

# International Journal of Pharmacy Teaching & Practices

Vol 4, Issue 2, Supplement I, 2013

**IJPTP**

[www.ijptp.iomcworld.com](http://www.ijptp.iomcworld.com)

[ijourptp@gmail.com](mailto:ijourptp@gmail.com)

ISSN: 1986-8111



## INTERNATIONAL SEMINAR Endocrine and Metabolic Disorders Jakarta, Indonesia



Venue:

Universitas 17 Agustus 1945



## ANALS OF PHARMACEUTICAL SCIENCES



Published by: DRUNPP Association of Sarajevo Bosnia and Herzegovina

copyright @ 2010-2013. IJPTP



**FACULTY OF PHARMACY UTA'45 JAKARTA**  
Sunter Permai Raya Street, Sunter Agung Podomoro  
North of Jakarta



# **ABSTRACT BOOK**

**31<sup>st</sup> May 2013 – 1<sup>st</sup> June 2013**

**Registration Open: 7.30AM – 5.30PM**

**Location: Universitas 17 Agustus 1945 (UTA 45) Jakarta**



Universitas 17 Agustus 1945 (UTA 45) Jakarta Seminar & Workshop International:

## **International Seminar and Workshop on Pharmacovigilance & Endocrine Metabolic Disorders**

**Location:** Universitas 17 Agustus 1945 (UTA 45) Jakarta

**31<sup>st</sup> May 2013 – 1<sup>st</sup> June 2013**

---

### **Introduction**

---

International seminar and workshop on pharmacovigilance & endocrine metabolic disorders is a clinical pharmacy conference which brings together investigators from local and international agencies and institutions to present and discuss about pharmacovigilance of diabetic drugs and case study in diabetics. Presentations will include research on clinical pharmacy, chemical pharmacy, physical pharmacy, and pharmacology.

The symposium includes poster sessions, scientific presentations, workshop, and lecture about pathophysiology & pharmacotherapy from Doctor Metabolistics division of RSCM Medical Department of University of Indonesia, Introduction to diabetic care-role of Pharmacist from Prof. Syed Azhar Syed Sulaiman, Introduction and Concept of Pharmacovigilance from Dr. Syed Wasif Gillani.

International Seminar and Workshop on Pharmacovigilance & Endocrine Metabolic Disorders will be held in 2 days whereas the first day for the material from keynote speakers and the second day for workshop, poster sessions, and scientific presentations. It will be held in Universitas 17 Agustus 1945 Jakarta.



## **RUNDOWN TO PROGRAME**

Friday and Saturday, May 31- June 1, 2013

**Universitas 17 Agustus 1945 (UTA 45) Jakarta**

### **Objectives:**

Common objectives are understanding and mastering the principles of the activities of a clinical pharmacy, improving the ability to integrate a variety of science related to the practice as a clinical pharmacy, able to apply clinical pharmacy activities based Evidence Based Medicines (EBM), so it is always able to follow the latest developments related to pharmaceutical science, knowing about pharmacovigilance and management of endocrine and metabolic diseases and motivating students and pharmacists to continue to learn and keep abreast of the world of health on an ongoing basis.

The **target audience** includes pharmacy students, graduate and post graduate students, academic researchers, other researchers.

### **Friday, May 31, 2013**

**7:30 am to 9:00 am** - Registration

**9:00 am to 10:00 am** - Opening International Seminar & Workshop

**10.00 am to 10.15 am** - Tea & Coffea Break

**10.15 am to 11.45 am : Pathophysiologi & Pharmacotherapy**

**Moderator : Dra. Aprilita Rinayanti, M.Biomed,Apt.**

**Speakers : Dr. Suharko, SpPD.** Doctor from Metabolic Division of RSCM Hospital, Medical Department University of Indonesia

**Overall Seminar Objective:** Diabetes mellitus is a complex metabolic disorder characterised by persistent hyperglycaemia resulting from defects in insulin secretion, insulin action or both. The two main types of diabetes mellitus are type 1 (formerly known as insulin-dependent diabetes), and type 2 (formerly known as non-insulin-dependent diabetes). Type 1 diabetes is caused by the autoimmune



destruction of the  $\beta$ -cells of the pancreatic islets, whereas type 2 diabetes results from both impaired insulin secretion and resistance to the action of insulin.

**13.15 pm to 15.15 pm**

**Introduction to Diabetic Care-Role of Pharmacist**

**Moderator : Dra. Yulia Trisna, M.Pharm,Apt.**

**Speaker : Prof. Syed Azhar Syed Sulaiman**

**Overall Workshop Objective:**

Bigger role for pharmacist is awaiting in diabetic management

Better infrastructure for training and practicing sites should be available . Improvement of basic curriculum in the undergraduate level is needed to fulfil the demand in the new millennium

**15.15 pm to 15.30 pm- Tea & Coffee Break**

**15.30 pm to 17.00 pm:**

**Introduction and Concept of Pharmacovigilance**

**Moderator : Diana Laila Ramatillah, M.Farm, Apt**

**Speaker : Dr. Syed Wasif Gillani, B.Pharm, RPh, M.ClinPharm, PhD**

**Overall Seminar Objective:**

Benefit of Pharmacovigilance: for safety, Quality and resistance

Impact of Pharmacovigilance : improve quality of care and improve compliances

Impact on Supply Chain: more volume of drugs and more variety of drugs (alternative first line, second line)

**17.00 pm—End of First Day Seminar**



**Saturday, June 1, 2013**

**09.00 am to 11.00 am: Workshop Pharmacist Clinical Services** (Problem based Learning about Endocrine Metabolic Disorders)

