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Effect of Onion Skin Extract (*Allium cepa*) on the Uric Acid Level of Pyrazinamide-Induced Hyperuricemic Rats

Arсад, M. A., Banquerigo, E. Jr., Bantillo, R., Barbas, M. A., Barbas, M. A., Batucan, C. A., Benignos, A. M., Bersamen, D., Caballo, C., Cajés, K., Calabazaron, M. F. B., and Calumpit, C. E. .M.

COLLEGE OF MEDICINE | 2018

This study determined the effects of onion skin extract on the blood uric acid levels of hyperuricemic Wistar albino rats. Scales from red onion were dried, macerated and lyophilized then diluted into different dosages. Induction of hyperuricemia was done via oral administration of pyrazinamide for a week. The experiment was then conducted over another week, with blood measurements done the first, third and seventh day. The rats were grouped according to compounds administered. Allopurinol and normal saline were used as positive and negative controls, respectively. Three doses of low, medium, and high onion skin extract were administered via oral gavage. Blood extraction was done two hours after administration of the test compounds during the first, third and seventh days. The data showed significant decrease in the blood uric acid levels in all three onion skin extract doses. There was also a significant difference between the results of the first, third and seventh days among all doses. However, no significant difference was found among the three doses when compared with each other. These findings suggest the need for further testing and dispute the hypothesis that the extract can be used as an alternative for uric acid-lowering drugs. Nonetheless, the hyperuricemic effect observed proposed that the extract can be used as an adjunct therapy to allopurinol.

Keywords: *onion skin extract, significant decrease, blood uric acid levels, animal study*

Comparative Analysis of the Antimicrobial Activity of Methanolic Fresh and Dried Leaf Extract of *Carica papaya* Against *Pseudomonas aeruginosa*

Rabat, V. M., Roferos, R. F., Ronquillo, J., Sahabat, R., Sampang, F. S., Sanchez, C. J., Sanchez, P. L., Sandig, J. C., Sangkigay, A., Santander, M., Santos, N., and Sente, R. A.

COLLEGE OF MEDICINE | 2018

Infectious diseases are the leading cause of morbidity and mortality in resource-poor countries due to various causes, but most are due to low socio-economic status and lack of access to modern healthcare facilities. Due to an increasing need for more cheaper and effective drugs, there is a proportional increase in the need for production of plant-based antimicrobials. Hence, this study compared the antimicrobial property of dried and fresh methanolic leaf extract of *Carica papaya* against *Pseudomonas aeruginosa*. This tested the effectivity of the extracts using Disk diffusion method and determination of Mean Inhibitory Concentration. The test yielded no zone of inhibition or a 6 mm diameter in all prepared concentrations for both the methanolic fresh and methanolic dried leaf extracts compared to 40 mm diameter zone of inhibition of bacterial growth when using methanolic fresh and methanolic dried papaya leaf extracts.

Keywords: *Carica papaya, Pseudomonas aeruginosa, Disk diffusion method, Mean Inhibitory Concentration, antimicrobial activity*

Effect of Anthocyanin in Cooked Black Rice on Weight and Fasting Blood Sugar of Alloxan-Induced Hyperglycemic Rats

Acdog, M. C., Adriatico, M. L., Agbayani, S. J., Albani, N., Andales, M. J., Ang, L. J. C., Anni, M., Astronomo, J. J., Aton, A. M., Bacayana, R. G., Barnuevo, C., and Barro, C. M.

COLLEGE OF MEDICINE | 2018

In 2016, the World Health Organization reported that the number of adults with diabetes worldwide reached an all-time high rate of 422 million, a figure that has quadrupled since 1980. Diabetes mellitus is associated with a spectrum of metabolic defects, contributing to hyperglycemia. Black rice contains anthocyanin, with weight-reducing and hypoglycemic properties. The study determined the effect of anthocyanin in cooked black rice on weight and fasting blood sugar of alloxan-induced hyperglycemic rats. In a controlled pre-clinical experiment, 24 hyperglycemic rats were grouped into three: positive, negative and treatment. Cooked black rice was soaked in acidic ethanol, filtered and subjected to a rotary evaporator. For two weeks, black rice extract at 200 mg/kg of body weight dose was administered to eight rats. Sulfonylurea was given to the rats in the positive control group while distilled water was given to the other remaining eight rats in the negative control group. Results showed that black rice extract with anthocyanin at 200mg/kg of body weight significantly lowered the weight of the rats, but insignificantly lowered fasting blood sugar. Conclusively, anthocyanin in black rice has anti-diabetic properties through stimulation insulin release via increasing calcium in Langerhans cells of the pancreas. A dose of 200 mg/kg of body weight of anthocyanin in cooked black rice extract has shown to decrease mean weight and fasting blood sugar in alloxan-induced hyperglycemic rats, however, only the mean weight difference is statistically significant.

Keywords: *anthocyanin, diabetes, animal study, cooked black rice, significant decrease, mean weight*

Efficacy and Safety of Lagundi (*Vitex negundo*) Leaf Extract as an Alternative Antipyretic to Paracetamol

Chavez, K. N., Cali, S. A., Batilong, D. L., Bayocboc, D., Berdin, M., Briones, R. I. M., Budac, K. A. J., Cabada, J., Calunsag, A., Capangpangan, T. A., Carillo, G. Jr., Carnicer, M. R., and Catimbang Jr., E.

COLLEGE OF MEDICINE | 2018

Pyrexia (fever) is the body's natural reaction against inflammation. Paracetamol is the most commonly administered over-the-counter antipyretic. However, continuous use of paracetamol can be hepatotoxic. Studies showed that antipyretics could be derived from plants which may not cause hepatic side effects. *Vitex negundo* syrup, contains plant flavonoids that inhibit prostaglandin synthesis, suggesting antipyretic activity with lesser hepatotoxicity. A single-blinded randomized controlled experiment was done on 47 *Oryctolagus cuniculus* (rabbits) to determine efficacy and safety of *V. negundo* leaf extract as an alternative to paracetamol. The Fever Induction Phase, using baker's yeast, showed an onset after three hours, with a fluctuating fever that lasted beyond 24 hours. The Dose Selection Phase identified the highest dose (0.21 mL/kg) of *V. negundo* leaf extract to show an antipyretic effect. During the Treatment Phase, paracetamol was the most effective with the longest duration of action, while *V. negundo* leaf extract had the fastest onset of action but had a shorter duration compared to paracetamol. In the final phase, Alanine Aminotransferase (ALT) Determination and Comparison Phase, the rabbits showed increase in ALT levels after continuous exposure to the treatments: paracetamol followed by commercially prepared *V. negundo* syrup had the highest increase, *V. negundo* leaf extract had a moderate increase while the negative control (PNSS) had the lowest increase. Results showed that paracetamol consistently decreased body temperature; therefore, *Vitex negundo* cannot replace paracetamol in terms of efficacy for fever. Furthermore, paracetamol significantly increased serum ALT post-treatment as compared to *V. negundo* syrup and *V. negundo* extract.

