

chronic pain, while reducing their use of controlled medications. A larger follow-up study is needed to validate and expand on these preliminary findings.

#### PMH29

##### IMPORTANCE OF REMISSION IN PATIENTS WITH MAJOR DEPRESSIVE DISORDER IN KOREA FOR IMPROVING HEALTH-RELATED QUALITY OF LIFE AND ECONOMIC BURDEN

Kim HJ<sup>1</sup>, Hong JP<sup>2</sup>, Woo JM<sup>3</sup>, Jeon HJ<sup>4</sup>

<sup>1</sup>Pfizer Pharmaceuticals Korea Limited, Seoul, South Korea, <sup>2</sup>Asan Medical Center, Seoul, South Korea, <sup>3</sup>Seoul Paik Hospital, Seoul, South Korea, <sup>4</sup>Samsung Medical Center, Sungkyunkwan University School of Medicine, Seoul, South Korea

**OBJECTIVES:** The purpose of this study was to assess health-related quality of life (HRQoL) and economic burden among outpatients with major depressive disorder (MDD) in regards to achieving remission. **METHODS:** This was a nationwide cross-sectional study. A total of 811 MDD patients over 18 years old were enrolled and each patient was allotted to one of three groups (1: 1: 1 ratio) as follow; new visit group (n=287), remitted group (n=235), and non-remitted group (n=289). The 17-item Hamilton Depression Rating Scale (HAM-D) was used to assign patients to either remitted or non-remitted group. HRQoL was assessed with EuroQol 5D (EQ-5D index score), EuroQol Visual Analog Scale (EQ-VAS), and Quality of life Enjoyment and Satisfaction Questionnaire Short Form (Q-LES-Q-SF). To investigate the economic burden of MDD patients, the total monthly costs (USD) were evaluated by sum of direct medical costs, direct non-medical costs (transportation and supplementary therapy), and indirect costs collected via patients interview. Indirect costs were measured by absenteeism and presenteeism utilizing the Korean version of World Health Organization Health and Work Performance Questionnaire (HPQ). **RESULTS:** Non-remitted group showed statistically significant impairment of HRQoL as revealed by the results of EQ-5D index score, EQ-VAS, and Q-LES-Q-SF compared to remitted group (0.57±0.23 vs. 0.77±0.10, 50.9±20.34 vs. 72.5±16.59, 0.41±0.14 vs. 0.58±0.16, respectively, p<0.0001). Regarding direct medical costs, the non-remitted group incurred the highest costs compared to other groups (p<0.0286). As of the indirect costs, remitted group demonstrated significant improvement in productivity when compared with other groups (p<0.0001). Total monthly costs were the highest in non-remitted group (1187±857.8) compared to remitted group (766±684.5) and new visit group (1063±773.1), (p<0.0001). **CONCLUSIONS:** Non-remitted MDD patients suffer from both lower HRQoL and higher economic burden compared with remitted group and new visit group. These results suggest the importance of achieving remission in Korean MDD patients.

#### PMH30

##### PREVALENCE AND PREDICTORS OF CLINICALLY UNDIAGNOSED COGNITIVE IMPAIRMENT AMONG OLDER RESIDENTS OF NURSING HOMES IN ASSOCIATION WITH HRQOL

Chen LL<sup>1</sup>, Ch'ng SHA<sup>2</sup>, Shafie AA<sup>3</sup>, Hasali MA<sup>3</sup>, Tagiisuran B<sup>3</sup>

<sup>1</sup>Singapore General Hospital, Singapore, <sup>2</sup>Hospital Kuala Lumpur, Kuala Lumpur, Malaysia,

