placebo group. Conclusions: In patients with chronic kidney disease and a high risk of progression, urate-lowering treatment with allopurinol did not slow the decline in eGFR as compared with placebo. (Funded by the National Health and Medical Research Council of Australia and the Health Research Council of New Zealand; CKD-FIX Australian New Zealand Clinical Trials Registry number, ACTRN12611000791932.).

### **Effects of combined aerobic and resistance exercise on renal function in adult patients with chronic kidney disease: a systematic review and meta-analysis**

Wu Y, et al.

Clinical Rehabilitation; Jul 2020; vol. 34(7); (851-865)

Objectives: Combined aerobic and resistance exercise (CARE) is beneficial for improving renal function. To confirm this, we conducted a meta-analysis to evaluate the effects of CARE on renal function in adult patients with chronic kidney disease (CKD). Date sources: The last date of search was 22 February 2020. We searched Cochrane Central Register of Controlled Trials (CENTRAL), MEDLINE, Embase, Allied and Complementary Medicine (AMED), CINAHL, Web of Science, SPORTDiscus, and three Chinese databases (China National Knowledge Infrastructure (CNKI), Wangfang, Journal Integration Platform (VIP)) for articles of randomized and quasi-randomized controlled trials. Methods: We used the Cochrane tool and the JBI Critical Appraisal checklist to assess randomized controlled trials and quasi-randomized controlled trials, respectively. Result: A total of 12 studies and 745 patients were included. Compared with usual care or no exercise, CARE resulted in a significant improvement in the estimated glomerular filtration rate (between-group analysis: mean difference (MD) = 5.01, 95% confidence interval (CI): 2.37 to 7.65; within-group analysis: MD = 3.01, 95% CI: 0.86 to 5.16). The serum creatinine levels also showed a significant improvement after CARE (between-group analysis: MD = -8.57, 95% CI: -13.71 to -3.43; within-group analysis: MD = -6.33, 95% CI: -10.23 to -2.44). Patients who performed CARE also demonstrated a decline in the blood pressure in the within-group analysis (systolic blood pressure: MD = -5.24, 95% CI: -7.93 to -2.54; diastolic blood pressure: MD = -3.63, 95% CI: -5.35 to -1.91). However, there were no significant differences in proteinuria, lipid levels, physical composition, and quality of life. Conclusion: The study results support the concept that CARE intervention improves renal function. It provides strong evidence for guiding clinical decisions and implementing renal rehabilitation exercises.

## **Respiratory Conditions**

### **[Air Trapping Correlates With Increased Frequency of Albuterol Use and Severity of Wheeze in Persistent Asthma](#)**

Vempilly JJ, et al.

Respiratory Care; Jul 2020; Vol 65(7); (994-1000)

**BACKGROUND:** Symptoms of asthma have been shown to correlate poorly with spirometric variables of obstruction. We hypothesized that lung volume measurements might correlate with symptoms and frequency of rescue inhaler use in asthma.

**METHODS:** Patients with persistent asthma on treatment for  $\geq 12$  months were enrolled from university-based clinics. The association between lung volumes, spirometry, asthma symptoms, and rescue inhaler use were explored by using linear modeling.

**RESULTS:** Among the 120 subjects, 76% were women. The mean age  $\pm$  SD was  $52 \pm 15$  y. With regard to ethnicity, 64% of the subjects were caucasian, 23% were Hispanic, and 13% were African-American. Twenty-one percent of the subjects reported chest pain.

There was no significant correlation between asthma symptoms or rescue inhaler use to spirometry indices of obstruction. The residual volume percent of predicted showed a significant association with the wheeze score ( $r = 0.32$ ,  $P = .001$ ) and frequency of rescue inhaler use ( $r \leq 0.35$ ,  $P = .001$ ). Linear contrast analysis showed that the mean wheeze score ( $P = .003$ ) and frequency of rescue inhaler ( $P = .007$ ) use increased linearly from the lowest to the highest quartiles of residual volume. Furthermore, multiple regression analysis showed an association only to the residual volume percent predicted value to the pressurized metered-dose inhaler score and the wheeze score.