Keywords: antipyretic drug, Lagundi, rabbits, single-blinded randomized controlled experiment, paracetamol

Effect of *Zingiber officinale* Roscoe and *Peperomia pellucida* Decoction on Pyrazinamide-Induced Hyperuricemic Mice

Serrano, J. A., Sialana, L. L., Solaiman, S. A., Soo, B. D., Sunga, J. P., Sungcad, A. T., Tagsa, M. J., Taruc, A. J., Tuazon, A. A., Tuballes, R., and Udang, L. M.

COLLEGE OF MEDICINE | 2018

Increase in the prevalence of hyperuricemia worldwide is reported. Although not absolute, hyperuricemia is the primary risk factor for the development of gouty arthritis. The pathogenesis of hyperuricemia involves overproduction and underexcretion of uric acid as well as inflammation. Allopurinol is the mainstay in management of symptomatic hyperuricemia. However, its clinical use is limited by its adverse effect. *Peperomia pellucid* is well known for its therapeutic activity against arthritis and gout. It has an anti-hyperuricemic effect through inhibition of xanthine oxidase, the enzyme responsible for uric acid production. Similarly, ginger (*Zingiber officinale*) is known for its anti-inflammatory and anti-oxidant properties. Recently, 6-gingerol, an active compound in ginger, has been shown to inhibit xanthine oxidase. With this taken into consideration, ginger can be used as an adjunct to *Peperomia* to lower the blood uric acid of pyrazinamide-induced hyperuricemic mice. This study determined the effect of the combination of ginger and *Peperomia*. Fifty-five male albino mice were given 300 mg/kg of pyrazinamide to induce hyperuricemia. Groups were divided into five groups: positive control group (Allopurinol), hyperuricemic group (Pyrazinamide), *Peperomia* group, Ginger group, and combination (*Peperomia* with ginger) group. The dose for *Peperomia* has no significant difference between the mean blood uric acid of the different treatment groups. This indicates that *Peperomia* alone or in combination with ginger does not affect the blood uric acid of pyrazinamide-induced hyperuricemic mice.

Keywords: *ginger, peperomia pellucida, blood uric acid, arthritis, albino mice*

Glycemic Index of Adlai (*Coix lacryma-jobi* L. var. *ginampay*) and its Effect on the Post-Prandial Capillary Blood Glucose Levels

Cariaga, J. M. C., Castilliones, M. B., Castro, D. L. U., Chan, J. A., Cheung, D. D. S., Consigna, J. S. S., Dacula, S. M. D., Declarador, N. V. D., De Gusman, A. E. S., Deles, G. G. B., Del Rosario, A. G., Derequito, J. B. G., and Domingo, A. M. L.

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This study determined the efficacy of Adlai, a gluten-free grain to reduce the glycemic index of participants as compared to white and brown rice. The participants mean post-prandial capillary blood glucose levels and glycemic indices after consuming either Adlai, white rice or brown rice were also compared. Testing of Adlai, RC160 white rice, brown rice, and the standard glucose solution was done in weekly intervals. Adopting a cross-over study design, fasting blood glucose samples were collected, and the participants consumed 25 grams. Blood glucose sample was measured 15, 30, 45, 60, 90, and 120 minutes after finishing each meal. Results revealed that Adlai had the lowest glycemic index, and it produced the lowest capillary blood glucose levels. The differences among the glycemic indexes were significant. Therefore, Adlai can be used as an alternative to white rice and brown rice. To further improve the study, it is highly recommended to perform an in vitro enzymatic hydrolysis.

Keywords: *white rice, brown rice, Adlai rice, fasting blood glucose, cross-over study design, glycemic index*

Wound Healing Activity of Mango (*Mangifera indica*) Leaf Ointment on Experimentally-Induced Wounds of Sprague Dawley Rats (*Rattus norvegicus*)

Estaña, H. M., Fantonalgo, L. J., Flores, M. K., Gamboa, G. D., Gantuangco, M. R., Gayak, Z. J., Gealon, J., Guillermo, A. J., Guiomala, R. A., Hamoy, J. V., and Haw, J. T.

COLLEGE OF MEDICINE | 2018

Wounds are considered challenging clinical problems because of its high rate of occurrence and greater chance of development into chronic wounds. *Mangifera indica* leaf crude extract has already been cited to promote wound healing. This is attributed to tannins, which increase collagen formation and epithelial tissue regeneration. This study investigated on the wound healing effects of the formulated *M. indica* leaf ointment in three doses, 15 mg/kg, 30 mg/kg, and 60 mg/kg and compared it to negative (distilled water) and positive controls (mupirocin). This study used a randomized controlled preclinical trial design. The wound sizes were traced using a sterilized tracing paper and measured with a millimeter scale. The results showed no significant difference among the mean surface areas of the three doses of *M. indica* leaf ointment. Results also showed that there is no significant difference when comparing the best concentration of *M. indica* leaf ointment to the positive and negative controls. However, 15 mg/kg of *M. indica* leaf ointment showed the highest number of complete healing, wherein two out of five rats achieved 100% wound closure. Histopathologic evaluation revealed granulation tissue formation in wounds treated with 15 mg/kg of *M. indica* leaf ointment. Conclusively, *M. indica* leaf ointment showed potential wound healing property macroscopically but was not statistically different with mupirocin (Bactroban) and distilled water, and histologic findings revealed that the wound healing activity of *M. indica* leaf ointment was also not statistically different from the mupirocin and distilled water.

Keywords: *mango, Mangifera indica, wound healing, Rattus norvegicus, leaf ointment*

Potential Effect of *Morinda citrifolia* Crude Extract on *Entamoeba histolytica* Induced Immunocompromised Swiss Albino Mice

Macapas, A., Madayag, N. B., Madrones, L. L., Magallanes, J. C., Mahinay, K. M., Mainopaz, T. S., Makalingkang, S., Maravillosa, K. R., Masukat, P. S., Mendoza, J. R., Miralles, E. V., Mirasol, P. I., and Mokamad, K. A.

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Entamoeba histolytica is the leading cause of intestinal amoebiasis. It is a protozoan parasite causing amoebic dysentery and liver abscess. Metronidazole is the drug of choice in treating amoebiasis, though various side effects have been reported about it. In this study, the researchers wanted to test the potential effects of *Morinda citrifolia* as an anti-amoebic agent in comparison to metronidazole in induced Swiss albino mice and compare results with metronidazole with the same pediatric dosage. A randomized pre-clinical trial and comparative design was employed. Sixteen immunosuppressed Swiss Albino Mice were induced with amoeba positive stools. Direct fecal smear examination was employed to confirm presence or absence of cysts before treatment. Treatment was then started after confirmation of infection. The mice were treated with 35 mg/kg/day and 50 mg/kg/day with both Metronidazole and *M. citrifolia* crude extract for seven days. On the 3rd day of treatment, the absence of *E. histolytica* was noted on both metronidazole and dried fruit crude extract. There was a constant absence of amoebic cysts on the 5th and 7th day of treatment. *M. citrifolia* has components that may be attributable to its anti-amoebic property. *M. citrifolia* has the potential to be an effective treatment to intestinal amoebiasis caused by *E. Histolytica* though this required further studies.

