AACT Herbal Dietary Supplements SIG Abstracts March 2017

1. DisArticle: a web server for SVM-based discrimination of articles on traditional medicine. Kim SK, Nam S, Kim S.

BMC Complement Altern Med. 2017 Jan 28;17(1):77. doi: 10.1186/s12906-017-1596-4.

BACKGROUND: Much research has been done in Northeast Asia to show the efficacy of traditional medicine. While MEDLINE contains many biomedical articles including those on traditional medicine, it does not categorize those articles by specific research area. The aim of this study was to provide a method that searches for articles only on traditional medicine in Northeast Asia, including traditional Chinese medicine, from among the articles in MEDLINE. RESULTS: This research established an SVM-based classifier model to identify articles on traditional medicine. The TAK + HM classifier, trained with the features of title, abstract, keywords, herbal data, and MeSH, has a precision of 0.954 and a recall of 0.902. In particular, the feature of herbal data significantly increased the performance of the classifier. By using the TAK + HM classifier, a total of about 108,000 articles were discriminated as articles on traditional medicine from among all articles in MEDLINE. We also built a web server called DisArticle (http://informatics.kiom.re.kr/disarticle), in which users can search for the articles and obtain statistical data. CONCLUSIONS: Because much evidence-based research on traditional medicine has been published in recent years, it has become necessary to search for articles on traditional medicine exclusively in literature databases. DisArticle can help users to search for and analyze the research trends in traditional medicine.

DOI: 10.1186/s12906-017-1596-4
PMCID: PMC5273838
PMID: 28129750 [PubMed - indexed for MEDLINE]

2. Severe hypercalcaemia in a child secondary to use of alternative therapies. Boyd C, Moodambail A.

BMJ Case Rep. 2016 Oct 6;2016. pii: bcr2016215849. doi: 10.1136/bcr-2016-215849.

We describe a case of a 4-year-old boy who presented with acute vomiting, weight loss, loss of appetite, polyuria and polydipsia. Initial investigations revealed a very elevated corrected calcium level which peaked at 4.46 mmol/L. He had a prior diagnosis of autism and his mother had consulted an alternative therapist who had recommended many supplements, including calcium and vitamin D. He required treatment with hyperhydration, calcitonin, furosemide and several doses of pamindronate before his calcium level returned to the normal range 2 weeks later.

DOI: 10.1136/bcr-2016-215849
PMID: 27758796 [PubMed - indexed for MEDLINE]

3. The other side of vitamin D therapy: a case series of acute kidney injury due to malpractice-related vitamin D intoxication. Wani M, Wani I, Banday K, Ashraf M.

Clin Nephrol. 2016 Nov;86 (2016)(11):236-241.

BACKGROUND: Vitamin D deficiency is highly prevalent in Indian Kashmir. Many people get injectable vitamin D (600,000 IU/injection). At times, the dose prescribed is far above the permissible limit. We report 62 patients with malpractice-related vitamin D intoxication, presenting with hypercalcemia and acute kidney injury (AKI). METHODS: The diagnosis was made on basis of (1) history of multiple intramuscular vitamin D injections (2) toxic serum levels of 25-OH vitamin D and (3) exclusion of common causes of hypercalcemia (malignancy and hyperparathyroidism). Their presentation was either de novo AKI in 51 (group 1) or acute on top of chronic kidney disease in 11 (group 2). RESULTS: The mean age was 60 ± 14 vs. 62 ± 13 years, approximate number of vitamin D injections received ranged from 4 to 28 (2.4 - 16.8 million units) vs. 3 to 24 (1.8 - 14.4 million units), mean creatinine at presentation was 3.2 ± 0.9 vs. 4.5 ± 1.1 mg/dL, which decreased to 1.2 ± 0.2 vs. 3.3 ± 1.0 mg/dL, mean serum calcium on admission was 13.7 ± 1.4 vs. 13.6 ± 2.0 mg/dL which decreased to 10.7 ± 1.2 vs. 11.0 ± 1.0 mg/dL on follow-up of 7.2 ± 0.6 months, mean vitamin D level was 313.3 ± 54.8 (range 235 - 375) vs. 303.7 ± 48.4 (range 210 - 375) nmol/L and mean PTH was 18.1 ± 9.6 (range 6.2 - 32) vs. 52.3 ± 12.6 (range 28 - 88) pg/mL in group 1 vs. group 2, respectively. The clinical presentation was weakness, constipation, abdominal pain, nausea, vomiting, anorexia, altered sensorium,

and oliguria. The treatment received was intravenous fluids (normal saline) in all in group 1 and in 8/11 in group 2, short course of steroids (prednisolone) in 44, and bisphosphonate in 6. CONCLUSION: This is the largest case series of AKI secondary to vitamin D toxicity ever reported.

DOI: 10.5414/CN108904
PMID: 27719737 [PubMed - indexed for MEDLINE]

4. Calcium and Vitamin D Use among Older Adults in U.S.: Results from National Survey. Lee S, Teschemaker AR, Daniel M, Maneno MK, Johnson AA, Wutoh AK, Lee E.

J Nutr Health Aging. 2016 Mar;20(3):300-5. doi: 10.1007/s12603-015-0614-9.

OBJECTIVE: This study was conducted to describe a 10-year trend of the supplement from 2000 to 2009 and to evaluate age, gender and racial disparities using a national level health data. DESIGN: Cross-sectional observational study. SETTING AND PARTICIPANTS: Data collected from patient visit records to stand-alone US ambulatory care clinics. Visits made by men and women who were 40 years of age and older were included (n=175,830). MEASUREMENTS: Overall prevalence of recorded calcium and vitamin D use for osteoporosis prevention and treatment, and annual visit rates were estimated by age, gender, race, insurance types, physician specialties, geographical regions, and metropolitan status using chi square test. Multivariate logistic regression was conducted to determine potential predictive factors for calcium and vitamin D supplements. RESULTS: An increase in yearly trend of calcium and vitamin D supplements was observed. The increase was proportional to patients' age ($p<0.05$) and female gender was a strong predictor of calcium and vitamin D supplement ($p<0.0001$).Visits made by blacks were significantly less likely to be associated with the supplement (<0.05). Visits associated with self-pay and Medicaid was less likely to be recorded with vitamin D ($p<0.05$) but not calcium supplements. Osteoporosis diagnosis was an independent predictor of calcium and vitamin D records ($p<0.0001$). CONCLUSIONS: In spite of the observed increases in the trend of visits associated with calcium and vitamin D supplements, variability in the access to the medications was observed. More focused strategies targeting elderly, men, or black population are needed to maintain and improve adequate calcium and vitamin D supplements.

DOI: 10.1007/s12603-015-0614-9
PMID: 26892579 [PubMed - indexed for MEDLINE]

5. Vitamin D exposures reported to US poison centers 2000-2014: Temporal trends and outcomes. Spiller HA, Good TF, Spiller NE, Aleguas A.

Hum Exp Toxicol. 2016 May;35(5):457-61. doi: 10.1177/0960327115595685. Epub 2015 Oct 30.