**CONCLUSIONS:** Frequent albuterol use and wheezing may be a sign of unrelieved air trapping. Chest pain is a unique symptom in persistent asthma, and the pathogenesis requires further studies. Lung volume measurement added to routine spirometry can help identify patients with asthma and with air trapping.

### **[Association between processed meat intake and asthma symptoms in the French NutriNet-Santé cohort](#)**

Andrianasolo RM, et al.

European Journal of Nutrition; Jun 2020; Vol 59 (4); (1553-1562)

**Purpose:** Processed meat intake may adversely affect lung health, but data on asthma remains sparse. The magnitude of the processed meat–asthma association may also depend on other unhealthy behaviors. We investigated the association between processed meat intake and the asthma symptom score, and the combined role of unhealthy weight, smoking, low diet quality, and high processed meat intake on the asthma score. **Methods:** In 2017, 35,380 participants to the NutriNet-Santé cohort answered a detailed respiratory web-questionnaire. Asthma was defined by the asthma symptom score (sum of 5 questions; continuous variable). Based on repeated 24-h dietary records collected on a dedicated website, processed meat consumption was classified as 0, 5 servings/week. We examined the combined role of body mass index (BMI) ( $\geq 5$  servings/week) on the asthma symptom score. **Results:** Participants were aged 54 on average (women: 75%, smokers: 49%, BMI  $\geq 25$ : 32%,  $\geq 1$  asthma symptoms: 27%). After adjustment for confounders, processed meat intake was positively and significantly associated with asthma symptom score: odds ratios (ORs) (95% CI) for  $> 5$  vs. 0 servings/week were 1.15 (1.04–1.27) in women; 1.23 (1.01–1.50) in men. Compared to participants with 0 unhealthy behaviours, ORs for the asthma symptom score among participants with the 4 combined unhealthy behaviours were 2.18 (1.91–2.48) in women; 2.70 (2.10–3.45) in men. **Conclusion:** High processed meat consumption was associated with higher asthma symptoms, and combining overweight/obesity, smoking, low diet quality, with high processed meat intake was strongly associated with asthma symptoms.

## **Asthma, Chronic Obstructive Pulmonary Disease, and Subsequent Risk for Incident Rheumatoid Arthritis among Women: A Prospective Cohort Study**

Ford JA, et al.

Arthritis & Rheumatology; May 2020; Vol72 (5); (704-713)

Objective: Inflamed airways are hypothesized to contribute to rheumatoid arthritis (RA) pathogenesis due to RA-related autoantibody production, and smoking is the strongest environmental RA risk factor. However, the role of chronic airway diseases in RA development is unclear. We undertook this study to investigate whether asthma and chronic obstructive pulmonary disease (COPD) were each associated with RA. Methods: We performed a prospective cohort study of 205,153 women in the Nurses' Health Study (NHS, 1988–2014) and NHSII (1991–2015). Exposures were self-reported physician-diagnosed asthma or COPD confirmed by validated supplemental questionnaires. The primary outcome was incident RA confirmed by medical record review by 2 rheumatologists. Covariates (including smoking pack-years/status) were assessed via biennial questionnaires. Multivariable hazard ratios (HRs) and 95% confidence intervals (CIs) for RA were estimated using Cox regression. Results: We identified 15,148 women with confirmed asthma, 3,573 women with confirmed COPD, and 1,060 incident RA cases during 4,384,471 person-years (median 24.0 years/participant) of follow-up in the NHS and NHSII. Asthma was associated with increased RA risk (HR 1.53 [95% CI 1.24–1.88]) compared to no asthma/COPD after adjustment for covariates, including smoking pack-years/status. Asthma remained associated with increased RA risk when analysing only never-smokers (HR 1.53 [95% CI 1.14–2.05]). COPD was also associated with increased RA risk (HR 1.89 [95% CI 1.31–2.75]). The association of COPD with RA was most pronounced in the subgroup of ever-smokers age >55 years (HR 2.20 [95% CI 1.38–3.51]). Conclusion: Asthma and COPD were each associated with increased risk of incident RA, independent of smoking status/intensity and other potential confounders. These results provide support for the hypothesis that chronic airway inflammation may be crucial in RA pathogenesis.