Keywords: *Entamoeba histolytica*, *Morinda citrifolia*, amoebiasis, Swiss albino mice, metronidazole

Antibacterial Activity of Banaba (*Lagerstroemia speciosa*) Methanolic and Aqueous Leaf Extract Against Uropathogenic *Escherichia coli*: An In Vitro Study

Abas, S. Z., Abella, T. M. E., Abellera, P. D., Adjilani, S. F. F., Agrave, M. J. F., Ajos, J. J. M., Alinas, J. M. C., Alonzo, K. N. D., Alug, M. H. B. S. B., Aquitania, H. R. P., and Aronzado, C. A.

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Uropathogenic *Escherichia coli* (UPEC) has been identified as the most common cause of community and hospital-acquired infections (UTIs). There has been an increase in the rates of antimicrobial resistance, which complicated the treatment of UTIs in spite of the rise of chemotherapeutic agents. Although chemical structural modifications are being applied for enhancements of drug action, some researchers resort to natural products, especially from plants for any antimicrobial potential. This study evaluated the in vitro antibacterial activity of banaba (*Lagerstroemia speciosa*) methanolic and water extract against *Escherichia coli*. It also identified the secondary metabolites found on the leaves of banaba, determined the zone of inhibition (ZOI), and minimum inhibitory concentration (MIC) of the methanolic extract and aqueous extract of banaba leaves against *Escherichia coli*. The phytochemical test performed on *L. speciosa* revealed presence of alkaloids on both methanolic and aqueous extract. The antimicrobial property of methanolic and aqueous extract of dried leaves of *L. speciosa* was evaluated and compared to the positive control, ampicillin (10 mcg/mL). The Kirby-Bauer method was used to determine the zone of inhibition of the following concentrations of the methanolic extract: 100%, 75%, 50%, 25%, and aqueous extract. Minimum Inhibitory Concentration of methanolic banaba leaf extract was 140.63 mg/mL while that of the aqueous banaba leaf extract was 281.25 mg/mL. Both extracts showed weak inhibitory activity against *E. coli*. Conclusively, the use of *Lagerstroemia speciosa*'s leaf extract showed negative inhibition against the Uropathogenic *E. coli*.

Keywords: *Uropathogenic Escherichia coli*, banaba, methanolic leaf extract, antibacterial

Wound Healing Potential of Durian (*Durio zibethinus Murr*) Hull Extract: In Vivo Evaluation in Wistar Albino Rats Full Thickness Wound Model

Pizaña, A. L., Polinar, C. E., Quimpang, M. N. B., Rollo, E. J., Roterros, G. L., Salcedo, M. D., Samaon, J., Sambarani, S. J., San, K. A., Segocio, G. M., and Sevilla, J. C.

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Polysaccharide gel extract from durian (*Durio zibethinus Murr*) was known for its antibacterial and immunomodulatory activity. Pectin along with high moisture content of durian hull contributes to the potential wound healing ability. Thus, the intent of the study is to measure the wound surface area of the 2- Wistar Albino rats treated with durian hull formulated cream. The study used the random controlled pre-clinical trial in forming the different treatment groups. The extract was prepared as a formulated cream. The rats were randomly divided into five groups: Group A (negative control) applied with a cream base and Group E (positive control) treated with Bacitracin. The wounds in groups B, C, and D were treated with 5%, 10% and 15% formulated cream, respectively. The wound surface area was measured every other day for 15 days. ANOVA results showed that all treatment groups had a significant decrease in the mean wound surface area. But the positive control was seen to be significantly more effective than the other groups. Histopathology results performed after 15 days demonstrated keratinization in the positive control which signifies wound reepithelialization while other groups showed only marked increase of inflammatory cells, mild to moderate fibroblasts, vessels, and collagen deposition. Therefore, the application of the durian hull extract among the treatment groups has enhanced the normal healing process.

Keywords: wound healing potential, durian, In Vivo, albino rats

Hepatoprotective Potential of the Ethanolic Extract of *Annona squamosa* (Atis) Leaves on Paracetamol-induced Liver Injury in Female Albino Rats

So, M., Sulaik, H. J., Templado, J., Tobias, B. M., Toh, C. I., Tolentino, B., Tomimbang, M. K., Umpa, M., Valdez, A. K., Villa-Agustin, K., and Yamas, M. N.

COLLEGE OF MEDICINE | 2018

A 28-day experiment determined the hepatoprotective properties of Atis leaves (*Annona squamosa* Linn.) ethanolic extract against Paracetamol-induced liver injury in female albino rats (*Rattus norvegicus*). Thirty female albino rats were randomly grouped into three: Group A - Normal Saline (Negative Control); Group B - Essentiale N Forte (Positive Control); and Group C - Atis leaves ethanolic extract (Experimental Group). Blood collection was done to measure ALT liver enzyme after 24 hours of Paracetamol induction and livers were collected for histopathologic examination. Using Wilcoxon Rank Sum Test, results showed that ALT of Group A after 24 hours increased while Group B and C ALT measures after 24 hours had no significant changes. For the histopathologic result, Group A showed moderate inflammation in the portal area and moderate infiltrate in a cluster within parenchyma with congestion; Group B liver samples showed mild inflammation in the portal area and mild infiltrate clusters within parenchyma with congestion; lastly, Group C exhibited no inflammation but positive for congestion. This suggests that atis ethanolic extract may be comparable to Essentiale Forte P in terms of mean serum ALT levels 24 hours after paracetamol induced-liver injury and histopathological study of liver biopsy. However, Two-way ANOVA showed no significant difference among all groups based on difference of ALT after 24 hours of inducing liver injury. Further study must be conducted to investigate the hepatoprotective potential of atis ethanolic extract against paracetamol-induced liver injury in female albino rats.