<sup>3</sup>Universiti Sains Malaysia, Penang, Malaysia

**OBJECTIVES:** To determine the prevalence and predictors of cognitive impairment among older residents of nursing homes in the state of Penang, Malaysia. **METHODS:** This multi-centred cross-sectional study was conducted in two phases over a six-month period at four non-governmental nursing facilities in Penang, Malaysia. Older residents (≥65 years old) who were taking at least one medication and had not been previously diagnosed with dementia were included. Demographic and clinical data were collected through direct interviews and the review of medical records. Cognitive screening was performed using the Mini-Cog at baseline. Health Related Quality of Life (HRQOL) was assessed at baseline and after a three-month interval using the EuroQol (EQ-5D) and EQ Visual Analogue Scale (VAS). **RESULTS:** The study included 211 residents with mean (SD) age of 77.7 (7.0) years and majority female residents, 128 (60.7%). Mini-Cog identified 129 (61%) residents with cognitive impairment. The three most common co-morbidities among the sample population were hypertension (71.1%), diabetes mellitus (27.1%) and cerebral vascular disease (12.3%). Logistic regression analysis showed that longer formal education of more than six years (OR = 2.81, p = 0.007, 95% CI [0.167-0.757]) and inability to self-administer medications (OR = 3.29, p < 0.001, 95% CI [0.156-0.594]) significantly predicted cognitive impairment based on Mini-Cog score ≤ 2. However, Mini-Cog was not significantly associated with changes in HRQOL at three months follow-up. **CONCLUSIONS:** We found a high prevalence of possible cognitive impairment among nursing home residence who had not been previously diagnosed, especially those who were unable to self-administer their medications. The length of formal education can be deceptive. Therefore, more vigilant screening should be performed for early detection and proper intervention of dementia although HRQOL is not affected by poor scoring in Mini-Cog.

#### MENTAL HEALTH – Health Care Use & Policy Studies

#### PMH32

##### PATTERN OF ANTIDEPRESSANT UTILIZATION AND COST IN IRAN FROM 2007-2011 IN COMPARISON TO EUROPEAN AND EAST ASIAN COUNTRIES AND LITERATURE REVIEW

Soleymani F<sup>1</sup>, Haerizadeh M<sup>2</sup>, Taheri E<sup>2</sup>, Nikfar S<sup>3</sup>, Abdollahi M<sup>3</sup>

<sup>1</sup>Tehran University of Medical Sciences and Ministry of Health, Tehran, Iran, <sup>2</sup>Ministry of Health,

Tehran, Iran, <sup>3</sup>Tehran University of Medical Sciences, Tehran, Iran

**OBJECTIVES:** To assess the prescribing and usage pattern of antidepressant medications and the impact of their cost from 2007 to 2011 in Iran and to compare the results to other countries. **METHODS:** A cross-sectional study was carried out on physicians' prescription data based on the claims that the pharmacies submitted electronically to the insurers during 5 years from 2007 to 2011. Data related to dispensing of antidepressant were obtained from the official databank of national regulatory authority. Drugs were classified according to the Anatomic Therapeutic

Chemical (ATC-2012edition) System. A systematic approach was also used to compare national results of the current study to similar results of other countries. **RESULTS:** More than 425 million prescriptions were reviewed. The total price of antidepressant prescription and dispensation was about 40 million and 210 million US\$ respectively. The most frequently prescribed medicines were nortriptyline, fluoxetine, and citalopram, which were accounted for 63% of all prescriptions. 87 articles were retrieved from various databases and other sources after excluding the duplicated articles. 17 articles were screened by titles and abstracts. After excluding the non relevant studies, there were 6 articles remained which were eligible for full text assessment. **CONCLUSIONS:** In compliance with the global trend, there was a growing tendency obviously observed towards prescribing SSRIs in Iran. In the face of rising burden of depression, on the one hand and the rising cost of medication and lack of funding resources on the other hand, we need to adopt strategies for promoting rational antidepressant medications use. These finding has important value for priority setting in planning and implementation of strategies for promoting rational drug use.

#### PMH33

##### OUTPATIENT TREATMENT OF ADOLESCENTS WITH ANTIDEPRESSANTS IN JAPAN

Inagaki A<sup>1</sup>, Nishimura Y<sup>2</sup>, Otsuka H<sup>2</sup>, Hirakawa H<sup>2</sup>, Hatou K<sup>2</sup>, Kubota Y<sup>3</sup>, Watanabe Y<sup>3</sup>, Miki K<sup>3</sup>, Endoh Y<sup>4</sup>

<sup>1</sup>Aoyama Gakuin University, Tokyo, Japan, <sup>2</sup>Japanese Association of Mental Health Services,

Tokyo, Japan, <sup>3</sup>Japanese Association of Neuro-Psychiatric Clinics, Tokyo, Japan, <sup>4</sup>Institute of

