Conclusions: In this study, 78.5% of patients in east China didn't have gout-related knowledge. Patients' knowledge on gout is a significant independent determinant of adherence to ULT.

TREATMENT ADHERENCE TO URATE-LOWERING THERAPY IN CHINESE GOUT PATIENTS

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Background: Gout, which is characterised by deposition of monosodium urate monohydrate (MSU) in synovial fluid and other tissues, is the most common form of inflammatory arthritis in man and older women. In addition to recurrent acute arthritis, subcutaneous tophi and chronic painful arthritis, gout also affects morbidity and premature mortality. Previous studies have reported that effective ULT can decrease sUA levels enough to prevent further crystal formation, dissolve existing urate crystals and eliminate the causative agent, thus reducing the frequency of acute gout attacks and preventing urate nephropathy, uric acid nephrolithiasis, and the deposition of tophi: a common cause of progressive joint damage, deformity and functional impairment, making gout the only chronic arthritis that can be "cured". However, gout patents' adherence rate to ULT is low, ranged from 10 to 46%. Emerging data suggest that poor adherence to long-term ULT use may be an important contributor to the suboptimal outcomes seen in gout and nonadherence may be worse in gout than in any other chronic disease. This suggests that there is a strong need to make a further study on drug adherence and its risk factors.

Objectives: Non-adherence in gout patients using urate-lowering therapy (ULT) may lead to joint destruction and permanent disability. Purpose of this cross-section survey was to explore Chinese gout patients' adherence rates and investigate potential risk factors for medication non-adherence.

Methods: A total of 129 gout patients were recruited from the Affiliated Hospital of Nantong University from August 2015 to September 2016. Patients were asked to complete a standardized self-report questionnaires (Compliance Questionnaire on Rheumatology, Treatment Satisfaction Questionnaire for Medication version II, Health Assessment Questionnaire, Confidence in gout treatment questionnaire, Gout Knowledge Questionnaire, Patient Health Questionnaire-9, Generalized Anxiety Disorder-7, and 36-Item Short Form Health Survey). Data was analyzed by independent sample t-test, rank sum test, chi-square analysis as well as logistic regression modeling.

Results: Based on CQR, 9.6% of gout patients were adherent to ULT. Adherence was associated with HAQ, GKQ, treatment satisfaction for medication, confidence in gout treatment and MCS. Other demographic, clinical and psychological characteristics were not related to adherence. Logistic regression models identified HAQ, GKQ and MCS as predictors of medication non-adherence.

Conclusions: In the current study, 90.4% of gout patients didn't adhere to their ULT prescription. HAQ, GKQ, treatment satisfaction for medication, confidence in gout treatment and MCS were relevant to medication adherence, and HAQ, GKQ and MCS were independent predictors of medication non-adherence in patients with gout. These findings could help medical personnel develop useful interventions to improve gout patients' medication adherence and quality of life.

OSTEOPOROSIS RISK FACTORS IN PATIENTS WITH CALCIUM PYROPHOSPHATE CRYSTAL DEPOSITION DISEASE (CPPD)

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Background: Osteoporosis (OP) risk factors (RF) in CPPD patients are not sufficiently studied, although some of these RFs may be more prevalent in CPPD pts than in general population [1]

Objectives: To identify the input of individual RFs into OP development in pts with *CPPD*

Methods: 64 patients with CPPD (35 males and 29 females), but without OP were included into open prospective study. CPPD was confirmed based on McCarty criteria (detection of calcium pyrophosphate crystals in the synovial fluid using polarized light microscopy and detection of chondrocalcinosis based on joint radiography or US examination). 40 pts of those had acute and/or chronic arthritis, and 24 pts had osteoarthritis with CPP crystal depositions. Mean age was 57.6±10.2 years, mean follow up – 4.85±0.96 years. Bone mass density (BMD) was measured by dual energy X-ray absorptiometry (DXA) at the forearm, lumbar spine and total hip was performed in all pts at baseline. OP was diagnosed by BMD (T-criterion ≤2,5). The following OP risk factors were evaluated in this study: sex, age >55 years for females and >65 years for males, smoking, alcohol, fractures in past medical history, fractures in parents, BMI ≤20 kg/m^2, BMI ≤25 kg/m^2, serum levels of calcium, magnesium, vitamin D, hypoparathyroidism (HPT), chronic kidney disease (GFR ≤60 mL/min), intake of diuretics and glucocorticosteroids (GCs), Erythrocyte sedimentation rate (ESR) >20 mm/h, C-reactive protein (CRP) >5,0 mg/L. Odds ratio (OR) (95% confidence interval, CI) was estimated for each risk factor and logistic regression analysis was performed. Statistical analysis was made using SPSS v. 11 package, p values of <0.05 were considered statistically significant.

