

Unified Parkinson's Disease (PD) Rating Scale (UPDRS) subscales. The aim was to develop a predictive equation for utilities, suitable for use in an economic model to conduct cost-utility analysis (CUA). **Methods:** Patient-level data were obtained from the National Institute of Neurological Disorders and Stroke (NINDS) Exploratory Trials in PD Long-Term Study 1 (NET-PD LS-1), a multicenter Phase 3 study of creatine in patients on dopaminergic therapy within 5 years of diagnosis (N=1,741; 6 years follow-up). The EQ-5D-3L index scores were calculated using the UK preference weights. The mean utility values and UPDRS scores were comparable between the two treatment arms in the trial, and thus patient-level data were pooled for analysis, as the treatment effect was not statistically significant. The data were analyzed using a mixed-effect model with repeated measures. Candidate predictors were informed by a previous SLR conducted to identify published studies that reported the association between utilities and PD severity (Chandler 2018). **Results:** The average decline in utilities per year was 0.018 and mean utilities at baseline, year 3, and year 6 were 0.81, 0.76, and 0.70, respectively. The significant predictors of utility values included gender and UPDRS I, II, III, and IV. Age was excluded from the multivariate model as it was not statistically significant after adjusting for UPDRS scores. The statistical model performed well in validation analyses—average predicted EQ-5D-3L utilities were compared with the average observed scores for each year post-baseline and were within +/-0.01 at all visits. **Conclusions:** The predictive equation for utilities captures the impact of non-motor and motor-related aspects of the disease as all four UPDRS subscales were identified as significant predictors.

Alternative Medicine & Nutrition - Clinical Outcomes

PAM1 SYSTEMATIC REVIEW OF THE USE OF TETRAHYDROCANNABINOL AND CANNABIDIOL AS A MEDICINAL ALTERNATIVE IN MULTIPLE SCLEROSIS

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Objectives: Due to the evidence of the oral consumption of tetrahydrocannabinol (THC) and/or cannabidiol (CBD) in patients with multiple sclerosis is still contradictory, a systematic review was performed to summarize its effects. **Methods:** The efficacy and safety of oral THC and/or CBD in patients with multiple sclerosis (MS) was assessed compared to standard treatment or placebo or no treatment in spasticity, through a systematic review (SR). Search algorithms were established for Cochrane Library, Pubmed, LILACS and Imbiomed. Meta-analysis (MA), randomized clinical trials (RCT) and cohort studies (CS) published until July 2019 were collected. The risk of bias was assessed by PRISMA, Cochrane GRADE and Consort methodology for MA, RCT and EC, respectively. **Results:** A total of 296 studies were found, one MA, five RCTs and five CS met the inclusion criteria and demonstrated the use of THC and/or CBD in spasticity. The use of THC and/or CBD showed a significant decrease in spasticity in 9 out of 11 studies. These studies had a duration between 12 weeks and 1.5 years. The highest dose was 28 mg for both cannabinoids. One RCT assessed the efficacy of the cannabinoids in 538 patients who did not respond to their actual treatments. In general, the administration of cannabinoids improve the decrease of spasticity in ≥30%. Seven studies reported that patients who received cannabinoids struggle less to fall asleep than placebo arm. Cannabinoids were well tolerated and the main adverse events were dizziness and psychoactive effects. **Conclusions:** Short and long-term studies support the efficacy and safety profile of cannabinoids to decrease the frequency of spasticity in comparison to placebo.