Neuropsychiatry, Tokyo, Japan

**OBJECTIVES:** To examine antidepressant prescription patterns in Japanese children and adolescents. **METHODS:** We conducted a cross-sectional survey during October 2013 on outpatients, aged 19 or less, in 34 private mental clinics. Patients who were prescribed at least one antidepressant were analyzed in this report. Data on gender, age, principal psychiatric diagnosis (based on ICD-10), and types and doses of psychotropic drugs were extracted. **RESULTS:** The samples consisted of 137 males and 170 females. The average age (standard deviation) was 16.2 years (2.5). The mean length of psychiatric treatment was 23.6 months (23.3). The most frequent diagnostic category was neurotic disorders (F4; n=113), followed by mood disorders (F3; n=73), disorders of psychological development (F8; n=67), behavioral and emotional disorders (F9; n=22), schizophrenic spectrum disorders (F2; n=18), and other diagnoses (n=14). Among the 19 antidepressants available in Japan, the prescription rate of fluvoxamine (42.3%; n=130) was the highest, followed by sertraline (17.6%), duloxetine (10.4%), escitalopram (9.8%), trazodone (6.5%), and paroxetine (5.5%). Tricyclic or tetracyclic antidepressants (TCAs) were prescribed in 35 patients (11.4%). Two or more antidepressants were prescribed concurrently in 27 (8.8%) of the 307 patients. Anxiolytics/hypnotics were concurrently prescribed in 126 (41.0%). Mood stabilizers were co-prescribed in 35 (11.4%). Antipsychotics were concurrently prescribed in 134 (43.6%), with a median dose of 100mg/d chlorpromazine equivalent. **CONCLUSIONS:** In Japan, although augmentation of antidepressant treatment seemed relatively popular with antipsychotics in adolescent patients, antipsychotic doses might be relatively low.

#### PMH34

##### EVALUATION OF FACTORS AFFECTING SALES OF PRESCRIPTION

Imani A<sup>1</sup>, Golestani M<sup>1</sup>, Tahmasebi N<sup>2</sup>

<sup>1</sup>Tabriz Medical University, Tabriz, Iran, <sup>2</sup>Shahid Beheshti Medical University, Tehran, Iran

**OBJECTIVES:** Many factors including patient, physician, medicine promotion and price affect prescribing of a medicine. The present study is aimed at showing the parameters that affect prescription writing and determine the effect of each of them on prescription process in Iran. **METHODS:** In order to investigate the effect of price, advertisement, gender, and age on the sales and prescribing process of three medicines, namely fluvoxamine, clopidogrel and latanoprost, pooling data method in econometrics (Panel data) was used. **RESULTS:** We found that advertisement and medicine insurance coverage had significant positive effects on prescription of all three medicines whilst negative relationship were seen between increasing price and the frequency of prescription of a medicine. Besides, we found out that advertisement has a direct effect on raising the demand and prescription of the medicines. **CONCLUSIONS:** Pharmaceutical companies need special attention to the index of physicians like age and sex in planning for sales and marketing of its products.

#### PMH35

##### PUBLIC BELIEFS AND ATTITUDES ABOUT SCHIZOPHRENIA, MAJOR DEPRESSION AND PSYCHOTROPIC MEDICATION IN TUNISIA

Refaï T<sup>1</sup>, Millier A<sup>2</sup>, Rémuzat C<sup>3</sup>, Toumi M<sup>4</sup>

<sup>1</sup>Creativ-Ceutical, Tunis, Tunisia, <sup>2</sup>Creativ-Ceutical, Paris, France, <sup>3</sup>Creativ-Ceutical France, Paris,

France, <sup>4</sup>University of Marseille, Marseille, France

**OBJECTIVES:** Stigmatization associated with mental illnesses could prevent schizophrenic and people with major depression to access to health care. Stigma often varies depending on social contexts. A survey in this subject was conducted first in Germany, then in France and finally in Tunisia. The objective of current study is to describe public beliefs and attitudes about schizophrenia, major depression and psychotropic drugs in Tunisia. **METHODS:** Three questionnaires were administered face-to-face to a representative sample of 1038 Tunisian people. 415 persons answered a questionnaire on schizophrenia, 418 on major depression and 205 about psychotropic drugs. They were asked to address a validated questionnaire. **RESULTS:** All 1038 questionnaires were fully completed. 38.8% (resp. 26.8%) of people reported being not comfortable in presence of a schizophrenic patient (resp. major depression), while 33.7% (resp. 58.1%) reported they did. More than 89.9% (resp. 90.2%) felt the need to help people suffering from schizophrenia (resp. major depression), although 58.6% (resp. 43.3%) think that such patients are strange, and 29.6% (resp. 16.0%) think they are dangerous. 47.81% agree with the fact that psychotropic treatment helps people to better support the concerns

of everyday life and 17.0% agree with taking these medicines if the person suffers constantly of light mood swings. **CONCLUSIONS:** Survey results suggest that stigmatization around schizophrenia and major depression is present in Tunisia; there is a great public willingness to help mental disease patients as demonstrated by our study. To conclude, raising public awareness in mental health could reduce the enormous burden in terms of social functioning in families and societies from one side. On the other side, this stigmatization contributes to marginalize patients, exclude them from health care management and affects their disease severity.