There has been an increased use of vitamin D both by prescription and by the public as a widely available supplement. We evaluated 15 years of single-substance vitamin D exposures to US poison centers.METHODS: Retrospective analysis of data from the National Poison Data System (NPDS) to evaluate clinical effects, trends, and outcomes of exposures to vitamin D over the period January 1, 2000 through June 30, 2014. Cases were limited to exposures involving vitamin D as a single substance. Multiple vitamin products that may have included vitamin D were not included in this study. RESULTS: From 2000 through June 30, 2014, there were 25,397 human exposures to vitamin D reported to NPDS. There was a mean of 196 cases per year from 2000 to 2005, followed by a 1600% increase in exposures between 2005 and 2011 to a new annual mean of 4535 exposures per year. The mean and median ages were 23.4 years and 10 years, respectively. There were no fatalities, but five (0.02%) major effect outcomes. Serious medical outcomes (major or moderate outcome) were infrequent, ranging from 2 patients/year to 22 patients/year. Clinical effects were primarily gastrointestinal (0.7-1.5%) and mild neurological effects (0.2-0.4%). There was a decline in the percentage of patients treated in a health care facility and of patients with serious medical outcome. CONCLUSION: Despite the enormous increase in number of exposures, there was not a significant increase in patients with a serious medical outcome. Rare severe outcomes may occur.

DOI: 10.1177/0960327115595685
PMID: 26519481 [PubMed - indexed for MEDLINE]

6. The association of telomere length and serum 25-hydroxyvitamin D levels in US adults: the National Health and Nutrition Examination Survey. Mazidi M, Michos ED, Banach M

Arch Med Sci. 2017 Feb 1;13(1):61-65. doi: 10.5114/aoms.2017.64714. Epub 2016 Dec 19.

INTRODUCTION: Higher vitamin D levels and longer telomere length (TL) have been associated with lower risk of several chronic diseases and all-cause mortality. However, direct relationships between 25-hydroxyvitamin D (25(OH)D) levels and TL are not well established. Vitamin D could influence TL through its anti-inflammatory properties. This study aimed to assess the relationship between vitamin D levels and TL in US adults. MATERIAL AND METHODS: Participants of the National Health and Nutrition Examination Survey (NHANES) with data available on 25(OH)D and TL measures from 2001 to 2002 were included. 25(OH)D levels were measured by the DiaSorin Radioimmunoassay. We used multivariable-adjusted linear regression models, accounting for the survey design and sample weights. RESULTS: Of the 4347 eligible participants, 47.0% (n = 2045) were men. The mean age was 42.7 years overall, 49.2 years in men and 42.5 years in women (p = 0.060). After adjustment for age, race, marital status, education, and C-reactive protein, each 1 ng/ml higher 25(OH)D level was associated with a 0.045 (95% confidence interval (CI): 0.032 to 0.059) longer telomere-to-single copy gene (T/S) ratio. This was driven by a significant association in women (0.054 (0.043 to 0.064)) and in men (0.036 (0.020 to 0.052)). However, after we further adjusted for smoking, body mass index, and physical activity, no significant relation was found in the overall sample (β coefficient -0.026, 95% CI: -3.16,1.67), for men (-0.016 (-3.72, 2.64)), or for women (-0.052 (-6.85, 2.26)). CONCLUSIONS: Our findings support a possible positive association between 25(OH)D levels and telomere length. The implications of this association deserve further investigation.

DOI: 10.5114/aoms.2017.64714
PMCID: PMC5206371
PMID: 28144256 [PubMed]

7. Dietary supplement for energy and reduced appetite containing the β-agonist isopropyloctopamine leads to heart problems and hospitalisations. Bovee TF, Mol HG, Bienenmann-Ploum ME, Heskamp HH, Van Bruchem GD, Van Ginkel LA, Kooijman M, Lasaroms JJ, Van Dam R, Hoogenboom RL.

Food Addit Contam Part A Chem Anal Control Expo Risk Assess. 2016 May;33(5):749-59. doi 10.1080/19440049.2016.1167965. Epub 2016 Apr 19.

In 2013 the Dutch authorities issued a warning against a dietary supplement that was linked to 11 reported adverse reactions, including heart problems and in one case even a cardiac arrest. In the UK a 20-year-old woman, said to have overdosed on this supplement, died. Since according to the label the product was a herbal mixture, initial LC-MS/MS analysis focused on the detection of plant toxins. Yohimbe alkaloids, which are not allowed to be present in herbal preparations according to Dutch legislation, were found at relatively high levels (400-900 mg kg(-1)). However, their presence did not explain the adverse health effects reported. Based on these effects the supplement was screened for the presence of a β-agonist, using three different biosensor assays, i.e. the validated competitive radioligand β2-adrenergic receptor binding assay, a validated β-agonists ELISA and a newly developed multiplex microsphere (bead)-based β-agonist assay with imaging detection (MAGPIX(®)). The high responses obtained in these three biosensors suggested strongly the presence of a β-agonist. Inspection of the label indicated the presence of N-isopropyloctopamine. A pure standard of this compound was bought and shown to have a strong activity in the three biosensor assays. Analysis by LC-full-scan high-resolution MS confirmed the presence of this 'unknown known' β3-agonist N-isopropyloctopamine, reported to lead to heart problems at high doses. A confirmatory quantitative analysis revealed that one dose of the preparation resulted in an intake of 40-60 mg, which is within the therapeutic range of this compound. The case shows the strength of combining bioassays with chemical analytical techniques for identification of illegal pharmacologically active substances in food supplements.

DOI: 10.1080/19440049.2016.1167965
PMID: 27092588 [PubMed - indexed for MEDLINE]

8. Natural weight loss supplements - Are they psychoactive? Beecheno M, Budd S, Mohan T.

Aust N Z J Psychiatry. 2016 Jul;50(7):700-1. doi: 10.1177/0004867416634869. Epub 2016 Mar 15.

No abstract

DOI: 10.1177/0004867416634869
PMID: 26979102 [PubMed - indexed for MEDLINE]

9. Hepatotoxicity Induced by "the 3Ks": Kava, Kratom and Khat. Pantano F, Tittarelli R, Mannocchi G, Zaami S, Ricci S, Giorgetti R, Terranova D, Busardò FP, Marinelli E.

Int J Mol Sci. 2016 Apr 16;17(4):580. doi: 10.3390/ijms17040580.

The 3Ks (kava, kratom and khat) are herbals that can potentially induce liver injuries. On the one hand, growing controversial data have been reported about the hepatotoxicity of kratom, while, on the other hand, even though kava and khat hepatotoxicity has been investigated, the hepatotoxic effects are still not clear. Chronic recreational use of kratom has been associated with rare instances of acute liver injury. Several studies and case reports have suggested that khat is hepatotoxic, leading to deranged liver enzymes and also histopathological evidence of acute hepatocellular degeneration. Numerous reports of severe hepatotoxicity potentially induced by kava have also been highlighted, both in the USA and Europe. The aim of this review is to focus on the different patterns and the mechanisms of hepatotoxicity induced by "the 3Ks", while trying to clarify the numerous aspects that still need to be addressed.