PAM2 ORAL NUTRITIONAL SUPPLEMENTATION CAN IMPROVE POSTOPERATIVE OUTCOMES FOR COLORECTAL SURGERY PATIENTS

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Objectives: Limited real-world evidence exists regarding the impact early post-operative oral nutritional supplementation (ONS) has on health and economic outcomes of patients following colorectal surgery (CRS). We assessed the association between early ONS use and postoperative outcomes in patients undergoing elective open or laparoscopic CRS over a 7-year timeframe. **Methods:** A retrospective analysis was conducted of patients undergoing elective open or laparoscopic CRS between 2008–2014 in US hospitals reporting data in the nationwide administrative-financial database - Premier Healthcare Database. Early ONS and non-early ONS were defined as the presence of charges for ONS before and after postoperative day (POD) 3, respectively. The primary outcome was a composite variable of any infectious complications observed. Secondary efficacy outcomes included intensive care unit

(ICU) admission after POD 3 and gastrointestinal complications. Falsification outcomes included blood transfusion and myocardial infarction. Propensity score matching in addition to univariate analysis was applied to assemble two comparable patient groups and examine postoperative outcomes differences. **Results:** In the overall study population, patients receiving early ONS were older with greater comorbidities, more likely to be Medicare beneficiaries with malnutrition than non-early ONS recipients. Following propensity score matching, the data show that infectious complications were significantly lower in early ONS (n=267) versus non-early ONS (n=534) recipients (6.7% vs. 11.8%, $P<0.03$). Additionally, early-ONS use was associated with significantly reduced rates of pneumonia ($P<0.04$), ICU admissions ($P<0.04$), and gastrointestinal complications ($P<0.05$). There were no significant differences in falsification outcomes. **Conclusions:** In a well-matched sample of CRS patients, early ONS users experienced reduced infectious complications, pneumonia, ICU admission, and gastrointestinal complications. Observed improvements can lead to reduced hospital costs and overall healthcare expenditure for CRS patients. This data highlights the importance of ONS as a cost-saving intervention. Future research employing prospective study designs are needed to provide additional support for the study findings.

Alternative Medicine & Nutrition - Economic Evaluation

PAM3 HOSPITAL NUTRITION PROGRAM INFORM COST SAVINGS FOR HOSPITALIZED PATIENTS IN MEXICO

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Objectives: Approximately 50% of hospitalized patients are malnourished or at-risk of malnutrition in Mexico. These patients experience poor health outcomes and increased hospital costs. We performed an economic analysis to estimate potential savings associated with the implementation of a hospital-based nutrition care program for patients at malnutrition risk receiving care in Mexico hospitals. **Methods:** The budget impact analysis was performed using previously-published data. Outcomes included length of stay and 30-day readmissions. The model compared patients who were assigned to receive early nutrition therapy (initiated within 24–48 hours of hospital admission) with those assigned to receive standard nutrition therapy (not initiated early). Our model used a 30-day time-horizon and estimated event probabilities based on published data. All costs are reported in 2019 US dollars. **Results:** Average total costs over 30-days were \$3,143 US dollars for patients with early nutrition therapy vs \$4,493 for patients with usual nutrition therapy—a savings of \$1,349 (30% decrease) per nutrition-treated patient. Cost differences between the groups were: \$2,840 vs \$3,589 (21% decrease) for hospital-associated costs and \$303 vs \$904 (60% decrease) for 30-day readmissions. The potential costs savings of total public health expenditure from an early nutrition care program for an estimated 3.19 million hospitalized Mexican patients at malnutrition risk is \$4.3 billion per year. **Conclusions:** The results of the budget impact analysis demonstrated the potential for hospital-based nutrition care programs to improve health outcomes and reduce healthcare costs for hospitalized patients in Mexico. These findings provide a rationale for healthcare institutions to promote awareness and training among the clinical personnel with the purpose of facilitating the implementation of comprehensive nutrition programs for the hospitalized Mexican population at risk for malnutrition.

Alternative Medicine & Nutrition - Epidemiology & Public Health

PAM4 SOCIOECONOMIC DIFFERENTIALS OF CHILD STUNTING IN RURAL AND URBAN AREAS OF ZAMBIA

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Objectives:

- To assess differences in the relationship between socioeconomic status and child stunting in urban and rural areas of Zambia.
- To assess the effect of residence type and socioeconomic status on child stunting in Zambia.