### PMH36

#### THE USE OF INTEGRATED CONCEPT MAPPING TO DEVELOP THE DEMENTIA CARE MODEL BY COMMUNITY PARTICIPATION

Hanrinth R<sup>1</sup>, Sooksai N<sup>2</sup>, Rangseekajee P<sup>2</sup>, Namtatsanee S<sup>3</sup>, Wisedsorn C<sup>3</sup>, Tangiuran B<sup>1</sup>  
<sup>1</sup>Universiti Sains Malaysia, Pulau Pinang, Malaysia, <sup>2</sup>Khon Kaen University, Khon Kaen, Thailand, <sup>3</sup>Kuchinarai Crown Prince Hospital, Kalasin, Thailand

**OBJECTIVES:** The purpose of this study is to develop the dementia care model by using integrated concept mapping and community participation. **METHODS:** Six health care professionals (1 psychogeriatrician, 1 family physician, 1 residency, 1 pharmacist, 1 nurse, and 1 physical therapist) and seven non-health care professionals (3 village headmen, 2 village health volunteers, and 2 patients' relatives) participated the first meeting conducted by Trochim's concept mapping to generate the ideas then sort and rate the ideas for the feasibility and the importance. Later all participants except the psychogeriatrician took part in the second meeting conducted by Novak's concept mapping to name the clusters of ideas then re-organised the ideas and added the details to make the complete model by the IHMC CmapTools computer programme. Multidimensional scaling and hierarchical cluster analysis including quadrant analysis were applied by SPSS software. **RESULTS:** Total 48 ideas of the procedure in the care of dementia patient with the Behavioural and Psychological Symptoms of Dementia (BPSD) were generated by 12 stakeholders. Trochim's concept mapping produced 8 clusters. These eight clusters were labelled as 'Standards of Care for Dementia', 'Efficient Accessibility System and Continual Care', 'Monitoring and Evaluation', 'How to Communicate with Dementia Patients', 'Guideline for Family in Dementia Management', 'Love and Experience Sharing in Dementia Caring Group', 'Building Generous Communities for Dementia Patients', and 'Information Delivery, Surveillance, and Cooperation'. Twenty ideas which were highly important and highly feasible were selected. Finally, the comprehensive model which has 4 components and organised as the procedure in the dementia care with the hospital and community involvement was designed. **CONCLUSIONS:** The dementia care model originated by hospital staffs who facilitate the community to understand and support the family caregivers for the care of dementia patients in the rural area with no nursing home. Integrated concept mapping helps to design the appropriate model for the real practice.

### MUSCULAR-SKELETAL DISORDERS – Clinical Outcomes Studies

#### PMS1

#### OUTCOMES IN SEVERE OSTEOPOROTIC WOMEN IN KOREA USING SEQUENTIAL TREATMENT

Kim BRM<sup>1</sup>, Burge R<sup>2</sup>, Klein TM<sup>3</sup>, Smolen LJ<sup>3</sup>

<sup>1</sup>Lilly Korea Ltd., Seoul, South Korea, <sup>2</sup>Eli Lilly and Company, Indianapolis, IN, USA, <sup>3</sup>Medical Decision Modeling Inc., Indianapolis, IN, USA

**OBJECTIVES:** Clinical management of osteoporosis often involves different pharmacologic therapies in a sequential manner. Real-world outcomes based on sequential treatment in Korea are lacking. Our purpose was to estimate outcomes (fractures, life years (LYs), and quality-adjusted life years (QALYs)) for post-menopausal osteoporotic (PMO) women using teriparatide followed by alendronate versus only alendronate. **METHODS:** A validated model of osteoporosis was used to estimate base-case outcomes in a cohort of 1,000 severe PMO women (aged 65-90; bone mineral density (BMD) T-score of -2.5 standard deviations below young adult mean; 2 prevalent fractures) with 2 years of teriparatide followed by 3 years of alendronate (TPTD2+ALN3) compared to 5 years' alendronate (ALN5). A lifetime horizon was used; 100% therapy persistence was assumed. Efficacy values for fracture risk reduction and health utilities were obtained from the literature. Fracture incidence rates were estimated from Korean national insurance data (HIRA 2012). Sensitivity analyses were conducted on length of treatments and patient risk profiles. **RESULTS:** In the base case, compared to ALN5 the TPTD2+ALN3 cohort had fewer fractures (-174; 4329 vs. 4502), more LYs (+32; 8409 vs. 8377), and more QALYs (+74; 5252 vs. 5178). In sensitivity analysis using worse BMD T-score of -3.0, the TPTD2+ALN3 cohort had 198 fewer fractures, and 43 and 92 more LYs and QALYs, respectively, versus ALN5. Assuming longer treatments of 7 years of alendronate (ALN7) only and TPTD2+ALN5, the results showed 185 fewer fractures, 38 more LYs and 83 more QALYs in the TPTD2+ALN5 cohort. In the more severe population using a BMD T-score of -3.0, TPTD2+ALN5 vs. ALN7 yielded improved outcomes in terms of fewer fractures (-224), and more LYs (+48) and QALYs (+104) for the sequential TPTD2+ALN5 cohort. **CONCLUSIONS:** Teriparatide followed by alendronate may lead to improved outcomes when compared to alendronate only in severe PMO women in Korea.