DOI: 10.3390/ijms17040580
PMCID: PMC4849036
PMID: 27092496 [PubMed - indexed for MEDLINE]

10. Iron Supplements and Magnesium Peroxide: An Example of a Hazardous Combination in Self-Medication. Vrolijk MF, Opperhuizen A, Jansen EH, Bast A, Haenen GR.

Basic Clin Pharmacol Toxicol. 2016 Oct;119(4):412-7. doi: 10.1111/bcpt.12603. Epub 2016 May 4.

The use of self-medication, which includes dietary supplements and over-the-counter drugs, is still on the rise, while safety issues are not well addressed yet. This especially holds for combinations. For example, iron supplements and magnesium peroxide both produce adverse effects via the formation of reactive oxygen species (ROS). This prompted us to investigate the effect of the combination of three different iron supplements with magnesium peroxide on ROS formation. Hydroxyl radical formation by the three iron supplements either combined with magnesium peroxide or alone was determined by performing a deoxyribose assay. Free iron content of iron supplements was determined using ferrozine assay. To determine hydrogen peroxide formation by magnesium peroxide, a ferrous thiocyanate assay was performed. Finally, electron spin resonance spectroscopy (ESR) was performed to confirm the formation of hydroxyl radicals. Our results show that magnesium peroxide induces the formation of hydrogen peroxide. All three iron supplements induced the formation of the extremely reactive hydroxyl radical, although the amount of radicals formed by the different supplements differed. It was shown that combining iron supplements with magnesium peroxide increases radical formation. The formation of hydroxyl radicals after the combination was confirmed with ESR. All three iron supplements contained labile iron and induced the formation of hydroxyl radicals. Additionally, magnesium peroxide in water yields hydrogen peroxide, which is converted into hydroxyl radicals by iron. Hence, iron supplements and magnesium peroxide is a hazardous combination and exemplifies that more attention should be given to combinations of products used in self-medication.

DOI: 10.1111/bcpt.12603
PMID: 27061346 [PubMed - indexed for MEDLINE]

11. Old and new oral anticoagulants: Food, herbal medicines and drug interactions. Di Minno A, Frigerio B, Spadarella G, Ravani A, Sansaro D, Amato M, Kitzmiller JP, Pepi M, Tremoli E, Baldassarre D.

Blood Rev. 2017 Feb 5. pii: S0268-960X(16)30035-2. doi: 10.1016/j.blre.2017.02.001. [Epub ahead of print]

The most commonly prescribed oral anticoagulants worldwide are the vitamin K antagonists (VKAs) such as warfarin. Factors affecting the pharmacokinetics of VKAs are important because deviations from their narrow therapeutic window can result in bleedings due to over-anticoagulation or thrombosis because of under-anticoagulation. In addition to pharmacodynamic interactions (e.g.,augmented bleeding risk for concomitant use of NSAIDs), interactions with drugs, foods, herbs, and over-the-counter medications may affect the risk/

benefit ratio of VKAs. Direct oral anticoagulants (DOACs) including Factor Xa inhibitors (rivaroxaban, apixaban and edoxaban) and thrombin inhibitor (dabigatran) are poised to replace warfarin. Phase-3 studies and real-world evaluations have established that the safety profile of DOACs is superior to those of VKAs. However, some pharmacokinetic and pharmacodynamic interactions are expected. Herein we present a critical review of VKAs and DOACs with focus on their potential for interactions with drugs, foods, herbs and over-the-counter medications.

DOI: 10.1016/j.blre.2017.02.001
PMID: 28196633 [PubMed - as supplied by publisher]

12. Black Cohosh Hepatotoxicity with Autoimmune Hepatitis Presentation. Franco DL, Kale S, Lam-Himlin DM, Harrison ME.

Case Rep Gastroenterol. 2017 Jan 27;11(1):23-28. doi: 10.1159/000452735.

Herbal medicines have been used for the treatment of various ailments since time immemorial. Black cohosh (BC) is well known for the treatment of postmenopausal symptoms, with conflicting evidence supporting its safety and benefits. We present a rare case of BC-induced autoimmune hepatitis (AIH) with hepatotoxicity in a 69-year-old female. To our knowledge, this represents the third case of BC-induced AIH.

DOI: 10.1159/000452735
PMCID: PMC5301124
PMID: 28203134 [PubMed]

13. Celery root extract as an inducer of mania induction in a patient on venlafaxine and St John's Wort. Khalid Z, Osuagwu FC, Shah B, Roy N, Dillon JE, Bradley R.

Postgrad Med. 2016 Sep;128(7):682-3. doi: 10.1080/00325481.2016.1218263. Epub 2016 Aug 5.

Celery root belongs to a group of plants classified as the umbelliferous family, which contains phytoestrogens. Phytoestrogens are structurally similar to estrogen as they share a pair of hydroxyl groups and phenolic ring, which enables them to bind to estrogen receptors directly, making them a herbal remedy for low estrogen states such as menopause. We present a case of a female patient with depression who was stabilized on venlafaxine and St John's Wort, and who developed a manic episode due to elevated serum venlafaxine levels after she started taking celery extracts for menopausal related issues. We proffer a hypothesis for this unusual occurrence.

DOI: 10.1080/00325481.2016.1218263
PMID: 27467225 [PubMed - indexed for MEDLINE]

14. Pediatric lead poisoning from folk prescription for treating epilepsy. Ying XL, Xu J, Markowitz M, Yan CH.

Clin Chim Acta. 2016 Oct 1;461:130-4. doi: 10.1016/j.cca.2016.07.024. Epub 2016 Jul 29.

BACKGROUND: A case of lead poisoning resulting from the ingestion of a folk remedy for treating epilepsy is reported. RESULTS: The initial blood lead concentration of this 6-y-old boy was 63.6μg/dl upon admission. He presented with abdominal pain, constipation, and irritability. The patient's liver function tests were significantly increased. Through chelation therapy, the blood lead concentration dropped markedly and clinical symptoms greatly improved. His blood and urine samples were collected for the kinetic analysis of lead elimination. CONCLUSIONS: Folk prescriptions for epilepsy should be considered as potential sources of lead intoxication. Lead poisoning should be taken into consideration for unknown causes of abdominal pain.

DOI: 10.1016/j.cca.2016.07.024
PMID: 27481338 [PubMed - indexed for MEDLINE]

15. Case of acute lead toxicity associated with Ayurvedic supplements. Breyre A, Green-McKenzie J.

BMJ Case Rep. 2016 Jun 30;2016. pii: bcr2016215041. doi: 10.1136/bcr-2016-215041.