Keywords: *hepatoprotective potential, ethanolic extract, annona squamosa*

Effect of Guava (*Psidium guajava* L.) Leaf Ethanolic Extract on the Blood Glucose Level of Alloxan Induced Hyperglycemic Male Albino Rats

Manikandan Siva Prakash, Kshitij Arvind, Kumar Eswari, Manthiya Uzma Tabassum, Matey Sneha, Shantanu Matwanker Mohamed, Muniyandi Jeyasri, Murry Joshua, Konar Pradeep Subbiah, Kumar Awadhesh, Longkumer Imolemia, Manoharan Sruthi Maridhanarashmi, Mohammed Ismail Saleem, Mohamed Aslam, Muniyandi Jeyasri, Murali Dheeraha, Murry Joshua, and Murugan Sundar

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Over six million Filipinos are diagnosed with diabetes. With increasing number of cases, the value of alternative mechanisms to reduce blood sugar is significant. This study evaluated the potential of Guava (*Psidium guajava* L.) ethanolic leaf extract to reduce blood glucose level using alloxan-induced hyperglycaemic male albino rats. Initially, the baseline weight of all the experimental rats was noted then on day one, the rats were given a single dose of 150 mg/kg of Alloxan injected intraperitoneally. The hyperglycemic induced rats were divided into four groups; A, B, C, and D, with four rats each. GROUP A rats were administered with normal dose of saline solution; GROUP B was given Acarbose (18.25 mg/kg) orally; GROUP C was administered with pure leaf extract of guava with a low dose of 150 mg/kg in water; and GROUP D was given high dose of 450 mg/kg of guava leaves. The experiment lasted for 15 days. Fasting blood glucose levels of all rats were taken from the base of the tail and measured at 0 hrs. The blood glucose level was measured for all rats consecutively for one (1) hour twice after the administration on the days four (4), nine (9), and fifteen (15).

Keywords: guava leaf, ethanol extract, diabetes, animal study

Potential Anti-Inflammatory Effect of Ethanolic Leaf Extract of *Asplenium nidus* (Palpak-Lauin) on Carrageenan Induced Paw Edema of Swiss Mice

Eswaramoorthi Madhumithaa, Ganesan Arthykav, Godwin Anjitha, Pooja Parimal Goradia, Halvin Antony Sandeep, Francis Exhil Boustin Frederic Jijoe, Govindaraj Gayathri, Ghoshal Jayeta, Hariharaputhran Hariitha, Gunasekaran Janani, Govindaraju Keerthi, Hussain Faizel, Hedao Pranaay, Govindarajan Varshini, Eravanan Agalvizhi, and Eusebious Rajan Felix Anto Japheia

COLLEGE OF MEDICINE | 2018

Inflammation is the common link between two extremes from a stubbed toe to deadly cancers. This study determined the anti-inflammatory effect of *Asplenium nidus*. The extract of *A. nidus* was prepared using 80% ethyl alcohol. The plant extract was subjected to colorimetric and quantitative assay for flavonoids. The column chromatography and the FTIR were performed to identify the compounds present in the extract. AED and ED50 were determined as well. The extract was given to Swiss mice in three different doses. Out of the sixty female, Swiss albino mice, 95% are in the weight range of 15 to 25 grams. Results showed that the approximate effective dose of orally administered ethanolic extract of *Asplenium nidus* was at 3.39 milligrams per kilogram and the inhibition percentage is high for low dose compared to the positive control. From the results of Tukey HSD Multiple Comparison, the low dose and Diclofenac were significantly different from each other. This also showed that the lowest mean dose is the low dose and the highest is the Diclofenac. Additionally, the lowest mean was low dose and the highest is the saline solution. The former and the latter have the highest mean differences. There was also a significant difference in the paw thickness before and after the administration.

Keywords: *anti-inflammatory, ethanolic leaf extract, Asplenium nidus, Swiss Mice*

Modifiable Risk Factors of Back Pain Among Adolescents In A Secondary School in Davao City

Agtarap, D. G. T., Aguayo, D. M. P., Anito, C. K. P., Cajoles, S. J. B., Gretare, A. J. R., Lagrimas, L. P., Lim, Z. J. E., Malifer, S. R. U., Odal, C. W. Z., Salvado, R. A. L., Sulaiman, N. M., Tamondog, J. C. C, Teves, J. M., Tuquib, J. M. C., and Villanueva, J.J.

COLLEGE OF MEDICINE | 2018

The increasing prevalence of back pain among children and adolescents characterize a serious public health concern. It is associated with irreversible chronic back pain and has persistent effects throughout adulthood. In the Philippines, back pain has only been extensively studied in adults with occupations associated or predisposed to back injury and pain. Thus, this study determined the modifiable risk factors of back pain among adolescents in a secondary school in Davao City. The data collected include participants' profiles, presence and characteristics of back pain and its modifiable risk factors. This was first done through a survey using the Back Pain and Body Posture Evaluation Instrument (BackPEI), subsequently followed by a physical examination by an expert for diagnosis and verification of back pain. A total of seventy three students participated in the study, wherein 90% were positive for back pain. Back pain was not caused by a single specific condition but a variety or set of factors. Among these risk factors, four modifiable were tested for post hoc multiple pairs comparison. Hierarchy based on their frequency tunneling to back pain puts physical activity as the prime factor, followed by sitting posture and backload. While frequency distribution of Body Mass Index did not coincide with the common occurrence of back pain.

Keywords: *physiology, risk factors, back pain, adolescents*

Effect of Yacon Tuber (*Smanthallus sonchifolius*) on the Fasting Blood Glucose Levels Among Prediabetic Volunteers in Davao City, Philippines

Afable, K. M., Bacala P. B. A., Caminos, P. T. A., Casabar, H. L. L., Doria, I. T. L., Estoque, R. J. B., Hadja, M. J., Jabon, D. L. P., Juban K. J., Losara, M. A. M., Millan, Q. A. V., Padua, M. L. T., Pinili, J. L. M. B., Roble, F. I. D., Sembrano, I. M. J., Sinsuat B. M. M., Tan, H. L. H., and Varquez, G. M. B. S.

COLLEGE OF MEDICINE | 2018

Diabetes Mellitus ranked eighth (8th) of the leading causes of mortality and fourth (4th) of the deadliest disease in the Philippines. Efficient regulation of blood glucose levels through the utilization of alternative approaches to conventional medicine has become a focal subject of today. This study determined the effect of Yacon tuber (*Smanthallus sonchifolius*) on the fasting blood sugar of prediabetic volunteers residing in Davao City. Demographic profile of the subjects (age, sex, and BMI) was also noted. The study utilized a between-subjects quasi-experimental design comparing the baseline and post-intervention fasting blood sugar (FBS) after a week of intervention. A total of sixty-one (61) adult volunteers were interviewed using the Diabetes Risk Test of the American Diabetes Association. A total of forty-two (42) individuals were screened through a fasting blood sugar test. A total of thirteen (13) respondents qualified for the study proper. After administration of 200 grams of Yacon, results showed a 1.16 mmol/ L, with a p-value of 0.0041 significant decreases in the blood sugar level of prediabetic volunteers. The significant decrease in fasting blood sugar by Yacon can be attributed to its fructooligosaccharide content.