**Moderator: Diana Laila Ramatillah, M.Farm, Apt**

**Speaker : Prof. Syed Azhar Syed Sulaiman**

**Dr. Syed Wasif Gillani**

**Overall Workshop Objective:**

Case study

**11.00 am to 11.15 am: Tea & Coffee Break**

**11.15 am to 12.15 pm: Poster Presentation**

**12.15 pm to 13.15 pm– Lunch & Break**

**13.15 pm to 15.15 pm: Research Workshop in Clinical Pharmacy** (Clinical Research Methodology)

**Moderator : Diana Laila Ramatillah, M.Farm, Apt**

**Speaker : Dr. Syed Wasif Gillani, B.Pharm, RPh, M.ClinPharm, PhD**

**Prof. Syed Azhar Syed Sulaiman**

**Overall Workshop Objective:**

Concept of Clinical Research

**15.15 pm to 16.00 pm -Tea & Coffee Break**

**16.00 pm to 16.15 pm - Best Poster Award**

**16.15 pm to 17.00 pm - Oral Presentation** (Clinical pharmacy, Pharmacology, Industry pharmacy, Chemical pharmacy)

**17.00 pm to 17.30 pm - Closing International Seminar & Workshop**

**17.30 pm - Certificate Distribution**



## Antihyperuricemia Activity From Methanol Extract of Red Ginger Rhizomes (*Zingiber officinale* Rosc. var rubrum) Towards White Male Rat Wistar Strain

Hariyanto I.H, Indri Kusharyanti, and Novita Saragih,  
*Pharmacy Department, Tanjungpura University, West Borneo, Indonesia*

**Background:** Indonesian people is identical with medicinal plants. One of the widely used medicinal plants is Red Ginger (*Zingiber officinale* Rosc. Var rubrum). Parts of this plant are often used is the rhizome. Research on Red Ginger is still rarely done. Research conducted states that phytochemical compounds contained in Red Ginger are oleoresin, tannins, phenols, saponins, alkaloids, flavonoids and steroids triterpenoids. Flavonoid compounds in Red Ginger rhizome are quercetin, rutin, epicatechin, catechin, and kaempferol. Flavonoid have been investigated to inhibit the xanthine oxidase in the formation of uric acid. Moreover, it also has antioxidant activity by capturing free radical. Flavonoids can inhibit the enzyme xanthine oxidase to the active site of the enzyme so that uric acid is not formed. Quercetin and rutin are the most effective flavonoids types to lower uric acid levels. Because it has a radical inhibiting activity and can inhibit the enzyme xanthine oxidase. Kaempferol only inhibits xanthine oxidase activity whereas only epicatechin and catechins inhibit the activity of radical.

**Aim/Objectives:** Determine the antihyperuricemia activity of methanol extract of Red Ginger (*Zingiber officinale* Rosc. Var rubrum) in white male wistar rats, as well as to determine the optimal dose of methanol extract of Red Ginger as antihyperuricemia.

**Methods/Study Design:** . The study was conducted using 15 rats, divided into 5 groups (n=3 per group). Each group was treated the following treatment: positive control (Allopurinol 27 mg/KgBW), negative control (CMC 1%), and three dose of methanol extract of Red Ginger; dose group I (0,0155 gram/KgBW), dose group II (0,0305 gram/KgBW), and dose group III (0,061 gram/KgBW). The blood uric acid level of animal was measured using spectrophotometry method on 513,10 nm with DHBSA (3, 5-Dichloro-2-hidroxy-benzenesulfonic Acid) as reagent. Hyperuricemia-conditioned animals were given the mixture of chicken liver juice (25 ml/kgBW), urea (1 mg/kgBW), KBrO<sub>3</sub> (200,4 mg/KgBW) and melinjo (2 g/kgBW) for 9 days treatment. 5 groups of treatment were administered started from the 5<sup>th</sup> until 9<sup>th</sup> day orally. The blood uric acid level was measured by the 0, 5<sup>th</sup>, 7<sup>th</sup> and 9<sup>th</sup> days.

**Conclusion:** Methanol extract of red ginger can lower uric acid levels reduce the ability of the mice with the highest levels of uric acid that is 78.67% at the second dose is 0.0305 g / KgBW. **Keywords:** *Zingiber Officinale* Rosc. Var rubrum, Antihyperuricemia, Uric Acid,

**Keywords:** *Zingiber Officinale* Rosc. Var rubrum, Antihyperuricemia, Uric Acid



## Potency of Essential oils from *Evodia suaveolens* and Saponin from *Aloe barbadensis* as repellent to *Aedes aegypti* mosquito

Aprilita Rina Yanti, Natalia Christanty and Widayanti

Faculty of Pharmacy UTA'45 Jakarta

Research has been conducted to evaluate the effectiveness of repellent combination essential oil from zodia leaf with saponin from aloe vera gel. The objective of the research is to evaluate the protection ability of *Evodia suaveolens* and *Aloe vera* against *Aedes aegypti* mosquito (vector of Dengue Hemorrhagic Fever). Essential oil of Zodia was diluted at a concentration of 1%, 1.5% and 2%, while saponin of *Aloe vera* was evaluated at concentration 0.0125%, 0.025% and 0.05%. Essential oil of zodia and saponin from *Aloe vera* mixed into the lotion dosage formulation consisting of stearic acid, cetyl alcohol, liquid paraffin, dimetikon, yellow vaseline, Triethanolamine, Citric acid. Female mosquito reared in the laboratory were placed in the cages. Alternately, treated and untreated hand (control) were inserted into the cage containing mosquito. The number of mosquito preched on the hand were counted 2 every hour, lasting for six hours. result showed that lotion of essential oil from zodia leaf on concentration 1%, 1.5% and 2% and saponin from *Aloe vera* on concentration 0.0125%, 0.025% and 0.05% potential as a repellent mosquito *Aedes aegypti* with an average of 90.66%, 91.87% dan 91.88% for six hours. The repellency of *Evodia suaveolens* possessing variety of active ingredient beside evodiamine, rutacarpine, linalool (46%) and  $\alpha$ -pinene (13.26%), while saponins have a bitter taste, so the mosquitoes not want to bite.