## **Changes in symptoms and health-related quality of life in patients with exacerbated chronic obstructive pulmonary disease**

Park SY

Applied Nursing Research; Aug 2020; vol. 54 e-pub

To describe changes in symptoms and identify distinct subgroups of symptoms, to determine whether the sample's characteristics predicted changes in symptoms, and to examine how changes in symptoms predicted changes in health-related quality of life (HRQOL) over 6 months in patients with exacerbated chronic obstructive pulmonary disease (COPD). Different patterns of changes in symptoms and their relationship to changes in HRQOL in patients with exacerbated COPD over long periods of time have been understudied. In this longitudinal study, participants with COPD (N = 42) had been admitted to a medical ward or had visited a pulmonary medicine clinic for treatment of exacerbation. Descriptive and inferential statistics were used to analyse data from questionnaires that assessed symptoms and HRQOL at baseline, daily symptoms over 6 months, and HRQOL at 6 months after exacerbation. Not all participants experienced improved symptoms over time. Two sets of subgroups (improving & worsening; constantly better & constantly worse) emerged, based on 6-month changes in symptoms. Sample characteristics of the improving and worsening subgroups were similar, whereas usual dyspnea and HRQOL were significantly different in the constantly better and constantly worse subgroups. Little change in HRQOL was found in the total sample, but HRQOL deteriorated in the worsening subgroup, although deterioration was not meaningful. Changes in symptoms significantly predicted changes in HRQOL over 6 months. Assessing patients' symptoms after exacerbations of COPD

may enable health care providers to identify those at risk of future exacerbations and poorer HRQOL.0

### **[Nebulized Heparin for Adult Patients with Smoke Inhalation Injury: A Review of the Literature](#)**

Phelps O, et al.

Journal of Pharmacy Technology; Aug 2020; Vol 36 (4); (130-140)

Objective: To review the clinical effects of nebulized heparin and N-acetylcysteine (NAC) in patients with smoke inhalation injury (IHI) and provide recommendations for use. Data Sources: A search of PubMed, MEDLINE, and Scopus databases was completed from database inception through April 15, 2020, using terms: heparin, acetylcysteine, smoke inhalation injury, and burn injury. Study Selection and Data Extraction: All studies pertaining to efficacy and safety of nebulized heparin and/or NAC for IHI in adult patients were evaluated. Reference lists were reviewed for additional publications. Nonhuman studies, non-English and case report publications were excluded. Data Synthesis: Eight studies were included. Four demonstrated positive outcomes, 3 demonstrated no benefit or possible harm, and 1 assessed safety. Supporting trials treated patients within 48 hours of injury with 10 000 units of nebulized heparin with NAC for 7 days or until extubation. Two trials with negative findings treated patients within 72 hours, or unspecified, with 5000 units of nebulized heparin with NAC for 7 days, while the third used 25 000 units within 36 hours but was grossly underpowered for analysis. Clinical findings include reduced duration of mechanical ventilation and improved lung function with possible increase risk of pneumonia and no evidence of increased bleeding risk. Conclusions: Nebulized heparin may improve oxygenation and reduce duration of mechanical ventilation in IHI. If nebulized heparin is used, 10 000 units every 4 hours alternating with NAC and albuterol at 4-hour intervals is recommended. Sterile technique should be emphasized. Monitoring for bronchospasm or new-onset pneumonia should be considered.

### **[Sensitization to storage proteins in peanut and hazelnut is associated with higher levels of inflammatory markers in asthma](#)**

Johnson J, et al.

Clinical & Molecular Allergy; Jun 2020; Vol18 (1) ;( 1-9)