Methods: Using data from children aged 0–59 months from the 2013/14 Demographic Health Survey (ZDHS), this study examined the magnitude of socioeconomic differentials in child stunting between rural and urban areas. It also

investigated the effect of residence type and socioeconomic status on child stunting in Zambia. Household wealth index was constructed based on ownership of using household assets. Chi-square tests, univariate and multiple logistic regression models were used to estimate the effect of many covariates including residence type and household wealth on chronic child undernutrition in Zambia. **Results:** The findings indicate that children under five years from urban areas and those from disadvantaged households are more likely to be stunted compared to their counterparts in rural areas and wealthier households, respectively. Specifically, the results follow a wealth gradient; with children from the poorest households showing higher odds of being stunted compared to their peers in the wealthiest households and a quarter of children of the wealthiest households being stunted. However, the wealth gradient is consistently higher in rural areas compared to urban areas; and much wider than the overall rural-urban odds ratios. **Conclusions:** This study concludes that child stunting is largely a major concern in urban areas that are characterized by a large wealth gradient in which children from less privileged households have a higher burden and risk of being stunted. However, one in four children residing in the wealthiest households is stunted. Although this finding may be counter-intuitive, it has important implications for policies that are aimed at addressing child stunting.

PAM5 EFFICACY OF VACUOTHERAPY (CUPPING OR CUPPING THERAPY) IN OSTEO MUSCULAR PATHOLOGY

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Objectives: to identify, critically evaluate and synthesize the available scientific evidence on the safety and efficacy of cupping or cupping therapy, in the treatment of selected clinical conditions compared to alternatives of usual reference treatment for each of these clinical conditions, in terms of quality of life or improvement of symptoms **Methods:** A search was carried out in at least PUBMED, EMBASE and Cochrane Library. In order to locate possible studies on suction cup therapy that are currently planned or in progress, the International Clinical Trials Registry Platform (ICTRP) has been consulted on the Platform of International Clinical Trials Registries of the World Health Organization. Selection was carried out blindly and independently by two researchers on a list of selection criteria that will be prepared before starting this process. Disagreements were resolved by consensus. The papers identified were evaluated with AMSTAR-II for systematic reviews and Cochrane ROB for clinical trials, independently by two researchers. a narrative description was made and a synthesis of the main outcome measures was offered **Results:** The published results studies do not show safety problems, although numerous published references have been found communicating health problems in relation to the use of this therapy. In addition to this, patients treated with vacuum therapy or cupping therapy presented very small differences in pain reduction of any osteomuscular etiology (osteoarthritis, low back pain, carpal tunnel syndrome, etc.) It is important to emphasize that these few improvements were shown in studies of very low scientific quality. **Conclusions:** The use of vacuum therapy shows, in a good number of studies of very low quality, few benefits and relatively frequent side effects, some of them serious, so its use in this indication would not be recommended

Alternative Medicine & Nutrition - Health Service Delivery & Process of Care

PAM6 COMPARISON OF CHARACTERISTICS AND COSTS OF EXTENSIVE AND SPORADIC USERS OF CHIROPRACTIC SERVICES

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Objectives: This study compared the characteristics and costs associated with extensive and sporadic users of chiropractic services. **Methods:** A retrospective study design was used, utilizing year 2017 nationally representative Medical Expenditure Panel Survey (MEPS) database. Adults age 18 and older with at least one chiropractic visit were included in the study. Extensive chiropractic utilization was defined as 6 or greater visits to a chiropractor within any two-month time-frame or at least 12 total visits, in 2017. This is a conservative definition consistent with American Chiropractic Association (ACA) low back pain treatment guidelines and the International Chiropractors Association (ICA) best practices and guidelines for treatment duration and frequency. Sporadic use was defined as not meeting the criteria for extensive use. Factors compared include proportion of costs paid out-of-pocket, region, race, age, health insurance status, and employment status. Comparisons between the groups were made with Chi-squared tests and t-tests for categorical and continuous variables, respectively. Analyses conducted with SAS version 9.4, significance set at 0.05.