**Keywords:** Repellent, Essential Oil Lotion, Leaves Zodia, Saponin, *Aloe vera*, *Aedes aegypti*



## Effect Antibactery of Etil Acetat Extract Mondokaki Abang Leaf (*Tabernaemontana pandacaqui* Poir) for *Staphylococcus aureus*

Ema Dewanti and Rizcky Utami

Faculty of Pharmacy UTA'45 Jakarta

**Background :** Mondokaki abang (*Tabernaemontana pandacaqui* Poir) which is ornamental plant in Indonesia and empirically used for herbal medicine in Indonesia such as cough and eyes inflammation. *Staphylococcus aureus* is bacteria which caused cough, infection respiratory and diarrhea.

**Aim/Objectives :** This research was aimed to reveal the effects of etil acetat extract Mondokaki Abang leaf (*Tabernaemontana pandacaqui* Poir) to inhibit the development of *Staphylococcus aureus*.

**Methods/Study Design:** This research was divided into two stages. Extraction of the leaves and analysis antibacteri. The extraction of *Tabernaemontana pandacaqui* leaves was done by using maceration methode with etil acetat solvent. After that, the extract is fitochemically screened to know the chemical content. Analysis of antibacteria was divided into five groups and was separated into two parts. The first part was control group: I. Positive Control (the disk contained ciprofloksacin 5 µg) and II. Negative control (the disk contained tween 80). The second part was treatment group : III. Treatment I (the disk contained 100 % extract), IV. Treatment II (the disk contained 50 % extract), V. Treatment III (the disk contained 25 % extract).

The disk contains ciprofloxacin, tween 80 and the three concentration extract were put in plate agar that has been swaped by suspension bactory *Staphylococcus aureus*. After incubating for 24 hours at 37°C, the inhibition zone surrounding the disk was measured. Furthermore, the observed data was analyzed with Anova test and followed LSD.

**Results/Findings** The results of this research show that the etil acetat extract of *Tabernaemontana pandacaqui* leaf was able to inhibit the development from *Staphylococcus aureus*. The compound volatile oil, alkaloid and steroid have actively been an antibacteria.

**Conclusion:** etil acetat extract of *Tabernaemontana pandacaqui* leaf was able to inhibit the development from *Staphylococcus aureus*.

**Keyword:** antibacteria, *Staphylococcus aureus*, etil acetat, Mondokaki Abang leaf (*Tabernaemontana pandacaqui* Poir)



## Effect Antifungi of Ethyl acetate Fraction Leaf and Tree Bark (Cortex Caulis) *Anacardium occidentale* L. for *Candida albicans*

Ema Dewanti,,. Harfia Mudahar, and Astra Suryani Putri,  
Faculty of Pharmacy UTA'45 Jakarta

**Background :** Oral ulceration/sprue is a inflammation in mucosa layer and mouth disease. Sprue is caused by *Candida albicans*. One of plant which is empirically used for therapy sprue treatment in Indonesia is cashew (*Anacardium occidentale* L.). Chemically content of leaf *Anacardium occidentale* L. is tanin, flavonoid, saponin dan terpenoid. Chemically content of tree bark (cortex caulis) *Anacardium occidentale* L. is tanin, flavonoid, saponin, terpenoid and alkaloid. Combination from both leaf and cortex caulis can give antifungi effect better than given independently.

**Aim/Objectives:** This research was aimed to reveal the effects of ethyl acetate fraction leaf and cortex caulis *Anacardium occidentale* L to inhibit the development of *Candida albicans*.

**Methods/Study Design:** This research was divided into two stages. Extraction of the leaves and cortex caulis/trunks and analysis antifungal. The extraction of *Anacardium occidentale* L. leaves and cortex caulis/trunks were done by using maceration method with ethanol solvent and fractionation with ethyl acetate. After that, the extract is photochemical screened to know the chemical content. Analysis of antifungal was divided into six groups and was separated into two parts. The first part was control group: I. Positive Control (the disk contained nystatin) and II. Negative control (the disk contained DMSO 5%). The second part was treatment group : III. Treatment I (the disk contained combination ethyl acetate fraction of leaves 80% + cortex caulis 20%), IV. Treatment II (the disk contained combination ethyl acetate fraction of leaves 60% + cortex caulis 40%), V. Treatment III (the disk contained combination ethyl acetate fraction of leaves 40% + cortex caulis 60% ), VI Treatment IV (the disk contained combination ethyl acetate fraction of leaves 20% + cortex caulis 80% ). The disk contains nystatin, DMSO and the four concentration fraction were put in plate agar that has been swaped by suspension fungi *Candida albicans*. After incubating for 24 hours at 37°C, the inhibition zone surrounding the disk was measured. Furthermore, the observed data was analyzed with Anova test and followed LSD.

**Results/Findings:** The results of this research show that the combination ethyl acetate fraction of *Anacardium occidentale* L. Leaf and cortex caulis were able to inhibit the development from *Candida albicans* and the second treatment (the disk contained combination ethyl acetate fraction of leaves 60% + cortex caulis 40%) shows better results than the other treatment group.

**Conclusion:** combination ethyl acetate fraction of *Anacardium occidentale* L. leaf and cortex caulis were able to inhibit the development from *Candida albicans*.

**Keyword :** antifungi, *Candida albicans*, etil acetat fraction, daun, kulit batang,



**Effect of water extract of *Hibiscus* flowers (*Hibiscus rosa-sinensis* L.) and water extract of betel leaves (*Piper betle* L.) on quality of spermatozoa in Mice (*Mus musculus*)**

Aprilita R.Y\*, Fitria Ika S\*, Ema D\* and Dadang Kusmana\*\*

\*Faculty of Pharmacy UTA'45 Jakarta

, \*\*Departement Biology University of Indonesia

Research has been conducted to see the effect of a mixture of aqueous extract of Hibiscus flower (*Hibiscus rosa-sinensis* L.) and water extract Betel leaf (*Piper betle* L.) on quality of spermatozoa of mice (*Mus musculus* L.). Male mice aged 3-4 months were divided into 5 treatment groups. Each treatment group consisted of 5 mice those are : the untreated group (KN), a negative control group with solvent delivery CMC 1% (KKN), the treatment group was given water hibiscus extract 200 mg / kg BW and water betel leaf extract 750 mg / kg BW (KE1), the treatment group was given water hibiscus extract 250 mg / kg BW and water betel leaf extract 750 mg / kg BW (KE2), the treatment group was given water hibiscus extract 300 mg / kg BW and water extracts betel leaf 750 mg / kg BW (KE3). Test materials was administered for 36 consecutive days. On day 37, mice were dissected and taken part of the vas deferens, spermatozoa subsequently removed and counted the number of spermatozoa, motile spermatozoa, live spermatozoa and abnormal spermatozoa.