Use of traditional folkloric remedies not disclosed to the physician may be difficult to identify as a source of lead toxicity. This report illustrates the presentation of a 26-year-old man who, during his 1 month vacation in India, was treated for low back pain with Ayurvedic herbal medicine. On his return to the USA, he presented to the emergency department with epigastric pain, weight loss, dark stools, nausea and vomiting. He was admitted and noted to be anaemic with a blood lead level (BLL) of 94.8 μg/dL. Peripheral blood smear demonstrated basophilic stippling. Chelation therapy with succimer was initiated. The patient became asymptomatic within months. Three years later, he remained asymptomatic with BLL <20 μg/dL. Physicians should be cognisant of potential toxicity from these Ayurvedic medications and have a heightened level of suspicion for lead toxicity in the face of anaemia and abdominal pain without obvious cause.

DOI: 10.1136/bcr-2016-215041
PMID: 27364782 [PubMed - indexed for MEDLINE]

16. Combination of Sitagliptin and Silymarin ameliorates liver fibrosis induced by carbon tetrachloride in rats. Sokar SS, El-Sayad ME, Ghoneim ME, Shebl AM.

Biomed Pharmacother. 2017 Feb 18;89:98-107. doi: 10.1016/j.biopha.2017.02.010. [Epub ahead of print]

Liver fibrosis is a common pathological condition that occurs in most conditions associated with chronic liver injury. Silymarin is a herbal product widely used for its hepatoprotective effect. Sitagliptin, a dipeptidyl peptidase-4 inhibitor (DPP4-I), is clinically used as an oral antidiabetic agent. This study was designed to investigate the effects of Sitagliptin, Silymarin, and their combination on established liver fibrosis in carbon tetrachloride (CCl4) rat model. Male albino rats received intraperitoneal injections of CCl4 three times a week for 7 weeks, as well as daily oral treatments of Sitagliptin (100mg/kg) or Silymarin (100mg/kg) or their combination during the 7 weeks of intoxication. Hepatic fibrotic changes were evaluated by measuring hepatic enzymes (ALT, AST, ALP, and GGT) and markers of fibrosis (transforming growth factor β1 (TGF-β1), tissue 4-hydroxyproline level, histopathological score), oxidative stress (MDA, GSH, and NOx levels), inflammation (interleukin-6) as well as markers of HSCs activation (α-smooth muscle actin (α-SMA) expression). The injected rats with CCl4 for 7 weeks resulted in a marked elevation of hepatic fibrotic changes and reduction of GSH level, while the combination therapy showed a significant decrease in the former one and a significant increase in the later. In conclusion, this study shows that the combination therapy is more beneficial than monotherapy in ameliorating liver fibrosis in rats. Our findings suggest that Sitagliptin alone or in combination with Silymarin may introduce a new strategy for treating liver fibrosis in humans.

DOI: 10.1016/j.biopha.2017.02.010
PMID: 28222401 [PubMed - as supplied by publisher]

17. Exploring an herbal "wonder cure" for cancer: a multidisciplinary approach. Ben-Arye E, Mahajna J, Aly R, Ali-Shtayeh MS, Bentur Y, Lev E, Deng G, Samuels N.

J Cancer Res Clin Oncol. 2016 Jul;142(7):1499-508. doi: 10.1007/s00432-016-2175-7. Epub 2016 May 7.

CONTEXT AND OBJECTIVES: The unmonitored use of herbal medicinal remedies by patients with cancer presents a significant challenge to oncology healthcare professionals. We describe an increasingly popular herbal "wonder drug," Ephedra foeminea (Alanda in Arabic), whose use has spread from the Palestinian patient population throughout the Middle East. We conducted a multicentered and multidisciplinary collaborative research effort in order to understand the potential benefits and harms of this popular herbal remedy. METHODS: We conducted an in-depth search of the medical literature, both traditional and modern, for any mention of the clinical use of Alanda for the treatment of cancer. We then tested the remedy, first for toxic ephedra alkaloid components and then for anticancer effects, as well as effects on the cytotoxic activity of chemotherapy agents (cisplatin and carboplatin) on breast cancer cell cultures. RESULTS: We found no mention in the literature, both conventional and traditional, on the use of Alanda for the treatment of cancer. Laboratory testing did not find any toxic components (i.e., ephedra alkaloids) in the preparation. However, in vitro exposure to Alanda led to a reduced cytotoxic effect of chemotherapy on breast cancer cell cultures. CONCLUSIONS: The use of an integrative ethnobotanical, laboratory and clinical research-based approach can be extremely helpful when providing nonjudgmental and evidence-based guidance to patients with cancer, especially on the use of traditional herbal medicine. The effectiveness and safety of these products

need to be examined by integrative physicians who are dually trained in both complementary medicine and supportive cancer care.

DOI: 10.1007/s00432-016-2175-7
PMID: 27155666 [PubMed - indexed for MEDLINE]

18. Review of Ginkgo biloba-induced toxicity, from experimental studies to human case reports. Mei N, Guo X, Ren Z, Kobayashi D, Wada K, Guo L.

J Environ Sci Health C Environ Carcinog Ecotoxicol Rev. 2017 Jan 2;35(1):1-28. doi 10.1080/10590501.2016.1278298.

Ginkgo biloba seeds and leaves have been used as a traditional herbal remedy for thousands of years, and its leaf extract has been consumed as a botanical dietary supplement for decades. Ginkgo biloba extract is a complex mixture with numerous components, including flavonol glycosides and terpene lactones, and is one of the most widely sold botanical dietary supplements worldwide. Concerns about potential health risks for the general population have been raised because of the widespread human exposure to Ginkgo biloba and its potential toxic and carcinogenic activities in rodents. The National Toxicology Program conducted 2-year gavage studies on one Ginkgo biloba leaf extract and concluded that there was clear evidence of carcinogenic activity of this extract in mice based on an increased incidence of hepatocellular carcinoma and hepatoblastoma. Recently, Ginkgo biloba leaf extract has been classified as a possible human carcinogen (Group 2B) by the International Agency for Research on Cancer. This review presents updated information on the toxicological effects from experimental studies both in vitro and in vivo to human case reports (caused by ginkgo seeds or leaves), and also summarizes the negative results from relatively large clinical trials.

DOI: 10.1080/10590501.2016.1278298
PMID: 28055331 [PubMed - in process]

19. The characteristics and clinical outcome of drug-induced liver injury in a Chinese hospital: A retrospective cohort study. Chen SS, Yu KK, Huang C, Li N, Zheng JM, Bao SX, Chen MQ, Zhang WH.

Medicine (Baltimore). 2016 Aug;95(34):e4683. doi: 10.1097/MD.0000000000004683.