Keywords: *physiology, yacon tuber, fasting blood glucose levels, prediabetic volunteers*

Risk Factors of Depressive Symptoms Among Medical Student Volunteers Using PHQ-9 Results In A Selected Medical School in Mindanao

Amen Amen, B. M. B., Aragon, M. K. S., Basiga, R. C., Diano, J. L., Gallardo, C. M. R., Gonzales, M. L. I., Imaizimu, A. M., Leong, O. J. D., Maligad, N. K. A., Panceras, W. D., Rabor, K. A. D., Nacito, Z. T. P., Tambuli, A. P. B., Tizon, L. R. T., Vallar, L. M. A. C., and Chen, D. C.

COLLEGE OF MEDICINE | 2018

Medical students are exposed to a multitude of factors posing them to be at risk for developing depression. This study determined the risk factors of depressive symptoms and PHQ-9 results among first-year national medical student volunteers. The study identified a set of social and demographic factors that were associated with high scores (5-27) in the PHQ-9 among first-year national medical student volunteers in Mindanao. The research design used in the study is the mixed methods research design to determine the risk factors of depressive symptoms of the participants in association with their corresponding PHQ-9 results. With the use of PHQ-9 and follow up interview, the results had revealed that age was not a factor and majority of the students who has shown symptoms of varying degrees are exposed to heavy stress coupled with varying factors. The most common factors were low academic performance, heavy academic load, poor self-esteem, and unmet expectations. External factors such as financial problems, family problems, and scholarship commitment; living situations like either living alone or with family; social factors such as relationships with their friends, family, and significant others; were also risk factors for the development of depressive symptoms. Medical schools should consider implementing programs in accordance with the mental state of students. Further analysis is also required to identify the trends in the prevalence of mental health problems to evaluate the success of medical schools in reducing stress among students.

Keywords: *Physiology, Risk Factors, Depressive Symptoms, PHQ-9*

Effect of Turmeric (*Curcuma longa*) on Fasting Blood Levels Among Prediabetic Volunteers in Davao Medical School Foundation Inc.

Agustin, A. B. L., Arani, F. R. M., Betonio, A. F. S., Caguimbaga, C. J. S., Dela Cruz, C. G., Dura, C. A. G., Gadjali, M. U., Ibay, E. M. D., Lagurio, P. A., Lim, N. K. A., Madrangca, E. J. B., Nor, J. B., Pombuena III, C. P., Sanchez, L. J. A., Valmores, K. G. M., and Solatorio, H. K. O.

COLLEGE OF MEDICINE | 2018

Prediabetes is a clinically important condition because it may seem asymptomatic. The increase of prediabetics poses a significant problem that may progress to type II diabetes mellitus. Type II DBM appears prominent globally including the Philippines. Previous literature revealed that turmeric (*Curcuma longa*), specifically its active compound curcumin, improves beta cell function and reduces fasting blood sugar. For this reason, proponents of this study selected turmeric as the subject of interest because of this influence in human physiology. Participants are those who scored five or above the ADA checklist and whose blood sugar levels were in borderline values of 100 to 124 mg/dl. There were sixty volunteers from DMSFI, twenty-three of whom passed the checklist and eight were identified prediabetic included in the study. For the final participants, a pre-test for FBS was done and participants were given 400 mg of turmeric capsules with 380 mg curcumin, once a day, for two weeks, then a post test for FBS was done. The pre and post test data showed a mean \pm SD of 113.6 ± 7.5 and 85.2 ± 7.1 . Results revealed that the mean FBS for both tests was statistically significant. Results are coherent on previous studies with diabetic individuals as participants. This systematic research on prediabetics also showed the same trend of lowering blood sugar levels with the intake of turmeric. The researchers, however, would like to recommend increasing the sample size.

Keywords: *turmeric, fasting blood levels, diabetes*

Effect of Calamansi (*Citrofortunella microcarpa* L.) Fruit extract on the Postprandial Blood Glucose Levels of Adult Volunteers at-Risk to Type-II Diabetes

Cabalan, E. M., Carabuena L. P., Continedas, C. P., Iraj, N., Jarnilla, J. P., Maminggon I. M., Paragele, K. R., Sanico, J. B., Tabalazon, A. M., and Zapanta, B. R.

COLLEGE OF MEDICINE | 2018

Diabetes mellitus (DM) is one of the biggest global health issues today. Risk factors associated with Type II DM include a sedentary lifestyle, physical inactivity, smoking, and alcohol consumption. Calamansi (*Citrofortunella microcarpa* L.) was reported to contain phytochemicals that have hypoglycemic effects. Thus, the study determined the effect of *C.microcarpa* L. on the postprandial blood glucose level of adult participants at risk of Type II DM. The study utilized a quasi-experimental design comparing the effect of Calamansi fruit extract on the one-hour PPG and two-hour PPG blood glucose levels. Thirty two adult volunteers passed the ADA risk sheet and FBS screening and was assigned to control and experimental groups. The control group was given a glucose load only after measuring the baseline FBS while the experimental group received glucose load and Calamansi fruit extract. Majority of participants fall between 40 to 59 years old, female and obese. Results showed that the mean one-hour PPG levels between the control and experimental group shows no significant difference. In contrast, there was a significant difference in the mean two-hour PPG levels between the control and experimental group. Therefore, statistically, the intervention of Calamansi fruit extract has a significant effect on the postprandial blood glucose levels of the adult volunteers two-hour after measuring the baseline FBS.

Keywords: *Calamansi, Posprandial Blood Glucose, diabetes*

Comparative Study on the Postprandial Blood Glucose Response Between Adlai Rice and White Rice Among Prediabetic Volunteers of Barangay 19-B, Davao City

Acosta, F. S., Aranan, A. N., Betaizar, M. W. A., De los Reyes, P. IV Duero, M. C., Filipinas, L. C. L., Gupeteo, C. D., Lagulay J. K. N., Lee, E. P., Macrohon, J. M. P., Nerpiol, J. M. T., Pañgan, C. G. C. T., Perez, F. J. V., San Pedro, C. C., Sebumpan, M. A. C., Uy, A. P. C., and Misoles, B. M. A.

COLLEGE OF MEDICINE | 2018

Approximately 16.6% or one out of every six Filipinos are either pre-diabetic or diabetic. A recent survey conducted by the City Health Office showed that diabetes mellitus ranked seventh in the leading cause of morbidity and fifth leading cause of mortality in Poblacion B District in Davao City. An endemic plant, Adlai (*Coixlacryma jobi* L.), is known to contain soluble dietary fibers with high amount of amylopectin. Polysaccharides having fibers than that of simple sugars are better sources of carbohydrates because it increase blood glucose level slowly due to slower digestion. The study compared the one-hour and two-hour postprandial glucose response between Adlai rice and white rice among prediabetic participants. Participants were screened using the Diabetes Risk Scoring Sheet of the American Diabetes Association. The demographic profile of the respondents showed that the majority of prediabetic participants were within 50 to 59 years old (43%), with a higher female population (63%), and are overweight (53%). Participants consumed 75 grams of carbohydrates of Adlai and white rice. Results suggested that Adlai rice prompts a lower increase in blood glucose levels in comparison to white rice.