The results showed that the average number of spermatozoa, percentage of spermatozoa motile, percentage of live spermatozoa and abnormal spermatozoa in each group are as follows, 393,2 million/ml, 82,8%, 88,4%, and 13,6% in KN, 383,2 million/ml, 79,6%, 86,8%, and 17,6% in KKN, 362,4 million/ml, 60,8%, 68,8% and 53,6% in KE1, 193,2 million/ml, 46,4%, 57,2% and 81,2% in KE2, 162,4 million/ml, 37,2%, 39,6% and 89,2% in KE3.

ANOVA test showed there were significant differences in all parameters between treatment groups (KE1, KE2 and KE3) with the normal group (KN) and the negative control group (KKN). These results demonstrate that administration of a mixture of aqueous extract of Hibiscus flower (*Hibiscus rosa-sinensis* L.) and water extract of betel leaf (*Piper betle* L.) can reduce the number of spermatozoa, live spermatozoa, and spermatozoa spermatozoa motile and increase abnormal sperm.

**Key words:** water extract of hibiscus flower and betel leaf, spermatozoa, mice



## Effect Of Water Extract Starfruit leaves (*Averrhoa bilimbi* L.) in inhibit renal calcium stone formation in rat

Aprilita Rinayanti,, Hikmah , Rasi Bangun and Sri Teguh Rahayu  
*Faculty of Pharmacy UTA'45 Jakarta*

Research have been conducted to determine the influence of the water extract Starfruit (*Averrhoa bilimbi* L.) in inhibit renal calcium stone formation in the white rat male urine *Sprague Dawley* strain. In this research, the water extract Starfruit leaf made dose variation of 30%, 45% and 60%. Further testing activity obstruction of renal calsium stone formation by using white rats male *Sprague Dawley* strain which is divided into 5 groups and each group consist of 5 rats, these are : Normal control group (KN): rats were given drinking water sufficiently, Negative control Group (KKN): rats were given inducer, treatment control group 1 (1st): rats were given inducer and water extract dose I (30%), treatment group 2 (2nd): rats were given inducer and water extract dose II (45%), treatment group 3 (3rd): rats were given inducer and water extract dose III (60%). Treatment given for 10 days. As inducer was etilen glycol 0.75% and ammonium chloride 2% given by oral administration . Testing body weight observation and intake urine on day-0, 1st, 5th and 10th. Further testing measured levels of calcium in the urine was analyzed using Atomic Absorption Spectrophotometric method with a wavelength of 422,7 nm. The result showed that the water extract Starfruit (*Averrhoa bilimbi* L.) affected the inhibition renal calsium stone formation in the white rat male urine *Sprague Dawley* strain. Aaverage levels of potassium contained in starfruit leaf water extract was 33.7 mg / ml.

**Keywords:** water extract ,*Averrhoa bilimbi*, kidney calcium stone, white rats.



## Effect Of Ethanol Extract Starfruit leaves (*Averrhoa bilimbi* L.) in inhibit renal calcium stone formation in in rat

Aprilita Rina Yanti, Rasi Bangun, Murni Masrifah and Sri Teguh Rahayu  
*Faculty of Pharmacy UTA'45 Jakarta*

Research has been conducted to determine the effect of 70% ethanol extract starfruit leaves (*Averrhoa bilimbi* L.) in inhibit renal calcium stone formation in the white rat male urine *Sprague Dawley* strain. This research was carried using 25 rats (*Rattus norvegicus* L.), aged 3-4 months, and weighing 150-200 grams. Rats were divided into 5 groups, those groups were: normal control group (KN) is given only water to drink, negative control group (KKN), the group experiment 1 (KE 1) given 30% extract concentration, the experimental group 2 (KE 2) given extract 45% extract concentration, the group experiment 3 (KE 3) given 60% extract concentration. Each group was given 0.75% Ethylene Glycol and Ammonium Chloride 2% to induce the formation of kidney stones of calcium for 10 consecutive days. Inducer and extract was administered concurrently started on day 0 to day 10. Calcium concentration measurements performed on day 0 to day 10 using an atomic absorption spectrophotometer.

The experimental results showed an increase in calcium levels on day 5 for all groups. The increase in calcium levels in the experimental group compared to baseline, respectively, ie 2.37% in the KE1, 3.02% in the KE2 and 3.39 in the KE3. On day 10 calcium level decreased by 67% in KE2, and 58.67% in KE3 compared to the 5 days of measurement. ANOVA test results showed the presence of significant differences between the three experimental groups with the KKN .

**Keywords:** Ethanol extracts, starfruit leaves (*Averrhoa bilimbi* L.), Kidney Stones Calcium



## Post Ileostomy Secondary to Tumor Ovarium : a Case Report in surgery ward at General Hospital M.Djamil Padang, West Sumatera - Indonesia

Diana Laila Ramatillah\* and Syed Wasif Gillani\*\*

\* Faculty of Pharmacy UTA '45 Jakarta, \*\* Senior Lecturer, Discipline of Clinical Pharmacy, School of Pharmaceutical Sciences, USM