The aim of this cohort study was to determine the characteristics and clinical outcome of 287 patients with drug-induced liver injury (DILI) in a Chinese hospital.Between January 2008 and January 2013, individuals who were diagnosed with DILI were selected. The complete medical records of each case were reviewed, and factors for the outcome of patients with DILI were extracted and analyzed using univariate and multivariate analysis.Two hundred eighty-seven cases identified as DILI were included in the study. A total of 105 different drugs were considered to be related to the hepatotoxicity. The main causative group of drugs was Chinese herb (n=111). Liver failure developed in 9 (3.1%) patients, and 2 died (0.7%). Overall, complete recovery occurred in 92 (32.1%) patients. Univariate analysis and binary logistic regression analysis identified the digestive symptoms, jaundice, total bilirubin (TBIL), and direct bilirubin (DBIL) as independent factors for the non-recovery of DILI. Then the prediction model, including digestive symptoms, jaundice, TBIL, and DBIL, was built by using binary logistic regression analysis again. Receiver operating characteristic curve validated the strong power (area under the curve (AUC)=0.907) of prediction model for predicting the DILI non-recovery.DILI is an important cause of liver test abnormalities, and Chinese herb represented the most common drug group. The factors such as digestive symptoms, jaundice, TBIL, and DBIL have effect on DILI outcomes. The prediction model, including digestive symptoms, jaundice, TBIL, and DBIL, established in this study is really an excellent predictive tool for non-recovery of DILI patients.

DOI: 10.1097/MD.0000000000004683
PMID: 27559976 [PubMed - indexed for MEDLINE]

20. What risks do herbal products pose to the Australian community? Byard RW, Musgrave I, Maker G, Bunce M.

Med J Aust. 2017 Feb 6;206(2):86-90.

Traditional herbal products are widely used in Australia to treat a broad range of conditions and diseases. It is popularly believed that these products are safer than prescribed drugs. While many may be safe, it is

worrying that the specific effects and harmful interactions of a number of their components with prescription medications is not well understood. Some traditional herbal preparations contain heavy metals and toxic chemicals, as well as naturally occurring organic toxins. The effects of these substances can be dire, including acute hepatic and renal failure, exacerbation of pre-existing conditions and diseases, and even death. The content and quality of herbal preparations are not tightly controlled, with some ingredients either not listed or their concentrations recorded inaccurately on websites or labels. Herbal products may also include illegal ingredients, such as ephedra, Asarum europaeum (European wild ginger) and endangered animal species (eg, snow leopard). An additional problem is augmentation with prescription medications to enhance the apparent effectiveness of a preparation. Toxic substances may also be deliberately or inadvertently added: less expensive, more harmful plants may be substituted for more expensive ingredients, and processing may not be adequate. The lack of regulation and monitoring of traditional herbal preparations in Australia and other Western countries means that their contribution to illness and death is unknown. We need to raise awareness of these problems with health care practitioners and with the general public.

PMID: 28152355 [PubMed - in process]

21. Utilization and Safety of Common Over-the-Counter Dietary/Nutritional Supplements, Herbal Agents, and Homeopathic Compounds for Disease Prevention. Trivedi R, Salvo MC.

Med Clin North Am. 2016 Sep;100(5):1089-99. doi: 10.1016/j.mcna.2016.04.017.

Dietary supplements are commonly used by patients as part of their medical care plan. Often clinicians may not be aware of their use, because patients do not always consider these to be medications. All clinicians need to continually ask patients about their use of dietary supplements when collecting a medication history. Dietary supplements and prescription medications often share similar enzymatic pathways for their metabolism. These interactions may lead to severe adverse reactions. This article reviews available evidence for a variety of dietary supplements in select disease categories.

DOI: 10.1016/j.mcna.2016.04.017
PMID: 27542428 [PubMed - indexed for MEDLINE]

22. Drug-induced liver injury associated with Complementary and Alternative Medicine: a review of adverse event reports in an Asian community from 2009 to 2014. Teo DC, Ng PS, Tan SH, Lim AT, Toh DS, Chan SY, Cheong HH.

BMC Complement Altern Med. 2016 Jul 7;16:192. doi: 10.1186/s12906-016-1168-z.

BACKGROUND: The use of Complementary and Alternative Medicine (CAM) has been increasing over the years. A recent review of adverse event reports (AERs) associated with CAM in Singapore found a notable number of AERs submitted. The objectives of this study are to analyse hepatotoxicity cases associated with CAM in Singapore based on spontaneous adverse event reporting to the Health Sciences Authority (HSA), and to highlight safety signals for specific herbal ingredients. METHODS: AERs associated with CAM and hepatotoxicity submitted to the Vigilance and Compliance Branch (VCB) of the HSA from 2009 to 2014 were compiled. The following information was extracted and analysed: Demographic information; time to onset; hospitalisation status; outcome; type of hepatotoxicity; ingredients of CAM, and the total daily doses (TDD); concurrent western medicines and health supplements; and reporter details. RESULTS: Fifty-seven reports were eligible for analysis. Thirty-five (61.4 %) cases involved Traditional Chinese Medicine (TCM). The Roussel Uclaf Causality Assessment Method was applied in 29 (82.9 %) of these cases, and the median score was 4 (range: 1-8). Chai Hu (Radix bupleuri) was suspected in 11 (31.4 %) cases. TDDs of most ingredients were within recommended doses of the Chinese Pharmacopoeia. CONCLUSIONS: Drug-induced liver injury is still poorly understood and more objective assessments are warranted. Reporting of adverse events should be strongly advocated to facilitate future analyses and the understanding of risk-benefit profiles of CAM.

DOI: 10.1186/s12906-016-1168-z
PMCID: PMC4937524
PMID: 27389194 [PubMed - indexed for MEDLINE]

23. Trends in Beverage Consumption Among High School Students - United States, 2007-2015. Miller G, Merlo C, Demissie Z, Sliwa S, Park S.

MMWR Morb Mortal Wkly Rep. 2017 Feb 3;66(4):112-116. doi: 10.15585/mmwr.mm6604a5.

Beverages play an important role in the diets of adolescents because they help to maintain hydration and can provide important nutrients, such as calcium, vitamin D, and vitamin C (1). However, some beverages, such as sugar-sweetened beverages (SSBs) (e.g., soda or pop), provide calories with no beneficial nutrients. Beverage consumption patterns among American youth have changed over time; however, little is known about differences in consumption of various beverages by demographic characteristics such as grade in school, free/reduced price lunch eligibility, and race/ethnicity (2). CDC analyzed data from the 2007-2015 national Youth Risk Behavior Surveys (YRBS) to assess whether the prevalence of drinking non-diet soda or pop (soda), milk, and 100% fruit juice (juice) has significantly changed over time among U.S. high school students. During 2007-2015, daily soda consumption decreased significantly from 33.8% to 20.5%. During 2007-2011, daily milk and juice consumption did not significantly change, but during 2011-2015 daily milk and juice consumption decreased from 44.3% to 37.4% and from 27.2% to 21.6%, respectively. Although a decrease in daily soda consumption is a positive change, soda consumption remains high. Although there is not a specific recommendation for sugar-sweetened beverage consumption, the Dietary Guidelines for Americans 2015-2020 recommend that U.S. residents reduce sugar-sweetened beverage and sweet consumption to reduce intake of added sugars to less than 10% of calories per day. The Dietary Guidelines for Americans 2015-2020 recommend that persons choose beverages with no added sugars, such as water, in place of sugar-sweetened beverages, as one strategy for achieving the added sugars recommendation. Adolescents might need additional support in choosing more healthful beverages, such as low-fat milk, in place of SSBs.