Keywords: *Postprandial Blood Glucose, Adlai Rice, White Rice, Prediabetic Volunteers*

Prevalence of Color Vision Deficiency Among Medical Laboratory Science Students in Higher Education Institutions in Davao City

Adorable, J. J. A., Aquino, S. R. R., Baid S. R. A., Boniao, R. K. S., Cachero, S. J. E. A., de la Cruz, D. M. C., Frias, K. P. P., Godoy, C. K. C., Hurano, C. G., Lascuna, J. C., Manduay, R. M. R., Muhammad, S. A. G., Palemo, L. C., Retiza, S. S. S. C., Suarez, J. M., Templado, J. S., Umbana, A. T. A. P., and Perez, J. D. III

COLLEGE OF MEDICINE | 2018

Color Vision Deficiency (CVD) is a sex-linked condition that is described as the inability to distinguish certain shades of color to some degree. Red-green color defects are the most common form of color vision deficiency, affected individuals may have trouble distinguishing between some shades of red, yellow and green. This may become a problem among people practicing in the medical field since there is a risk of medical errors during their practice. The students suffering from Color Vision Deficiency (CVD) may find it challenging to identify colored slide, specimen, and to examine sure physical signs. The present study determined the prevalence of Color Vision Deficiency (CVD) among Medical Laboratory Science students in higher education institutions in Davao City. An informed consent was prepared and secured for every participant prior to the study, with emphasis on the voluntary nature of the research participation and assurance on confidentiality of results. Descriptive study design was utilized. The following demographic factors, i.e., age, sex, ethnicity, and family history were used to sufficiently characterize the interest of this study and have capably contributed in realizing the objectives. Four hundred seventy participants were screened for color vision deficiency using 27 plates of the Ishihara pseudoisochromatic plates; 134 were males, and 336 were females with the mean age of 20 years. Among the students screened, 1.49% (7/470) had a color deficiency with the male being 1.28% and female 0.003%.

Keywords: *Color Vision Deficiency, CVD, Ishihara pseudoisochromatic , Eye, Deficiency*

Effect of Binaural Beats on Working Memory and Short Term Memory of 1st Year Medical Students of Davao Medical School Foundation

Aclan, N. J. M., Aquitania, R. L. W., Beling, J. K. P., Dayao, P. K. A., Dionisio, A. N. C., Fanuncial, J. P. G., Guerra, J. M. S., Kubler, H. N., Palaez, G. J. F., Samaniego, C. R., Saua, R. A., Ty, T. J. V., Zamora, K. M. L., and Lumakin, C. L. V.

COLLEGE OF MEDICINE | 2018

Binaural beats are types of beats occurring when two different frequencies are presented separately to each ear. Several studies on the effects of binaural beats stimulation on cognition and moods are reported. The study determine the effect of binaural beats on short-term and working memories of first year medical students of Davao Medical School Foundation. Forty participants were exposed to the following stimulation: no tone, constant tone (250Hz), and binaural beats (15Hz). The psychological tools used to measure the short-term memory was Corsi Block Test while the N-back test is used to measure the working memory. Results showed that there was no significant difference among the three different auditory stimulation in the Corsi block test scores. Also, results showed that there was significant difference observed between binaural beats (0.6872 ± 0.58) and no tone (0.6272 ± 0.38) but none between constant tone (0.6872 ± 0.35) and no tone. The results of this study suggested that the potential of binaural beats in improving the working memory of medical students. Moreover, there were many factors that contributed to results of the experiments, such as participant fatigue and stress from examinations prior to the test. Thus, this study has not found sufficient evidence that binaural beats enhance short-term memory in the 1st year medical students. However, binaural beats stimulation has shown positive improvement in working memory.

Keywords: *Binaural beats, memory, stimulation, Corsi block test, N-back test*

Effect of Purified Drinking Water on Fasting Blood Sugar (FBS) Results Among NMD IC Students of Davao Medical School Foundation, Inc.

Amparo, C. B. M., Belandres, C. L. L., Buxani P. J. J., Dimaren, A. A. A., Escudero, L. A. A., Coneda, A. M. A., Kanda, S. N. D., Laude, A. A., Lucero, A. A., Ortuoste, E. M., Pausal, I. P. P., Rapacon, K. F. M. B., Satol, H. K., Tayong, R. R. M., Tugoy, R. F. Jr., and Catalbas, M. R. E.

COLLEGE OF MEDICINE | 2018

Universal guidelines and requirements for the pre-analytical phase of most laboratory tests are, unfortunately absent. The Fasting Blood Sugar (FBS) test, which is also one of the most commonly used tests, requires a minimum of 8 hours fasting from food and water before blood extraction. However, many individuals cannot comply with this requirement. The present study determined the effect of 300 mL purified drinking water on the FBS results of 30 NMDIC students (11 male, 19 female) of Davao Medical School Foundation, Inc.. Thirty respondents were randomly grouped into three: T_0 with no water intake during the fasting period, T_1 with 300 mL water intake one hour before blood extraction, and T_2 with 300 mL water intake two hours before blood extraction. Mean FB results were 3.679 ± 0.615 , 3.577 ± 0.0320 , and 3.738 ± 0.291 for T_0 , T_1 , and T_2 , respectively. Results showed no significant difference between the mean FBS results of the respondents with the usual complete eight-hour fasting scheme and mean FBS results of respondents with 300 mL purified water intake, both one hour and two hours prior to blood extraction. Data suggest that 300 mL purified water intake one or two hours before blood extraction does not significantly affect the FBS results.

Keywords: *Purified Drinking Water, FBS*

Effect of Turmeric (*Curcuma longa*) on the Lipid Profile of Borderline Hyperlipidemic Volunteers of Davao City: A Potential Preventive Treatment Against Atherosclerosis

Abangon, A. U., Ampatuan, N. B., Cabada, A. J. F., Candao, D. J. Z. P., III., Cereno, C. C., Egang, C. M. R., Driales, J. K. F., Inot, K. L. N., Jalipa, R. T., III., Lagurin, D. V. C., Lao, J. R. A., Mosqueda, S. R. B., Pamongcales, K. L. M., Ramo, K. R. V., Saligan, K. A. P., Sevilla, C. J. D., Solaiman, H. D., and Verga, R. Z.