Background: Sensitization to peanuts and hazelnuts is common among young asthmatics and can be primary or a result of cross-reactivity. Sensitization as a result of cross-reactivity to birch pollen is typically associated to tolerance or mild and local symptoms upon intake of peanut or hazelnut. Aim: The aim of this study was to investigate relationships between IgE antibody responses against peanut and hazelnut components, airway and systemic inflammation markers, lung function parameters and reported food hypersensitivity in a cohort of asthmatic children and young adults. Methods: A population of 408 asthmatic individuals aged 10–35 years were investigated. Information on hypersensitivity symptoms upon intake of peanut or hazelnut were recorded in a standardized questionnaire. Fraction of exhaled nitric oxide (FeNO), blood eosinophil count (B-Eos), spirometry, methacholine challenge outcome and IgE antibodies to peanut and hazelnut allergens were measured by standard clinical and laboratory methods. Results: Subjects sensitized to any of the peanut (Ara h 1, 2 or 3) or hazelnut (Cor a 9 or 14) storage proteins were significantly younger (17.6 vs 21.2 years), had higher levels of FeNO (23.2 vs 16.7 ppb) and B-Eos (340 vs 170 cells/mcl) than those displaying only pollen-related cross-reactive sensitization. Levels of FeNO correlated with levels of IgE to storage proteins in children, but not in adults. Levels of B-Eos correlated with levels of IgE to all allergen components investigated in children, but only to levels of IgE to storage proteins in adults. Anaphylaxis and skin reactions upon intake of peanuts or hazelnuts were more often reported among subjects sensitized to the respective storage proteins than among

those with only pollen-related cross-reactive sensitization. As compared to peanut, hazelnut was more often reported to cause gastrointestinal symptoms and less often oral cavity symptoms. Conclusions: Sensitization to peanut and hazelnut storage proteins was associated with higher levels of inflammation markers and food hypersensitivity symptoms in this population of subjects with asthma.

## **Rheumatology**

### **Occupational balance and its association with life satisfaction in men and women with rheumatoid arthritis**

Wagman P, et al.

Musculoskeletal Care; Jun 2020; Vol 18(2); (187-194)

Introduction: Despite improved treatments and reduced disability, people with rheumatoid arthritis (RA) experience difficulties in daily life, which may negatively affect their balance of everyday life activities (occupational balance). The aim of this study was to describe occupational balance and its association with self-rated life satisfaction in men and women with RA. Methods: A survey, including demographic and health-related questions, was sent to 1,277 people who met the following criteria: with RA >4 years, aged 18–80 years, included in the Swedish Rheumatology Quality Register (SRQ), and had at least one registered visit to the participating rheumatology units in the year before inclusion. The 682 who answered all items in the Occupational Balance Questionnaire (OBQ) were included in the study. Their answers were analysed with descriptive statistics, and logistic regression analyses were conducted on men and women separately. Results: Significantly higher occupational balance was identified in those participants who were >65 years, had no children at home, had a lower disease activity score, were not continuously stressed and reported low pain intensity. The results of the logistic regression analyses of both genders showed that higher occupational balance was significantly associated with a higher probability for rating themselves as being satisfied with life as a whole. Conclusion: Occupational balance was identified as related to satisfaction with life as a whole, which is valuable information for health professionals. Enhanced occupational balance may be achieved in people with RA by working towards reducing their stress and pain.

### **Rheumatology practice amidst the COVID-19 pandemic: a pragmatic view**

Romão VC, et al.

RMD open; Jun 2020; Vol 6 (2)

The coronavirus disease 2019 (COVID-19) pandemic has come with many challenges for healthcare providers and patients alike. In addition to the direct burden it has placed on societies and health systems, it had a significant impact in the care of patients with chronic diseases, as healthcare resources were deployed to fight the crisis, and major travel and social restrictions were adopted. In the field of rheumatology, this has required notable efforts from departments and clinicians to adapt to the novel status quo and assure the follow-up of patients with rheumatic and musculoskeletal diseases. In the present viewpoint, we provide a practical approach to tackle this reality. Key measures include setting up preventive team management strategies, optimising communication with patients and reorganising patient care in all its dimensions. We then anticipate the nuances of rheumatology practice as restrictive measures are progressively lifted, while an effective vaccine is still pending. This includes the need to reimpose the same strategy as further waves unfold. Finally, we look ahead and address the lessons we can incorporate into post-COVID-19 rheumatology.

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Partnership Trust  
Caludon Centre Library  
Caludon Centre  
Clifford Bridge Road  
Coventry  
CV2 2TE  
Tel: 02476 932519  
Email: [Andrew.Hough@covwarkpt.nhs.uk](mailto:Andrew.Hough@covwarkpt.nhs.uk)