M. is a 39- years-old Muslim female. The client was selected on the basis of pharmacy practice at post pharmaceutical care and pharmacist intervention on the drug related problems. Patients known as suffering from ovarian cysts then have done 2 times and the last operation performed illeustomy making. Patients experiencing nausea, vomiting and pain in the illeustomy. There was also a yellowish liquid found out from the part ileustomi. Of the patient laboratory data found high leukocyte values where the first laboratory 25.3 / mm<sup>3</sup> and at the second examination leukocytopenia 10.7 / mm<sup>3</sup>, urea patient value is high at 104 mg / dL, low enough chlorides value in these patients where the examination the first 66 mg / dL, the second examination 88 mg / dL, and the third examination of 84 mg / dL, the patient is quite low potassium values in the second and third examination in which value is 2.7 mg / dL and 3.2 mg / dL, the value patients also low sodium on first inspection, second and third is 111 mg / dL, 122 mg / dL, 125 mg / dL, total protein is low enough where once only checked value is 6 g / dL as well as albumin and globulin were also low where the value of both 3.6 g / dL

**Discussion:** Patients with ovarian cysts caused ileustomi get therapeutic treatment that 2x1 analgesic tramadol ampoules, to cope with stress ulcer ranitidine and sucralfate oral 3x1 ampoules are applied topically to overcome blisters ileustomi hole is given until the eleventh day care for patients waiting for surgery tumor remaining in the ovarian patients. Drug related problems here is when the patient does not receive antibiotic leukocyte high patient and patients are also at risk for getting an infection due to ileustom. Patients also do not get the anti-vomiting drugs. Besides one drug related problem is greatest for patients given sucralfate oral blisters that occur around ileustom.

**Keywords:** leukocytes, antibiotic, inpepsa, appropriate



## Evaluation Drug Related Problems In Geriatric Hypertensive Patients Hospitalized at the Regional General Hospital Cengkareng

Numlil Khaira Rusdi and Endang Triguna

*Faculty of Pharmacy, University of Muhammadiyah Prof. DR. HAMKA. Jakarta*

Hypertension is blood pressure above normal which is permanent, systolic blood pressure  $\geq 140$  mmHg and diastolic blood pressure  $\geq 90$  mmHg or if the patient used anti-hypertensive drugs. This study aims to evaluate drug related problems therapy in geriatric hypertensive patients hospitalized at the regional general hospital Cengkareng based on appropriate dose to patients with renal impairment and without renal impairment on the toolkit made, also to know the type of anti-hypertensive drugs most commonly used.

This research uses descriptive method with retrospective data collection. The data used is medical record period October-December 2011. Sampling was done by purposive sampling and 141 samples obtained medical records. After data collection is done then the data is processed and described. The results obtained 8.70% patients without impairment of renal function, the dose is not appropriate and 2.04% patients with renal function dose is not appropriate based on the existing toolkit. Classes of antihypertensive drugs used in geriatric patients are diuretics (28,39%), Calcium Antagonists (26,18%), Beta Blockers (19,87%), ACE inhibitors (15,46%), ARB (8,52%), and the Central  $\alpha_2$  agonists (1,58%). Drugs most commonly used are Amlodipine, Furosemide and Losartan

**Keywords:** Hypertension, Geriatric, Evaluation anti-hypertensive Drugs



## Pressure Of Hypertensive Out-Patients Of Penembahan Senopati Hospital In Bantul Yogyakarta

Essyah Prawitasari<sup>1</sup>, Akrom<sup>1</sup>, Endang Darmawan<sup>1,2</sup>

<sup>1</sup>Postgraduate Program in Clinical Pharmacy of Ahmad Dahlan University, Yogyakarta, <sup>1,2</sup>Laboratory of Pharmacology and Pharmaceutical Biology, Faculty of Pharmacy Ahmad Dahlan University, Yogyakarta, corresponding author: [e\\_prawitasari@yahoo.com](mailto:e_prawitasari@yahoo.com)

In Indonesia, the level of health awareness is lower, the number of patients who did not realize that he was suffering from hypertension and taking medication that does not comply with a greater likelihood. The results of therapy will not reach the optimal level in the absence of awareness of the patient's own even cause it to fail therapy. Medicine therapy is effective will be happen when the patients were given enough information about the treatment and its use. Provision of information is a communication between patients and pharmacists and one of the implementation of pharmaceutical care called with counselling.

The research applied a cohort research design with taking patient data prospectively in hypertensive and co-existing hypertensive patients in polyclinic of internal medicine of the Penembahan Senopati Hospital in Bantul Yogyakarta from January until April 2013. A total sample was 121 patients comprised of the control group (60 patients) given oral counselling and leaflet, whereas the intervention group (61 people) given counselling and leaflet. Inclusion criteria were adult patients, both men and women aged between 18-65 years, diagnosed with pre-hypertension, hypertension levels I and II with or without dyslipidemia and diabetes mellitus (DM), taking antihypertensive drug and not getting illiterate. Exclusion criteria were illiterate and pregnant patients. Data were collected by interviews and questionnaires; meanwhile the patient's blood pressure data were taken from the medical record.

The results showed that there was no significant difference in systolic blood pressure in the control group in the pre-visit ( $141.67 \pm 14.85$ ) and the post-visit ( $143.34 \pm 16.53$ ) ( $p > 0,05$ ). In the intervention group, systolic blood pressure decreased significantly between the pre-visit of  $142,79 \pm 12,79$  and the post-visit of  $131,31 \pm 10,56$  ( $p < 0,05$ ). The MMAS score of the control group, a low patient compliance rate among the pre-visit obtained at  $4,79 \pm 1,14$  and for the post-visit  $7,07 \pm 0,47$  ( $p < 0,05$ ). Counselling and leaflet increased patient compliance level of intervention group from the pre-visit of  $5,40 \pm 0,93$  to the post-visit of  $7,26 \pm 0,50$  ( $p < 0,05$ ). The correlation analysis showed a positive correlation between patient compliance and decrease in systolic blood pressure ( $r = 0.433$  and  $p = 0.00$ ).

To sum up, oral counselling and leaflets by pharmacists are the key to success in improving of patient compliance and lowering the systolic blood pressure ( $p < 0,05$ ).