Results: OP was identified in 22 (34%) out of 64 pts with CPPD (13 males and 9 females) by the end of the study. The following factors were associated with OP: age >55 years in females (odds ratio (OR) 5.0, 95% CI; 1.021–24,49; p=0.047), age >65 years in males (OR 3.9, 95% CI 1.3–11.5; p=0.014), HPT (OR 15.38, 95% CI 1.7–137.9; p=0.015), elevated ESR (OR 3.38, 95% CI 1.14–10.0; p =0.028) and CRP (OR 6.42, 95% CI 2.05–20.05; p=.001) (Fig.1).
Only hypoparathyroidism was identified by logistic regression analysis (sensitivity-71%, specificity -82%) as OP-associated risk factor (OR 14.24, 95% CI 1.05–194.05; p=0.046) (Table 1).

Table 1. Data from multiple logistic regression analysis

Study	OR	Lower	Upper	p
sex	1,215	0,259	5,709	0,805
BMI<25kg/m^2	1,483	0,325	6,774	0,611
Age>65	1,293	0,274	6,093	0,745
Diuretics intake	2,771	0,189	40,617	0,457
HPT	14,245	1,046	194,055	0,046
CKD	1,025	0,082	12.876	0,985
lower vit.D3	0,503	0,116	2,173	0,357
elevated ESR	3,830	0,764	19,214	0,101
elevated CRP	3,855	0,608	24,44	0,152

Fig 1. Risk factors for osteoporosis (forest plot).
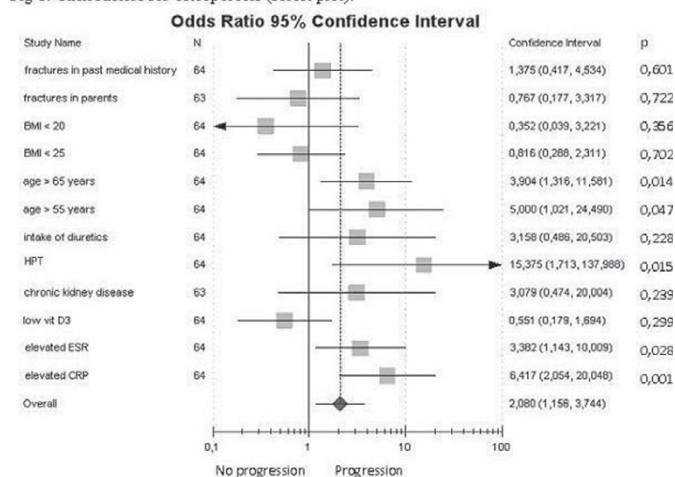
Conclusions: Hypoparathyroidism is the key risk factor for OP in CPPD pts. Among other risk factors chronic inflammation (ESR and CRP levels) is of highest importance.

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THE EFFECT OF SERUM URIC ACID LEVELS ON TOPHUS STATUS AND FLARES IN PATIENTS WITH GOUT: A SYSTEMATIC REVIEW

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Background: Gout is a chronic, progressive, inflammatory disease characterised by elevated serum uric acid (sUA) levels. sUA levels above its saturation point result in the deposition of monosodium urate crystals, which lead to gout flares and tophi (1). Multiple studies support the use of sUA levels as a marker for clinical improvements; hence the therapeutic goal is to lower sUA levels (<6.0 mg/dL) to improve the symptoms of gout and reduce the risk of associated comorbidities (2,3).