#### PMS2

#### THE EFFECT OF DIETARY SELENIUM INTAKE IN THE GENE EXPRESSION OF P38, P65, AND CASPASE-3 IN FLUOROSIS PATIENTS

Liu D<sup>1</sup>, Liu JY<sup>1</sup>, Chen Q<sup>2</sup>, Xiong YM<sup>3</sup>, Wang ZL<sup>4</sup>

<sup>1</sup>The fifth hospital of Xi'an, Xi'an, China, <sup>2</sup>Xi'an Jiaotong University Health Science Center, Xi'an, China, <sup>3</sup>Xi'an Jiaotong University Health Science Center, Xi'an, China, <sup>4</sup>Xi'an Jiaotong University School of Medicine, Xi'an, China

**OBJECTIVES:** Excessive fluoride ingestion causes a disease known as Fluorosis. Selenium supplementation could antagonize the bovine fluorosis. So we want

to investigate how the dietary selenium supplementation to influence the gene expression of p38, p65, and caspase-3 in fluorosis patients. **METHODS:** Ziyang County of Ankang City has higher environmental selenium level, while fluorosis patients who lived in have the habit of tea drinking, especially in Haoping Town. Hanbin district of Ankang City has lower environmental selenium level was choose as selenium internal control. The fluorosis patients from different environmental selenium level area and the healthy volunteer were divided into three groups: "High Se + F group" (n=20), "High F group" (n=20) and "Control group" (n=20). p38, NF- $\kappa$ B p65 and caspase-3 mRNA level were examined by RT-PCR.  $\beta$ -actin served as determining control. The concentration of fluoride in serum and urine, the content of Se in hair were also determined. **RESULTS:** The concentration of fluorine in "High F group" and "High Se + F group" in serum and urine was higher than that in "Control group" (urine 3.2731 $\pm$ 0.26, 3.2744 $\pm$ 0.31 and 0.7923 $\pm$ 0.14, respectively; serum: 0.3996 $\pm$ 0.03, 0.3888 $\pm$ 0.09, 0.0922 $\pm$ 0.01, respectively). The mean for total Se concentration in hair was different: 2.5005 $\pm$ 0.27 in "High Se + F group", 0.6075 $\pm$ 0.07 in "High F group" and 0.5215 $\pm$ 0.05 in "Control group", respectively. The mRNA level of p38, NF- $\kappa$ B p65 and caspase-3 was significantly high in "High F group" than that in "High Se + F group" and "Control group" (p38: 5.0009 $\pm$ 0.65, 1.2749 $\pm$ 0.09, 1.0574 $\pm$ 0.13, respectively; NF- $\kappa$ B p65: 3.5248 $\pm$ 0.47, 1.9845 $\pm$ 0.14, 1.9976 $\pm$ 0.15, respectively; caspase-3: 2.2936 $\pm$ 0.23, 1.2841 $\pm$ 0.19, 1.3590 $\pm$ 0.18, respectively). **CONCLUSIONS:** These results suggest that dietary high selenium intake help people who suffering fluorosis lessen damage by reduce the gene expression of p38, then reduce NF- $\kappa$ B p65 gene expression and at last lower the gene expression of caspase-3.