**Keywords:** hypertension, patient compliance, pharmacist counselling, leaflet, blood pressure



## Improving Compliance and Reduce Systolic Blood Pressure Hypertensive Patients by Oral Counselling and Time for Taking Drugs Checklist by Pharmacist of the Penembahan Senopati Hospital in Bantul Yogyakarta

Selpiani Astuti<sup>1</sup>, Akrom<sup>1</sup>, Endang Darmawan<sup>1,2</sup>

<sup>1</sup>Postgraduate Program in Clinical Pharmacy of Ahmad Dahlan University, Yogyakarta

<sup>1,2</sup>Laboratory of Pharmacology and Pharmaceutical Biology, Faculty of Pharmacy Ahmad Dahlan University, Yogyakarta, corresponding author: [selpianiastuti@gmail.com](mailto:selpianiastuti@gmail.com)

A cohort research design was conducted by taking hypertensive as well as coexisting hypertensive patients data prospectively in polyclinic of internal medicine of the Penembahan Senopati Hospital in Bantul Yogyakarta from January until April 2013. A total sample were 125 patients comprised of the control group (60 patients) not given oral counselling and a checklist reminder for taking drugs and intervention group (65 patients) given counselling and the checklist reminder. Inclusion criteria were adult patients, both men and women aged between 18-65 years, diagnosed with pre-hypertension, hypertension levels I and II with or without dyslipidemia and diabetes mellitus (DM), given antihypertensive medication and not getting illiterate. Exclusion criteria were illiterate and pregnant patients. Data were collected by interviews and questionnaires; meanwhile the patient's blood pressure data were taken from the medical record.

The results showed that there was no significant difference of systolic blood pressure of the control group in the pre-visit ( $141.67 \pm 14.85$ ) and the post-visit ( $143.34 \pm 16.53$ ,  $p > 0,05$ ). In the intervention group, systolic blood pressure decreased significantly between the pre-visit of  $143.69 \pm 10.39$  and the post-visit ( $132.00 \pm 11.06$ ,  $p < 0,05$ ). The MMAS score of the control group was no significantly different between the pre-visit score =  $5.44 \pm 1.58$  and post-visit score =  $5.43 \pm 1.63$  ( $p > 0,05$ ). Counselling and giving a time checklist reminder for taking drugs in the intervention group increased the patient compliance during the pre-visit  $5.26 \pm 0.99$  to the post-visit ( $7.60 \pm 0.47$ ,  $p < 0,05$ ). The correlation analysis showed a positive correlation between patient compliance and decrease in systolic blood pressure ( $r = 0.892$  and  $p = 0.000$ ). It can be concluded that the overall provision of oral counselling and time for taking drugs checklist by pharmacists can improved adherence and may directly lower systolic blood pressure significantly in hypertensive patients ( $p < 0,05$ ).

**Keywords:** hypertension, patient compliance, pharmacist counselling, checklist, blood pressure



## Giving Of Counselling and Booklet by Pharmacists Improve Compliance and Reduce Systolic Blood Pressure Hypertensive Patients of the Penembahan Senopati Hospital in Bantul Yogyakarta

Welinda Dyah Ayu<sup>1</sup>, Akrom<sup>2</sup>, Endang Darmawan<sup>1,2</sup>

<sup>1</sup>Postgraduate Program in Clinical Pharmacy of Ahmad Dahlan University, Yogyakarta, <sup>1,2</sup>Laboratory of Pharmacology and Pharmaceutical Biology, Faculty of Pharmacy Ahmad Dahlan University, Yogyakarta, corresponding author:: unique\_welinda@yahoo.com

Disobedience to medication therapy in hypertensive patients caused uncontrolled blood pressure so increasing the risk of complications. Lack of patient knowledge about the proper use of medications will affect health behaviour in the use of the medicine. Education is one of the ways to increase compliance. This research aims to evaluate the effectiveness of giving booklets and counselling medicine by the pharmacist toward on the level of compliance through the Morisky Medication Adherence Scale (MMAS and blood pressure in hypertensive patients).

This experimental research applied a cohort design with taking patient data prospectively in hypertensive patients and coexisting hypertensive patients in polyclinic of internal medicine of the Penembahan Senopati Hospital in Bantul Yogyakarta from January until April 2013. A total samples of 120 patients consisted of 60 patients not given oral counselling and booklet (control group) and 60 hypertensive patients given oral counselling and booklets (intervention group). Inclusion criteria were adult patients, both men and women aged between 18-65 years, diagnosed with pre-hypertension, hypertension levels I and II with or without dyslipidemia and diabetes mellitus (DM), taking antihypertensive drug and not getting illiterate. Exclusion criteria were illiterate and pregnant patients. Data were collected by interviews and questionnaires. The patient's blood pressure data were drawn from the medical record.

The results showed that systolic blood pressure of the control group was not significantly different from the pre-visit systolic value ( $141.67 \pm 14.85$ ) and the post-visit ( $143.34 \pm 16.53$ ,  $p > 0,05$ ). Whereas the intervention group exhibited a significant reduction systolic value in the time pre-visit ( $144,67 \pm 15,12$ ) and in the post-visit ( $129,50 \pm 14,19$ ,  $p < 0,05$ ). The MMAS score of the control group had no significance in patients compliance (pre-visit score =  $5.44 \pm 1.58$  and post-visit score =  $5.43 \pm 1.63$ ,  $p > 0,05$ ). The compliance of the intervention group was increased from the pre-visit ( $4.94 \pm 1.36$ ) to the post-visit ( $7.27 \pm 0.78$ ,  $p < 0,05$ ). Based on the correlation analysis, there was a positive correlation between the level of compliance with the decrease in systolic blood pressure ( $r = 0.290$  and  $p = 0.025$ ). It can be concluded that the giving of oral counselling and booklet by pharmacists can improve patient compliance and further lower the systolic blood pressure was significantly ( $p < 0,05$ ).

**Keywords:** hypertension, patient compliance, counselling, booklets, blood pressure



## **Generic Drug Prescribing Patterns in Pharmacy X on Government Hospital Prescription**

Aprilita Rina Yanti, Michael Matuali, Widayanti and Sri Teguh Rahayu  
*Faculty of Pharmacy UTA'45 Jakarta*

Research has been conducted to determine the pattern of use of generic drugs in public hospitals. Drug use patterns seen by the dosage form, the type of preparation, the number of sheets of generic prescription drugs, many generic drugs, generic drugs and prescription sheets written doctor. The data was collected retrospectively and observational deskriptif generic prescription sheets taken from the population during the period June 2008 - June 2010.