Objectives: To conduct a systematic review to identify studies reporting the effect of sUA levels on the incidence of gout flares and tophus status in adult patients with gout/hyperuricaemia, with a focus on publications reporting a correlation between the parameters.

Methods: Publications were identified by interrogating electronic databases; Medline & MEDLINE In-Process, EMBASE and the Cochrane Library (accessed 6 Sept 2016). Eligibility criteria included adult patients with a diagnosis of acute/chronic gout or hyperuricemia, with no restriction on publication date, study design or geography.

Results: In total, 59 studies met the pre-defined inclusion criteria and were reviewed; of these, 17 reported the relationship between sUA levels and flares (n=12) and/or tophus status (n=11). Two studies were multinational (North America), and 15 were single country (US [n=10]; Spain [n=2]; New Zealand [n=1]; Germany [n=1]; Japan [n=1]). The majority of studies had a follow-up period of ≤1 year, with one reporting 10 years' follow-up. All 12 studies evaluating flares reported that achieving sUA levels ≤6 mg/dL was associated with a decreased risk of gout flares, compared with sUA levels >6 mg/dL (p<0.05 in 8 studies). All 11 studies evaluating tophus status reported that achieving sUA levels ≤6 mg/dL was associated with improvements in tophus status, compared with sUA levels >6 mg/dL (p<0.05 in 4 studies). The remaining 42 studies reported the impact of urate lowering therapy on sUA levels and gout flares or tophus status, but not the correlation between the parameters. The qualitative results in these studies indicated that increases in sUA levels were associated with an increased risk of gout flares and worsening of tophus status.

Conclusions: Maintenance of sUA levels <6 mg/dL is associated with improvements in tophi resolution and flare reduction in adult patients with gout/hyperuricaemia. Whilst longer-term follow up studies (>5 years) are warranted, this review further supports that decreases in sUA levels are a marker for clinical improvements.

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AB0897 **FUNCTIONAL DISABILITY AND HEALTH-RELATED QUALITY OF LIFE IN CHINESE PATIENTS WITH GOUT: A CROSS-SECTIONAL STUDY**

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Background: As the most common arthritis in adults, gout is a painful, inflammatory disease that may cause functional disability and decreased health-related quality of life (HRQoL). However, there are currently no known reported studies related to functional disability and HRQoL of gout patients from China.

Objectives: This cross-sectional study aims to investigate the effect of demographic variables, disease parameters, and psychological status on functional disability and HRQoL of Chinese gout patients.

Methods: A self-report survey was administered to 226 gout patients and 232 healthy individuals using the Short Form 36 health survey (SF-36) for HRQoL and the Health Assessment Questionnaire-Disability Index (HAQ-DI) for functional disability. Gout patients were asked to complete the 10 cm Visual Analog Scale (VAS) for total pain, the Patient Health Questionnaire (PHQ-9) for depression, and the Generalized Anxiety Disorder (GAD-7) questionnaire for anxiety. Blood samples were taken to examine the level of uric acid (UA). Independent samples t-tests, Chi square tests, spearman and/or pearson correlation and multiple linear regression were used to analyze the data.

Results: Our results found that individuals with gout have poorer HRQoL compared to healthy controls and the mean disability score was 0.32 (SD 0.54), representing mild disability. SF-36 and almost all components of the SF-36 score were associated with place of residence, hypertension, DM, cardiovascular disease, disease duration, number of flares/last year, total pain, number of tophi, presence of tender joints, colchicines use, corticosteroids use, depression, and anxiety (p<0.05). This variable was also significantly related to the HAQ-DI score (p<0.05). Additionally, there were significant relationships among age, income/year, allopurinol use and HAQ-DI (p<0.05). Stepwise multiple linear regression identified number of flares/last year, place of residence, depression and DM as predictors of functional disability. Disease status (total pain, number of flares/last year, presence of tender joints, cardiovascular disease, colchicine and corticosteroids use) and psychological disorders (depression and anxiety) were significantly accounted for poor HRQoL.