DOI: 10.15585/mmwr.mm6604a5
PMID: 28151926 [PubMed - indexed for MEDLINE]

24. Demographic factors associated with dietary supplement prescriptions filled by United States Military Service Members 2005-2013. Knapik JJ, Jean RT, Austin KG, Steelman RA, Farina EK, Lieberman HR.

BMC Complement Altern Med. 2017 Jan 31;17(1):84. doi: 10.1186/s12906-017-1590-x.

BACKGROUND: Dietary supplements (DSs) can be purchased over-the-counter but may also be prescribed by medical personnel for specific therapeutic reasons. Few studies have examined this latter source of DSs despite the fact that 79% of physicians and 82% of nurses have recommended DSs to their patients. This investigation examined demographic factors associated with temporal trends in oral DS prescriptions filled by all United States (US) service members (SMs) from 2005 to 2013 (n = 1,427,080 ± 22,139, mean ± standard deviation per year). METHODS: The Food and Drug Administration National Drug Code database and the formularies of the US Defense Health Agency's Pharmacoeconomic Center were queried to identify DSs available to SMs. The number of these DS prescriptions filled by all SMs from 2005 through 2013 was then obtained from the US Department of Defense Pharmacy Data Transaction System. Data were grouped by American Hospital Formulary System (AHFS) pharmacologic-therapeutic classifications and examined over time. Denominators (number of SMs each year) were obtained from the Defense Health Agency. RESULTS: Major findings included 1) generally greater prevalence of prescriptions filled by women and older SMs for most AHFS categories; 2) a temporal decline in total prescriptions filled by Marine Corps personnel accounted for by a decline in the prevalence of zinc preparations filled by younger male Marines; 3) a temporal decline in the prevalence of iron preparations filled by women; 4) a temporal increase in the prevalence of prescriptions for replacement preparations filled by women accounted for largely by more prescriptions for calcium compounds; and 5) a temporal decline in the prevalence of prescriptions filled for cathartics/laxatives in older SMs accounted for largely by a decline in prescriptions for sodium/potassium compounds. CONCLUSIONS: These temporal trends may be associated with the greater health care utilization of women and older SMs as well as the perceptions of prescribers and/or patients on appropriate roles of these substances in medicine and public health.

DOI: 10.1186/s12906-017-1590-x
PMCID: PMC5286846
PMID: 28148262 [PubMed - indexed for MEDLINE]

25. Longitudinal trends in use of dietary supplements by U.S. Army personnel differ from those of civilians. Austin KG, Price LL, McGraw SM, McLellan TM, Lieberman HR.

Appl Physiol Nutr Metab. 2016 Dec;41(12):1217-1224. Epub 2016 Jul 14.

Prevalence and patterns of dietary supplement (DS) use by U.S. Army soldiers differ from the civilian population. Longitudinal trends in use of DSs by civilians have been examined, but are unavailable in subpopulations such as military service members. The present study examined longitudinal changes in DS use by soldiers. A standardized questionnaire on DS use was administered in 2006-2007 (N = 989) and 2010-2011 (N = 1196) to convenience samples of active duty soldiers. Data were weighted for total population demographics of age, sex, and rank. Regular use of DSs by soldiers increased significantly (56% ± 1.6% vs. 64% ± 1.7%; $p \leq 0.001$) over the 4 years primarily because of an increase of DS use among the youngest 18- to 24-year-old soldiers (43.0% ± 2.5% vs 62.3% ± 2.4%; $p \leq 0.01$). Protein (22% ± 1.4% vs. 26% ± 1.5%; $p \leq 0.001$) and combination (10.0% ± 1.0% vs. 24% ± 1.4%; $p \leq 0.001$) product consumption also increased over the 4 years. Individual vitamin and mineral use - including iron, magnesium, selenium, and vitamins A, B6, B12, and D - significantly increased as well ($p \leq 0.05$). In addition, expenditures on DSs by soldiers increased over time ($p < 0.01$). Reasons reported by soldiers for DS use suggest use increased to meet the occupational demands of military service. Educational interventions to minimize inappropriate use of DSs by soldiers are necessary to reduce adverse events resulting from unnecessary use of DSs and the financial burden associated with their use.

DOI: 10.1139/apnm-2016-0296
PMID: 27809560 [PubMed - indexed for MEDLINE]

26. The trends of utilization in traditional Chinese medicine in Taiwan from 2000 to 2010: A population-based study. Yeh YH, Chou YJ, Huang N, Pu C, Chou P.

Medicine (Baltimore). 2016 Jul;95(27):e4115. doi: 10.1097/MD.0000000000004115.

INTRODUCTION: There is no study exploring the trend of utilization in traditional Chinese medicine (TCM) from 2000 to 2010. The objective of this study was to investigate the trends of TCM utilization among 3 cross-sectional cohorts of 2000, 2005, and 2010. METHOD: This study was a cross-sectional analysis of TCM utilization over time. We compared the mean TCM visits among 3 cohorts of 2000, 2005, and 2010. We derived 3 randomly sampled cohorts of nearly 1 million representative beneficiaries in each of 2000, 2005, and 2010 from National Health Insurance Research Database for this research. Multivariate logistic regression was performed to evaluate the relative relationship in categorical variables correlating to TCM users. The percentage change (% change) in mean TCM visits between 2000 and 2005 (2010) was used to evaluate the trends of TCM utilization during the period. RESULTS: The ratio of TCM users increased throughout cohorts. The ratio of TCM users among women was more than that among men in all cohorts of 2000, 2005, and 2010 (adjusted odds ratio = 1.47; 1.52; 1.62). The mean TCM visits increased from 2000 to 2010. The percentage change in mean TCM visits among women was more than that among men. The group aged less than 20 years had the least percentage change in mean TCM visits (18.8%); nevertheless, the group aged 20 to 34 years had the largest change (30.2%). The high socioeconomic status group had the largest percentage change in mean visits to TCM, whereas the central region had the least percentage change. Neoplasms had the greatest increase in percentage change in mean TCM visits among all disease categories; in contrast, diseases of the respiratory system had the greatest decrease. CONCLUSION: Both the ratio of TCM users and mean TCM visits increased gradually from 2000 to 2005 and further to 2010. Women used TCM more than men, and this is expected to continue in the future. The high socioeconomic status group used TCM more and more over time. The picture of TCM need among different types of cancer patients should be explored in further research because of the substantial increase in TCM utilization for the disease category of neoplasms.

DOI: 10.1097/MD.0000000000004115
PMCID: PMC5058845
PMID: 27399116 [PubMed - indexed for MEDLINE]

27. Use of complementary and alternative medicines in haemodialysis patients: a cross-sectional study from Palestine. Zyoud SH, Al-Jabi SW, Sweileh WM, Tabeeb GH, Ayaseh NA, Sawafta MN, Khdeir RL, Mezyed DO, Daraghmeh DN, Awang R.

BMC Complement Altern Med. 2016 Jul 11;16:204. doi: 10.1186/s12906-016-1196-8.