COLLEGE OF MEDICINE | 2018

Cardiovascular (CV) diseases is responsible for most of the cases of non-communicable disease (NCD) and remains the leading cause of death globally for the last 15 years. In the Philippines, 22.30% of fatalities accounted were ischemic cardiovascular diseases. One of its major risk factors is the formation of atherosclerotic plaques from the build-up of lipid deposits in the walls of blood vessels. The dried root of *Curcuma longa* plant is used to make turmeric powder. Its primary component is curcumin, exhibits hypocholesterolemic activity by upregulating cholesterol 7 α -hydroxylase. In this study, the researchers explored the lipid-lowering impact of turmeric capsule on female volunteers aged 35 to 60 years old from Barangay Mintal, Davao City. Screening via questionnaire using the Clinical Practice Guidelines generated a sample size of 26 participants who were equally and randomly assigned to treatment or control group. The treatment group was given 500 mg turmeric capsule while the control group took a placebo drug for seven days daily. The baseline and post-treatment lipid profile levels were determined. Results showed a decrease in the cholesterol of LDL-C levels of both groups. The treatment group maintained their HDL-C levels, while the opposite happened for the control group, who also showed an increase in triglyceride levels. Statistically, a comparative independent *t*-test was utilized, which showed a non-significant difference in the post-treatment lipid profile between the two groups. Also, the participants were informed of the study's risks and benefits, including the result of their lipid profile before the study.

Keywords: *Turmeric, Curcuma longa, Lipid Profile, Atherosclerosis, Hyperlipidemic*

Effect of *Salvia hispanica* L. (Chia Seeds) on the Lipid Profile of Davao Medical School Foundation, Inc. Employees: A Pilot Study

Alamis, M. K. R. N., Balanza, J. M. S., Bongalo, J. A. J., Calimbas, M. L. J. B., De Campo, R. J. A., Ela V. A. A., Go, L. J., Magaling, J. Q., Lakim, N. N., Najera, A. B., Ocon, C. J. W., Paras, S. J. D., Ramirez, J. B. L., Torino, R. A. T., Vidal, K. M. E., and Sardan, E. J. S.

COLLEGE OF MEDICINE | 2018

Filipinos with borderline high cholesterol are increasing. An excessive amount of fat in the human body most often carries serious health problems like dyslipidemia. *Salvia hispanica* L. has been reported to help reduce serum lipid levels. Lipid profiles of 10 DMSFI employees (age 34.1 ± 4.8 years, BMI 25.5 ± 3.7 kg/m²) with total cholesterol of more than 5.2mmol/L were determined. Employing the randomized control-group pre and post test experimental design with single-blind technique, they were divided into experimental and control groups. Each was asked to incorporate 19 g of chia seeds (experimental) and wheat flour (control) in their diet every day for 15 days. The experimental group's total plasma cholesterol was significantly lowered in seventh and 15th day, along with, LDL on the 15th day. While the control group, plasma cholesterol and LDL were also significantly lowered. However, changes in serum total cholesterol, triglyceride, HDL, and LDL between control and experimental groups were not significant for both seventh and fifteenth day. The discrepancy in the control group may have been caused by multiple external factors, including Hawthorne and placebo effect. The changes between pre and post intervention lipid profile in the experimental group showed that chia seeds could alter cholesterol levels.

Keywords: *Chia seeds, Lipid profile, BMI, Dyslipidemia, Cholesterol*

Post Exercise Recovery Methods on Blood Borne Markers Following High-Intensity Activities Among Male Basketball Student Athletes in Davao City

Adlao, C. W. U., Aturdido, P. A. G., Apion, L. A., Boiser, G. A. E., Cabuslay, E. J. S., De Guzman, M. A. P., Encabo, B. D., Gibucos, A. J., Hassan, M. J., Pautong, A. J. T., Resmundo, M. R., Sta.Maria, J. A., Tediarios, S. M. M., and Tumuran, R. N. B.

COLLEGE OF MEDICINE | 2018

Being a student-athlete requires excellent time management with a coordinated mind and body. Given their daily high intensity trainings, muscle soreness, damage, and fatigue are common consequences of high-intensity activities. After strenuous exercise, blood-borne markers such as creatine kinase (CK) and lactate dehydrogenase are used as indicators for exercise-induced muscle damage. The present study determined the effects of different post-exercise recovery methods on blood-borne markers following high-intensity activities among male basketball athletes. The data was collected in basketball facilities in the City of Davao. Thirty six student-athletes were asked to perform the training involving high-intensity exercises in their facilities to simulate better their usual activities followed by performing the assigned post recovery methods which include passive rest, Cold Water Immersion (CWI), and Foam rolling. Serum creatinine kinase (CK) and lactate dehydrogenase (LDH) levels were determined during pretreatment, 30 minutes, 24 hours, and 38 hours after post recovery methods. Results showed that there was no significant difference between both serum creatinine kinase (CK) and lactate dehydrogenase (LDH) levels among the post-recovery methods. Although there was no significant difference, clinical implications can be drawn from the changes on both serum creatinine kinase (CK) and lactate dehydrogenase (LDH) levels after the application of the different post recovery methods.

Keywords: *Post exercise, athletes, blood, lactate dehydrogenase, creatinine kinase*

Effect of Saluyot (*Corchorus olitorius L.*) on Fasting Blood Sugar Levels Among Pre-diabetic Volunteers

Andrin, C. J., Ascano, A. L., Benson, J., Cabilao, T., Dalisay, J., Duenas, B., Gempesaw, C. B., Hadja, G., Julkanain, N., Particia, D. B., Sobrespena, C., Te, R. A., Torreon, C. D. J., and Yuson, J.

COLLEGE OF MEDICINE | 2018

Diabetes has been one of the top health issues that burden a person's quality of life. America Diabetes Association expert panel state that up to 70% of individuals with prediabetes will eventually develop diabetes. The continuous search for plant-based products as management for prediabetes led the researchers to utilize Saluyot leaves as an affordable and widely available adjunct treatment in lowering blood sugar. The study included 47 prediabetic volunteers from Davao City with fasting blood sugar levels within 5.7 to 7.0 mmol/L (100-125 mg/dl) and aged 20-45 years. A group pretest posttest design was employed. Participants were selected through purposive sampling. Volunteers were within healthy BMI (18-25), no history of drugs as part of their maintenance and with no other illnesses. Precooked Saluyot was given to the volunteers for 10 days. The fasting blood sugar levels were measured after the 10-day intervention. Data suggested that there was a significant difference between the baseline and post fasting blood sugar level. The component difference between the baseline and post fasting blood sugar of the pre-diabetic volunteers. It was apparent that the intake of at least 270 g of Saluyot each day can lower blood sugar level, hence, this study suggests that Saluyot can be used as an adjunct to the diet of individuals to prevent the risk of developing diabetes.