Conclusions: Chinese gout patients experienced mild disability and poor HRQoL. Disease status and psychological status were important risk factors linked to functional disability and HRQoL in Chinese gout population. These data suggest medical personnel should pay more attention to functional disability and HRQoL of gout patients and make suitable interventions to relieve their psychological disorders and finally to reduce their functional ability and improve their HRQoL.

AB0898 **SLEEP QUALITY IS ASSOCIATED WITH ALCOHOL USE AND FUNCTIONAL CAPACITY IN CHINESE PATIENTS WITH GOUT: A CROSS-SECTIONAL STUDY**

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Background: Poor sleep quality is common in patients with chronic diseases and may lead to disease aggravation and decreased quality of life. The increasing prevalence of poor sleep in individuals with chronic medical conditions is associated with adverse demographic, clinical, and psychological characteristics. However, there are currently no known reported studies related to the sleep quality of gout patients.

Objectives: This study aims to evaluate the prevalence of poor sleep quality and investigate the contributors of poor sleep in Chinese gout patients.

Methods: A self-report survey was administered to 226 gout patients and 232 healthy individuals using the Pittsburgh Sleep Quality Index (PSQI) for sleep quality, the Patient Health Questionnaire (PHQ-9) for depression, and the Generalized Anxiety Disorder (GAD-7) questionnaire for anxiety. Gout patients completed the 10 cm Visual Analog Scale (VAS) for total pain, and the Health Assessment Questionnaire-Disability Index (HAQ-DI) for functional capacity. Blood samples were taken to examine the level of uric acid (UA). Independent samples t-tests, Chi square analyses, and logistic regression were used to analyze the data.

Results: Our results found that the prevalence of poor sleep (PSQI≥5) was 55.3% and the mean global score of PSQI was 6.69 (SD 3.48) in patients, which were significantly higher than the controls (17.7% and 3.83 (SD 1.88), respectively). There were significant correlations among alcohol use, HAQ-DI, PHQ-9, GAD-7 and sleep quality in gout patients. Patients with yellow rice wine and wine use preferred to have better sleep quality. While, disease stage was associated with hypertension, total pain, number of tophi, presence of tender joints and swollen joints. Meanwhile, logistic regression models identified alcohol use and depression as predictors of poor sleep quality.

Conclusions: More than half of Chinese gout population suffered from poor sleep, which significantly higher than healthy individuals. These findings suggested medical personnel should pay more attention to the sleep quality of gout patients, especially those with depression. Additionally, it is beneficial for the patients with normal UA level to take moderate yellow rice wine and wine to improve their sleep quality.

AB0899 **DEPRESSION AND ANXIETY CORRELATE WITH DISEASE-RELATED CHARACTERISTICS AND QUALITY OF LIFE IN CHINESE PATIENTS WITH GOUT: A CROSS-SECTIONAL STUDY**

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Background: Depression and anxiety are common worldwide and may lead to disease aggravation and decreased health-related quality of life (HRQoL). The increasing prevalence of depression and anxiety in gout patients is associated with demographic and gout characteristics. However, there are currently no known reported studies related to the association between HRQoL and depression/anxiety.

Objectives: This cross-sectional study aims to evaluate the prevalence of depression and anxiety and investigate the potential risk factors for depression and anxiety in Chinese gout patients.

Methods: A self-report survey was administered to 193 gout patients and 208 healthy individuals from September 2015 to September 2016. Patients were asked to complete a set of standardized self-report questionnaires [Visual Analog Scale (VAS), Health Assessment Questionnaire-Disability Index (HAQ-DI), Patient Health Questionnaire (PHQ-9), Generalized Anxiety Disorder (GAD-7) questionnaire, Short Form 36 health survey (SF-36)]. Independent samples t-tests, χ^2 analyses, and logistic regression were used to analyze the data.

Results: We found 15% of gout patients had depression, and 5.2% had anxiety, which were significantly higher than the healthy controls (1.4 and 1.0%, respectively). There were significant correlations among education, pain, disease duration, stage of gout, disability, number of tophi, presence of tender joints, HRQoL, and psychological status. Meanwhile, logistic regression analysis identified number of tophi, HAQ-DI, and MH scale as predictors of depression in gout patients. Education, GH, and VT domains were significantly accounted for anxiety.