Results: There were 4,373,580 (22.7%) and 11,163,515 (77.3%) adults classified as extensive sporadic chiropractic-users, respectively. The mean (95% CI) total cost of chiropractic services was and \$2070 (\$1750-\$2390) (33% out-of-pocket) and \$348 (\$314-\$382) (47.4% out-of-pocket) for extensive and sporadic users respectively, with the proportion paid out-of-pocket significantly different between the groups. Significant difference was detected between extensive and sporadic chiropractic-users for employment status (employed for full-year)[30.0% versus 36.7%] and sex[44% Male versus 39% Male]. Age, Family income, Region, race, and insurance coverage were not significantly different. **Conclusions:** Most chiropractic users were sporadic users, which may indicate inefficiencies in treatment based on ACA and ICA treatment guidelines. Significant differences were detected among characteristics and proportion of costs paid out-of-pocket between extensive and sporadic users of chiropractic services. Future research should investigate the appropriateness of treatment and cost-effectiveness of treatment among this population.

Alternative Medicine & Nutrition - Medical Technologies

PAM7 DEVELOPING AN AUTOMATED VIRTUAL WALKING COACH FOR UNDERSERVED, SEDENTARY PATIENTS IN PRIMARY CARE: ANALYSIS OF PILOT DATA

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Objectives: Scalable, accessible interventions to increase physical activity in underserved patients are needed. We pilot-tested an mHealth intervention to help ethnic-minority patients set weekly walking goals, ultimately aiming to create an automated virtual walking coach. **Methods:** Sedentary adults ages 21-65 years with body mass index (BMI) >25 kg/m² and a smartphone were recruited from a minority-serving academic primary care clinic. Patients received a Fitbit and 8 weeks of two-way text-based coaching. Using texts, patients set weekly specific, measurable, attainable, relevant, timely (SMART) step goals with reminders and encouragement from their coach. In addition to descriptive statistics, a linear mixed-effects model assessed overall trends in daily steps. Linear regression assessed trends within patients. Bivariate linear mixed-effects models examined associations between patient characteristics and daily steps. **Results:** The analytic sample consisted of 1,323 days with step data from 28 patients with multiple comorbidities. Twenty-one (75.0%) patients were female, 23 (82.1%) were African American, 4 (14.3%) were Hispanic, and 1 (3.6%) was White. Average baseline age was 47.3 years (SD=9.9), weight was 237.3 pounds (SD=58.6), and BMI was 39.3 kg/m² (SD=9.3). Daily average number of steps was significantly higher in Week 8 than in Week 1 (8,336 [SD=3,913] vs. 7,018 [SD=3,704]; p=0.04). Each day in the intervention was associated with a non-significant average increase of 9 steps (p=0.17). Seven (25.0%) patients had a significant increase in daily steps during the intervention, 2 (7.1%) had a significant decrease, and 19 (67.9%) had no significant change. In bivariate analyses, variables significantly associated with increased steps were younger age, lower BMI, Hispanic and White vs. African American ethnicity, higher self-reported health, and employment vs. unemployment. **Conclusions:** Weekly facilitated text-based goal-setting showed early promise towards increasing steps in vulnerable patients. Future work will use imitation learning, sentiment analysis, dialogue modeling, and behavior change theory towards developing an automated virtual walking coach.



Alternative Medicine & Nutrition - Methodological & Statistical Research

PAM8 SUPPRESSION OF TGP ON MYOCARDIAL REMODELING BY REGULATING THE NF-KB PATHWAY

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Objectives: Myocardial remodeling is one of the main mechanisms which leads to chronic heart failure (CHF). Thus, the drugs which suppressed the process of myocardial remodeling showed better clinical outcomes to deal with CHF. Total glucosides of paeony (TGP) which is used in many traditional Chinese medicines (TCM) exhibited promising ethno-pharmacological effects such as immunosuppressant, anti-inflammatory, analgesia, anti-stress, liver disease, allergies, anticoagulant, and cardiovascular activities. This study aims to investigate the effects of TGP on myocardial remodeling by regulating the nuclear factor kappa B cells (NF-κB) pathway. **Methods:** SD rats were selected and divided into five groups (n = 8),