Population Data is all the recipes generic prescription from the government hospital had been received by pharmacies X in the period June 2008 - June 2010. The results showed the number of sheets that served the government hospitals was 2801 sheet, generic prescription was 1366 of the total prescription sheet. The amount of drug that is served is 6655, with 2723 as the number of generic drugs (40.92%) and the number of patent medicines as 3932 (59.08%). Most dosage forms are tablets (77.97%), capsules (11.61%), ampoules (3.53%), syrup (3.38%), ointment (3.12%), sachet (0, 26%), and drops (0.15%). Type of preparation the most widely used is single (76.06%), combination (17.15%), and mixing (6.79%). Generic prescribing doctor is a specialist (57.76%). The most commonly prescribed medications were INH, meloxicam, and Paracetamol tablets. Most drugs that redeemed by patients were ISDN, Pyrazinamide, and captopril. Anti-tuberculosis drugs were the most therapeutic classes

**Keywords:** Generic Drugs, Prescription government hospitals, Pharmacies X.



## Optimizing Combination Lactose-Manitol as Filler Lozenges Areca Seed Extract ( Areca Catecu L.) in Wet Granulation

Ari Widayanti, Rahmah Elfiyani, Siti Apipah

Faculty Pharmacy and Sains University of Muhammadiyah Prof.Dr.HAMKA

Areca seeds (*Areca catechu L.*) are one of plant that can be used as antiseptic due to tannin as main content of this plant. This study aims was optimization of combination lactose: mannitol in lozenges of areca seed extract. Viscous extract of areca seed was made by maceration using 70% ethanol as solvent.

The formulas were divided into 5 formula with ratio of lactose : manitol were F1(1:1), F2 ( 2:1), F3 (3:1), F4 (4:1) and F5 (5:1). The lozenges made by wet granulation. And than, both of granul and tablet was evaluated. The hardness of result of lozenges were F1 12,5 kg/cm<sup>2</sup>, F2 12,06 kg/cm<sup>2</sup> , F3 11,61 kg/cm<sup>2</sup>, F4 11,03 kg/cm<sup>2</sup> and F5 10,3 kg/cm<sup>2</sup>. This result was analyzed by one way ANOVA (d=0,05), and the continue with tukey test. The statistic analisis showed that there was a significant differences on hardness properties on F1,F2,F3,F4 and F5. From 5 formulas only F1 and F2 that had an appropriate qualification for all evaluation. Both of formula were continue to hedonic test. The hedonic test result were analyzed by chi-square. The chi-square analyzed that there was no significant different on appearance and preference scent test, while for sweetness test was significant difference between F1 and F2. It can be concluded that F1 is the optimum formula that can be acceptable for sense response and physical qualification for tablet.

**Keywords:** *laktosa-mannitol, excipient, viscous extract areca seeds.*



## Isolation of Banana Starch and its Modification

Victor S. Siringoringo<sup>1)</sup>, Inding Gusmayadi<sup>2)</sup>, Onny Indriani<sup>2)</sup>, and Widayati<sup>1)</sup>

<sup>1)</sup> Faculty Pharmacy UTA '45 Jakarta

<sup>2)</sup> Faculty Pharmacy and Sains UHAMKA Jakarta

Starch is a polysaccharide compounds derived from plants, which is often used as an excipient in the manufacture of tablet. One source of starch that can be used is starch from banana fruit, especially banana kepok or “pisang kepok” (Musa, ABB), because it has a significant starch content. It is expected that starch from banana can be used as an excipient in the manufacture of tablet. This research is motivated by the evidence that banana contains a significant amount of starch and can be used as a good source of starch. The objective of this research is to know whether the starch isolated from banana has good properties as an excipient to be used in the manufacture of tablet.

The research was started with the isolation of starch from banana in powder form, followed with some modifications so that the starch obtained in the form of granules or granulates. Qualitative tests were conducted on starch obtained as well as the physical properties tests, especially related to the nature of the flow. Data obtained were analyzed statistically before the conclusion drawn.

The results showed that starch of banana was easily isolated and converted into powder as well as granulate forms. The starch powder qualify as pharmaceutical grade starch, while the granulates form has a better flow properties, allowing for use as an excipient in direct compression tablet processing.

**Keywords:** Banana starch; isolation; modification.



## Formulation of Dry Extract Areca Nuts (*Areca catechu* L) Tablets Using PVP K-25<sup>®</sup> as a Binder for Antidiabetic

Erni Rustiani, Almasyuri, Ika Solihat

*Pharmacy Program Study of Pakuan University, Bogor*

**Background:** Traditional medicine is popular now, especially for treatment of metabolic disorders, such as diabetic mellitus. One of the benefits of the areca nut is to lower blood sugar levels in the body.

**Purpose:** The purpose of this study is made dry extract areca nuts tablets using PVP K-25<sup>®</sup> as a binder with the concentration of 2, 3, 4, and 5% by wet granulation method. Parameters for tablet quality is organoleptic test, hardness, friability and disintegration time.

**Methods:** Areca nut simplicia extracted by infusion method then dried by vacuum dryer. Tablets made by wet granulation method.

**Results:** Rendemen of dry extract is 20% and water content 4.28%. Granule evaluation results from all four formulas meet the requirements. The flow ability between 5.54 to 9.90 g / sec, angle of response between 28.44 to 29.70<sup>0</sup> and compressibility index between 6.16 to 10.27%. All tablets looks double convex, brown with white spots and weak smell, diameter 1.20 cm, and the thickness between 0.687 to 0.709 cm. The weight uniformity is 491.24 – 498.42 mg, the highest hardness is 3.775 kp (formula 4). Friability test meet the requirements only for formula 3 and formula 4. Disintegration time less than 15 minutes showed by all formulas.