BACKGROUND: Complementary and alternative medicine (CAM), and herbal therapies, are accepted worldwide, and have been important from medical, sociological and economic perspectives, among haemodialysis (HD) patients. The primary aim of this study was to evaluate the use of CAM among patients with end-stage renal disease (ESRD) who are undergoing HD.METHODS: Face-to-face interviews of patients with ESRD undergoing HD from ten outpatient renal departments at a national level in Palestine were conducted from June 2014 to January 2015. A survey questionnaire, which included questions on socio-demographic and clinical characteristics, and on the CAM therapies that were used, was administered. RESULTS: Out of 267 patients interviewed, 172 patients used at least one type of CAM in the last month prior to the interview, and thus the utilisation rate was 64.4 %. Forty one (15.4 %) patients reported using one type of CAMs, while 18.7 % used two different CAMs and 30.3 % used more than two types of CAMs for their health status. Of the patients who used CAM, herbal therapies were used most often (43.5 %), followed by honey (35.6 %), diet (22.8 %), and exorcism in Islam (16.9 %). The herbal therapies mentioned most often were Nigella sativa L. (18.7 %), followed by Salvia officinalis L. (16.9 %), and Pimpinella anisum L. (10.5 %). CONCLUSIONS: In conclusion, the prevalence of CAM is relatively high in the selected population. Most patients used biological therapies such as herbal remedies, thus highlighting a greater need for patient education regarding CAM therapies and possible herb-drug interactions. Health care providers must be aware of the potential benefits and risks related to CAM use. There is a need for more clinical research pertaining to CAM to reach stronger evidence regarding potential benefits and risks related to CAM use.

DOI: 10.1186/s12906-016-1196-8
PMCID: PMC4940841
PMID: 27400742 [PubMed - indexed for MEDLINE]

28. Prevalence and Characteristics of CAM Use among People Living with HIV and AIDS in Lebanon: Implications for Patient Care. Abou-Rizk J, Alameddine M, Naja F.

Evid Based Complement Alternat Med. 2016;2016:5013132. doi: 10.1155/2016/5013132. Epub 2016 Dec 6.

This study aimed to assess the prevalence and determinants of Complementary and Alternative Medicine (CAM) use among People Living with HIV and AIDS (PLWHA) in Lebanon and to identify related issues that may affect patient care. A cross-sectional survey design was used to interview 116 PLWHA in Beirut. The questionnaire addressed sociodemographic and disease characteristics as well as CAM use. The main outcome of the study was CAM use since diagnosis. Data analysis included descriptive statistics and logistic regression analyses. Overall, 46.6% of participants reported using one or more CAM therapies, with herbs and herbal products being the most commonly used (63%). A higher education level was associated with a 3-fold increase in the odds of CAM use. Among users, 20% used CAM as alternative to conventional treatment, 48% were not aware of CAM-drug interactions, 89% relied on nonhealth care sources for their choice of CAM, and 44% did not disclose CAM use to their physician. CAM use is prevalent among Lebanese PLWHA. Findings of this study highlighted the need to educate health care practitioners to have an open communication and a patient-centered approach discussing CAM use during routine care and to enhance awareness of PLWHA on safe use of CAM.

DOI: 10.1155/2016/5013132
PMCID: PMC5168459
PMID: 28050191 [PubMed]

29. An Integrated View of Aristolochic Acid Nephropathy: Update of the Literature. Jadot I, Declèves AE, Nortier J, Caron N.

Int J Mol Sci. 2017 Jan 29;18(2). pii: E297. doi: 10.3390/ijms18020297.

The term "aristolochic acid nephropathy" (AAN) is used to include any form of toxic interstitial nephropathy that is caused either by ingestion of plants containing aristolochic acids (AA) as part of traditional phytotherapies (formerly known as "Chinese herbs nephropathy"), or by the environmental contaminants in food (Balkan endemic nephropathy). It is frequently associated with urothelial malignancies. Although products containing AA have been banned in most of countries, AAN cases remain regularly reported all over the world. Moreover, AAN incidence is probably highly underestimated given the presence of AA in traditional herbal remedies worldwide and the weak awareness of the disease. During these two past decades, animal

models for AAN have been developed to investigate underlying molecular and cellular mechanisms involved in AAN pathogenesis. Indeed, a more-in-depth understanding of these processes is essential to develop therapeutic strategies aimed to reduce the global and underestimated burden of this disease. In this regard, our purpose was to build a broad overview of what is currently known about AAN. To achieve this goal, we aimed to summarize the latest data available about underlying pathophysiological mechanisms leading to AAN development with a particular emphasis on the imbalance between vasoactive factors as well as a focus on the vascular events often not considered in AAN.

DOI: 10.3390/ijms18020297
PMID: 28146082 [PubMed - in process]

30. Lingzhi and Cordyceps: Two Commonly Used Chinese Medicinal Herbs, Safe or Not? Sum SS, Ziegler J.

Nutr Clin Pract. 2016 Oct;31(5):695-7. doi: 10.1177/0884533616662990. Epub 2016 Aug 15.

No abstract

DOI: 10.1177/0884533616662990
PMID: 27528127 [PubMed - indexed for MEDLINE]

31. A Case Report of Poisoning Caused by Incorrect Use of Salvia. Yang X, Chen D, Chai L, Duan H, Guo H, Li S, Xiao M, Chen H.

Am J Case Rep. 2016 Aug 15;17:580-3.

BACKGROUND Previous reports suggest that homoplantaginin, one of the compounds isolated from Salvia plebeia, has a protective and therapeutic effect on hepatocyte injury. We present a case of serious liver and kidney damage due to incorrect use of Salvia plebeia in a patient with a history of thyroid tumorectomy, who was successfully treated for poisoning with blood purification and systemic, comprehensive critical care. CASE REPORT A 54-year-old female patient with salvia intoxication combined with multiple organ dysfunction was transported to our emergency center by ambulance after presenting with nausea, vomiting, and skin yellowing. On arrival, she exhibited fatigue, dizziness, lightheadedness, yellowish discoloration of her skin, breathing difficulties, and low back pain, all of which was suggestive of salvia intoxication combined with multiple organ dysfunction. The treatment strategy was to immediately speed up the excretion of toxins and administered blood purification therapy. She also displayed disseminated intravascular coagulation (DIC), which was successfully treated with plasma infusion of blood coagulation factor combined with LMWH acupuncture therapy. CONCLUSIONS Salvia plebeia should only be considered for use in patients who have infectious disease or oxidative stress related disease and only at an appropriate dose. In addition, for patients with salvia poisoning, prompt administration of blood purification therapy and systemic comprehensive measures involving multiple supportive therapies can save such patients.

PMCID: PMC4987065
PMID: 27523588 [PubMed - indexed for MEDLINE]

32. Diffuse Alveolar Hemorrhage Associated with Makyo-kanseki-to Administration. Iida Y, Takano Y, Ishiwatari Y, Yoshida A, Shimizu T, Ito R, Hattori T, Takahashi N, Hashimoto S.