#### PMS3

#### A COMPARATIVE CLINICAL EVALUATION OF TRAYODASHANGA GUGGULU AND MUSTADIYAPANA YOGA BASTI IN GRIDHRASI

Hariprasad K<sup>1</sup>, Prabhu N<sup>2</sup>, Acharya S<sup>1</sup>, Nagappa AN<sup>3</sup>, Naik V<sup>2</sup>

<sup>1</sup>Munjal Institute of Ayurveda Medical Sciences, Munjal, India, <sup>2</sup>Manipal University, Manipal, India, <sup>3</sup>Department of Pharmacy Management, Manipal College of Pharmaceutical Sciences, Manipal University, Manipal, India

**OBJECTIVES:** Gridhrasi (Sciatica Syndrome), Lumbar disc lesions are responsible for the disorder and observed about 25% loss of work, affects social and economic position of the individual and family. The Allopathy treatment involves symptomatic treatments medicines by analgesics for prolonged time associated with more serious and irreversible reaction. Here we have tested a traditional approach as per principles of Ayurveda. **METHODS:** The study was conducted in the OPD and IPD of MIAMS, Manipal with 3 trial groups A-Trayodashangaguggulu, B-Mustadiyapanayogabasti and C-Combined Trayodashangaguggulu and Mustadiyapana yoga basti for the period of 10 weeks in 30 diagnosed gridhrasi patients irrespective of their sex and age group 18-60. **RESULTS:** In group A-Trayodashangaguggulu, 50.00% of patients were assessed under improved category, 10.00% each were assessed under marked improvement and moderate improvement category and 30.00% showed Unchanged. Nobody included under complete relief category. In group B-Mustadiyapana yoga basti, 90.00% of patients were assessed under improved category, 10.00% were showed Unchanged. Nobody included under complete relief, marked improvement or moderate improvement category. In group C-combined therapy of Trayodashangaguggulu and Mustadiyapana yoga basti, 50.00% of patients were assessed under moderate improvement category, 40.00% were assessed under improved category and 10.00% were showed marked improvement category. Nobody included under complete relief or unchanged category. **CONCLUSIONS:** Study concluded all the 3 groups are effective treatment in Gridhrasi and combined therapy Trayodashangaguggulu and Mustadiyapana yoga basti was more effective and showed highly significant results in clinical symptoms of Gridhrasi and also provided highly significant result in improving Greenough & Fraser scoring method, SLR test (Straight leg raising test), Sugar baker & Barofsky clinical mobility scale and Oswestry disability assessment questionnaire.

#### PMS4

#### THE EFFECTS OF GALLIUM CHLORIDE ON APOPTOSIS OSTEOPOROSIS MODEL OF RATS CAUSED BY TRETINOIN ACID

Chen Q<sup>1</sup>, Liu D<sup>2</sup>, Xiong YM<sup>3</sup>, Wang ZL<sup>4</sup>

<sup>1</sup>Xi'an Jiaotong University Health Science Center, Xi'an, China, <sup>2</sup>The fifth hospital of Xi'an, Xi'an, China, <sup>3</sup>Xi'an Jiaotong University Health Science Center, Xi'an, China, <sup>4</sup>Xi'an Jiaotong University School of Medicine, Xi'an, China

**OBJECTIVES:** Cell apoptosis is one of the pathogenesis of osteoporosis. Among a lot of medicine, only gallium salts can promote bone formation. The aim of this study is to investigate the effect of gallium chloride on apoptosis in osteoporosis rats which caused by tretinoin acid. **METHODS:** 67 sprague-Dawley (SD) female rats, three months of age, were divided into two groups. 49 rats of model group were treated with tretinoin acid for 85mg/ (kg-d) by gavage while 18 rats of normal group were treated with distilled water for same amount. All rats were administered for 15 days. After the model has been duplicated successfully, the model group rats were divided into three groups: 18 rats of osteoporosis group were treated with tretinoin acid for 85mg/ (kg-d) by gavage, 19 rats of gallium chloride treatment group were administered with gallium chloride 25 mg/ (kg-d) by gavage, 12 rats of estrogen treatment group were give estradiol benzoate (0.2  $\mu$ g/kg, 3 times per week) by intraperitoneal injection. After treatment for 30days, the rats were killed. The content of MDA in serum was detected by TBA method. The apoptosis of osteocyte was detected by agarose gel electrophoresis. **RESULTS:** The apoptosis ratio of osteocyte in osteoporosis group rats was increased than the other three groups while the contents and molecular weight of DNA were decreased. The contents of MDA in osteoporosis group rats are significantly increased than the other groups. The content of DNA in gallium chloride treatment group rats was higher than that of the osteoporosis group rats. **CONCLUSIONS:** Gallium chloride can increase the DNA content of bone, through decreasing lipid peroxidation to suppress apoptosis of osteocyte.