**Conclusions:** Based on the evaluation data above, the quality of formulation of dry extract areca nuts tablets are influenced by the concentration of PVP K-25<sup>®</sup> as a binder. The best quality of tablets showed by formula 4 (concentration 5% of PVP K-25<sup>®</sup>).

**Keywords:** Dry extract, areca nut, tablet, PVP K-25<sup>®</sup>, antidiabetic



## **Formulation and Evaluation of Honey *Peel Off* Mask Gel**

Fith Khaira Nursal, Kori Yati , Syofyan, Laurence  
*Faculty Pharmacy and Sains University of Muhammadiyah Prof.Dr.HAMKA*  
*Email: fkhaira@yahoo.com*

Formulation of peel off mask gel containing honey bees from *Apis mellifera* had been carried out. The peel off mask gel was used to enhance elasticity of skin and as skin nutrition in order to inhibit aging process. Gel formulation were prepared with varied concentration of polyvinyl alcohol (PVA) as gelling agent (8, 12, 16 and 20 %) and polyvinyl pyrolidon (PVP) as plasticizer (10 %) to reach a good physical stability. The gels were evaluated such as elasticity properties, the rate of drying on skin, oil sorption on skin surface, in addition other physical properties (organoleptic, viscosity and pH). The results showed that all formula of the gels have a good physical stability, and increasing of concentration of PVA were increased of viscosity of gel formulation.

**Keywords:** peel off, mask gel, honey bees, PVA, PVP



## Optimizing Combination Glycerine and Triethanolamine Toward Effectiveness Repellent Of Gel Extract N-Hexane Kemangi Stem (*Ocimum sanctum* Linn.) by Simplex Lattice Design Method

Rise Desnita and Novi Heriyanto

Pharmacy Department, Medical Faculty, Tanjungpura University, Pontianak – West Borneo, Indonesia

Repelan test research has been done on the kemangi plant (*Ocimum sanctum* Linn.) confined to the leaves. To optimize the exploration of the kemangi plant (*Ocimum sanctum* Linn.), the study of stem of kemangi (*Ocimum sanctum* Linn.) as repellent mosquito needs to be done. Repellent use derived from natural materials generally have many times, usually every 45-60 minutes or so. Therefore, repelan from kemangi stem have to formulated into dosage forms in order to maintain the effect longer than the extracts form.

This research is done to find out whether n-hexane extract of kemangi stem from the maceration has effect as repellent activity against mosquitoes and how its effectiveness after formulated in gel and find out the optimum combination of glycerine and triethanolamine in gel making of n-hexane extract of kemangi stem by the *Simplex Lattice Design* (SLD) method.

Effectiveness test carried out for 6 hours with observation for 15 minutes in 1 hour intervals to determine the extract optimum concentration on repellent effect. Gel formulation based SLD with glycerin method (A) and triethanolamine (B) are: A gel (100% glycerin), B gel (100% triethanolamine), C gel (50% glycerol: 50% triethanolamine) calculations to determine the SLD and obtain optimum formula. Evaluation to compare the results of the SLD estimates.

One Way ANOVA test result shows the effectiveness repellent at concentration 2,5%, 5% and 10% indicated that the concentration of 5% gives the optimum repellent effectivity and will be formulated in a gel form. Gel formulation was based on SLD method with glycerine (A) and triethanolamine (B) i.e: gel A (100% glycerine), gel B (100% triethanolamine), gel C (50% glycerine: 50% triethanolamine) which would tested the repellent effectivity. The result of the experiment and calculated shows that optimum formula was obtained from glycerine 60% - triethanolamine 40% which results optimal repellent activity against mosquitoes. Verification using one sample T-Test shows no significant difference between effectiveness repellent of the experiment and calculated from optimum formula. Predicted effectiveness results is 83,15% and based on average actual test results is 83,38%. Concentration of n-hexane extract of the stem of kemangi (*Ocimum sanctum* Linn.) at 5% has an optimal repellent effect against mosquitoes. The optimum composition of triethanolamine and glycerin in the gel of n-hexane extract of the stem of kemangi (*Ocimum sanctum* Linn.) that gives the best repellent effect is triethanolamine:Glycerin (40% - 60%). SLD is able to describe the method of determining the optimum formulation.

**Keywords:** Kemangi stem, repellent, gel, simplex lattice design



## Qualitative Analysis and Total Flavonoids Content of Leaf Mulberry (*Morus australis* Poir.) in Various Solvents

Rini Madyastuti Purwono<sup>1)</sup>, Bina Lohita Sari<sup>2)</sup>, Lia Raini<sup>2)</sup>

<sup>1)</sup> Faculty of Veterinary Medicine, Institute of Agriculture, Bogor

<sup>2)</sup> Pharmacy Program study, Faculty of Mathematics and Science, Pakuan University, Bogor

Mulberry is one of a *Moraceae* family plant. Empirically, mulberry leaves is potent in treating the diabetic, hypertensive, cholesterol and gastrointestinal tract disorder. This leaves have potential as bioactive material source because of high flavonoid content. The chemical compositions of the 70% ethanol and ethyl acetate extract of mulberry leaves were investigated using Gas Chromatography-Mass Spectrometry and total flavonoids content using spectrophotometry. Phytochemical screening showed the presence of flavonoids, polyphenols, steroids, and saponins. There are seven compounds in 70% ethanol extract that approach to the level of similarity  $\geq 90\%$  such as phytol, ethyl linoleolate, hexadecanoic acid (palmitic acid),  $\gamma$ -sitosterol, neophytadiene, ethyl linoleate (linoleic acid), and phenol,2,6-bis (1,1-dimethylethyl)-4-methyl. In ethyl acetate extract, there are three compounds identified as phytol, hexadecanoic acid, and neophytadiene. Content determination of total flavonoid in 70% ethanol extract of leaves of Mulberry (*Morus australis* Poir.) is 18.6%, while the ethyl acetate extract is 10.5%.

**Keywords:** Mulberry (*Morus australis* Poir.), GC-MS, Spectrophotometry,

Flavonoid