Intern Med. 2016;55(22):3321-3323. Epub 2016 Nov 15.

We herein describe the first known case of diffuse alveolar hemorrhage (DAH) associated with the administration of Makyo-kanseki-to, a Chinese herbal drug. A 64-year-old man with bronchial asthma presented with persistent cough. Makyo-kanseki-to was prescribed as an adjunctive treatment for bronchial asthma. Immediately after drug ingestion, the patient expectorated bloody sputum. DAH was diagnosed based on the presence of bilateral ground-glass opacity which was identified on chest computed tomography and bloody bronchoalveolar lavage fluid. We diagnosed that the administration of Makyo-kanseki-to was the responsible medication because the hemorrhage developed immediately after drug ingestion and resolved after the cessation of such medication with no subsequent recurrence.

DOI: 10.2169/internalmedicine.55.6986

PMCID: PMC5173501
PMID: 27853076 [PubMed - indexed for MEDLINE]

33. A case of black garlic-induced pneumonia as an adverse reaction. Suzuki Y, Saito J, Misa K, Fukuhara N, Fukuhara A, Munakata M.

Allergol Int. 2016 Jul;65(3):353-5. doi: 10.1016/j.alit.2016.02.009. Epub 2016 Mar 22.

No abstract

DOI: 10.1016/j.alit.2016.02.009
PMID: 27021122 [PubMed - indexed for MEDLINE]

34. Altered Long- and Short-Range Functional Connectivity in Patients with Betel Quid Dependence: A Resting-State Functional MRI Study. Liu T, Li J, Zhang Z, Xu Q, Lu G, Huang S, Pan M, Chen F.

Cell Physiol Biochem. 2016;40(6):1626-1636. doi: 10.1159/000453212. Epub 2016 Dec 23.

OBJECTIVE: Addiction is a chronic relapsing brain disease. Brain structural abnormalities may constitute an abnormal neural network that underlies the risk of drug dependence. We hypothesized that individuals with Betel Quid Dependence (BQD) have functional connectivity alterations that can be described by long- and short-range functional connectivity density(FCD) maps. METHODS: We tested this hypothesis using functional magnetic resonance imaging (fMRI) data from subjects of the Han ethnic group in Hainan, China. Here, we examined BQD individuals (n = 33) and age-, sex-, and education-matched healthy controls (HCs) (n = 32) in a rs-fMRI study to observe FCD alterations associated with the severity of BQD. RESULTS: Compared with HCs, long-range FCD was decreased in the right anterior cingulate cortex (ACC) and increased in the left cerebellum posterior lobe (CPL) and bilateral inferior parietal lobule (IPL) in the BQD group. Short-range FCD was reduced in the right ACC and left dorsolateral prefrontal cortex (dlPFC), and increased in the left CPL. The short-range FCD alteration in the right ACC displayed a negative correlation with the Betel Quid Dependence Scale (BQDS) (r=-0.432, P=0.012), and the long-range FCD alteration of left IPL showed a positive correlation with the duration of BQD(r=0.519, P=0.002) in BQD individuals. CONCLUSIONS: fMRI revealed differences in long- and short- range FCD in BQD individuals, and these alterations might be due to BQ chewing, BQ dependency, or risk factors for developing BQD.

DOI: 10.1159/000453212
PMID: 28006783 [PubMed - indexed for MEDLINE]

35. White snakeroot poisoning in goats: Variations in toxicity with different plant chemotypes. Davis TZ, Stegelmeier BL, Lee ST, Collett MG, Green BT, Pfister JA, Evans TJ, Grum DS, Buck S.

Res Vet Sci. 2016 Jun;106:29-36. doi: 10.1016/j.rvsc.2016.02.008. Epub 2016 Mar 4.

Tremetone and possibly other benzofuran ketones are believed to be the toxic compounds in white snakeroot. However, disease has not been reproduced with purified toxins and the concentrations of the benzofuran ketones in white snakeroot populations that cause toxicosis have not been documented. The objectives of this study were to compare the toxicity of seven plant populations, better characterise the clinical and pathologic changes of poisoning, and correlate intoxication with benzofuran ketone content. Four of the seven white snakeroot collections were toxic at the dose and duration used in the study. Affected goats became exercise intolerant, had significant serum enzyme changes and histological lesions in the large appendicular muscles. The incidence and severity of poisoning was not correlated with total doses of tremetone or total benzofuran ketone concentrations suggesting they may not be closely involved in producing toxicity and the possible involvement of an unidentified toxin. The results also demonstrate that white snakeroot populations vary chemically and toxicologically.

DOI: 10.1016/j.rvsc.2016.02.008
PMID: 27234532 [PubMed - indexed for MEDLINE]

36. Mycotoxins in spices and herbs-An update. Kabak B, Dobson AD.

Crit Rev Food Sci Nutr. 2017 Jan 2;57(1):18-34.

Spices and herbs have been used since ancient times as flavor and aroma enhancers, colorants, preservatives, and traditional medicines. There are more than 30 spices and herbs of global economic and culinary importance. Among the spices, black pepper, capsicums, cumin, cinnamon, nutmeg, ginger, turmeric, saffron, coriander, cloves, dill, mint, thyme, sesame seed, mustard seed, and curry powder are the most popular spices worldwide. In addition to their culinary uses, a number of functional properties of aromatic herbs and spices are also well described in the scientific literature. However, spices and herbs cultivated mainly in tropic and subtropic areas can be exposed to contamination with toxigenic fungi and subsequently mycotoxins. This review provides an overview on the mycotoxin risk in widely consumed spices and aromatic herbs.

DOI: 10.1080/10408398.2013.772891
PMID: 26528824 [PubMed - indexed for MEDLINE]

37. Review - Glycyrrhiza glabra L. (Liquorice). Dastagir G, Rizvi MA.

Pak J Pharm Sci. 2016 Sep;29(5):1727-1733.

Medicinal plants are being used for treating various diseases. According to World Health Organization 80% of the world population depends on indigenous medicinal plant remedies. Herbal medicine employs fruits, vegetables, as dry materials or their extracts for the treatment of different diseases and health maintenance. Glycyrrhiza glabra (Liquorice) has been used in Europe since prehistoric times. It is well documented in written form starting with the ancient Greeks. Glycyrrhizin is the major active constituent obtained from liquorice roots, one of the most widely used in herbal preparations for the treatment of liver complaints. The plant is used as anti-inflammatory, spasmolytic, laxative, anti-depressive, anti-ulcer and anti-diabetic. The present review focuses Glycyrrhiza glabra distribution, ethno botany, ethno pharmacology, chemical constituents, medicinal uses, cultivation and trade. Plant requires a lot of attention as it has been reduced in population due to over-use in Baluchistan. The plant conservationists should consider this herb as priority species and should start its cultivation on the commercial scale to fulfill the requirements of the local markets and pharmaceutical industries as well as reduce the pressure on the wild plants.

PMID: 27731836 [PubMed - indexed for MEDLINE]