Keywords: *Saluyot, Diabetes, Blood Sugar Level*

Health Status of Selected Banana Plantation Workers

Abad, M. B., Albarillo, V. I. R., Alvaro, A. B. M., Alinabon, R. V., Arakama, R. J., Banes, Z. K. B., Calunsad, A. M., Escuadro, M. C. C., Galinea, C. I. S., Gealon, N. K. P., Jagonase, J. W. B., Larios, R. D., Lopez, K. W. R., Mantilla, S. F. C., Omandam, K. G., Ong, L. M. F., Pa-alisbo, R. A. C., Rabago, H. M. A., Romanes, R. C., Sanchez, J. M. G., Synagaysay, S. G., and Uy, D. M. III

COLLEGE OF MEDICINE | 2018

The Philippines is an agricultural nation, and it is known for its plethora of agricultural products. Banana plantation workers have a significant impact on the nation in providing sufficient quantity of banana to sustain economic demand. Considering the significance of banana plantation workers in the society, prolonged exposure to pesticides without appropriate measures and lack of knowledge must be bridged to ensure health safety against hazardous problems. The current agricultural system promotes reliance on agrochemical, both synthetic fertilizers, and pesticides while neglecting to consider the adverse effects on human health and environment. This study checked on the health status of selected banana plantation workers from Barangay Manat, Nabunturan, Compostella Valley Province. The entire study population was used in the study since there are only 49 banana plantation workers employed on the selected banana plantation. Various procedures, including nurse interview, standard medical checkup by the physicians, and blood tests, were conducted. The systematic review of the respondents revealed abnormalities in the different body systems. Significant findings involving the respiratory system, smoking and alcohol intake, and fatigue were commonly seen in males. Meanwhile, nausea, problems involving the head, and increased body temperature were observed in females.

Keywords: *banana, health status, plantation, body systems, temperature*

Hearing Acuity of Selected Road Construction Workers in Davao City

Abad, G., Amolo, C., Arat, B. N. Z., Benignos, K. S., Cumaganacan, L. S., De Chaves, A., Estabillo, C. R., Go, C. B., Jimenez, P., Lariosa, A., Loyola, D., Malang, I., Masendo, H., Orlanes, P., Tara, R., Sayson, Z. M., Taotjo, M. A., Taganahan, C., Uy, M. C., and Zapanta, J.

COLLEGE OF MEDICINE | 2018

The growing prevalence of hearing impairment is a worldwide public health concern. Cases of hearing loss have increased from 120 million in 1995 to 250 million in 2004. Globally, occupational noise-induced hearing loss (OHNIHL) accounts for 16% of hearing impairment in adults. This study assessed the hearing acuity of select road construction workers in Davao City specifically those chronically exposed to high occupational noise levels. Thirty one respondents were randomly selected and were evaluated based on patient profile. Pure-tone audiometry was done after assessment by an Ears, Nose, and Throat (ENT) physician. The respondents were divided into five age groups: 18 to 25, 26 to 33, 34 to 41, 42 to 49, and 50 to 57. The highest number of participants (35%) were aged 42 to 49 years old. In terms of years of exposure, participants were divided into three groups: one to four (48%), five to ten (39%), and greater than 10 (13%). The patient profile demonstrated that 84% of participants do not use ear protective gears. Pure-tone Audiometry results reveals that only six participants have some degree of hearing impairment either at lower thresholds or at higher frequencies of four or eight kHz on one or both ears. At lower frequencies, the mean air conduction and bone conduction thresholds are within normal ranges at 19.61 ± 9.33 and 16.56 ± 6.13 . However, the mean audiogram results among participants show a dip at higher frequencies (4 kHz) indicative of noise-hearing impairment among road construction workers in Davao City.

Keywords: *hearing, impairment, noise, construction workers, acuity*

Parkinsonism Among Selected Welders in Davao City

Sayon, G. Z., Latras, M. M., Sinajon, K. M., Estillore, A. V., Gutierrez, D. L., Paypa, J. A., Tan, K., Camerino, W. T., Tajan, A., Arboly, A. A. E., Mendiola, G. E., Carmona, H. J., Reyes, R. K., Veloso, J. M., Ablona, P. G., and Varela, R. K.

COLLEGE OF MEDICINE | 2018

Welders are susceptible to neurological damage due to chronic exposure to Mn-containing Welding fumes. They may experience hand tremors, bradykinesia, rigidity, impairment in speech, and facial expression-symptoms of Parkinsonism. This study determined prevalence of Parkinsonism among Davao City welders and fume exposure is sufficient enough to cause neurological disorders. The study used a descriptive research design and involving 75 male Welders, 18 years old and above who have been conducting welding work for at least 90 days. A Personal Questionnaire was given to each welder to obtain personal, employment, and health information. Each welder was assessed by a Registered Physical Therapist using Section III of the Unified Parkinson's Disease Rating Scale. Results showed a 0% prevalence rate for Parkinsonism, 23% for intermediate, and 77% for regular. Regression analysis showed that age and work hours per day have a significant effect on UPDRS scores. Age, length of employment, and work hours per day explain 23% of the variations in UPDRS scores and are moderately correlated with such. Goggles were the most used PPE at 63% while respirators were the least used at 13%. Cross-tabulation analysis showed welders in both the standard and intermediate groups exhibited the most motor deficits in UPDRS subgroups involved with the movement of the hands. While the prevalence rate appears to suggest non-existence of the relationship between welding and Parkinsonism, a look at the results of regression analysis does not automatically rule out the association of age and exposure to welding fumes (hours per day).

Keywords: *Parkinsonism, Welders, Welding fumes, UPDRS, Goggles*

Effect of flour dust exposure to the pulmonary function among baker workers in Poblacion District, Davao City

Lualhati, C. C., Alliuden, M. F., Bañas, J. J., Caumban, J., Edding, S., Fabella, V. D. R., Garay, C. M., Hong, I. H., Jalandoni, I. G., Jocson, V. J., Kasan, R., Lomod, J. L., Mohanty, A. S., Roche, C. M., Pagas, X., Porticos, P. F., Sevilla, C., Sobong, K. R., Tan, R. A., and Vega, A. M.

COLLEGE OF MEDICINE | 2018

Occupational lung diseases and its adverse effect on respiratory health is a growing concern among workers exposed to varied dust in industries in the Philippines. Flour dust acts as an allergen and irritant, and prolonged exposure may result to respiratory disorders such as occupational asthma and sensitization of the lungs. This study used a descriptive research design, and participants were gathered using purposive sampling from bakeries in Poblacion District, Davao City. Demographic profile, and medical history taking was conducted. Pulmonary function (FVC, FEV1, FEV1/FVC ratio) of the participants were tested using a SPIROLAB OXY spirometer. Results showed that bakers had higher mean spirometry measurements compared to cashiers and had a higher prevalence of impaired restrictive type pulmonary function indications. FEV1/FVC ratios were also noticeably decreased in bakery workers who had longer exposure to flour dust. Lower mean PFT values (reduced FEV1 and FVC 80% of predicted baseline) was observed for cashiers (all females) compared to bakers (mostly males) which may be accounted for by factors other than flour dust exposure. The odds ratio (4.0), suggested an association between work category, and that bakers were more likely to experience respiratory impairment compared to the cashiers. Sexual differences in pulmonary morphology and physiology are possible factors for disagreements mean PFT values between work categories. Results of the current study parallels other results suggesting of the adverse effect of flour dust on the pulmonary function of exposed individuals.

Keywords: *occupational lung disease, flour dust, FEV1, FEV1/FVC, FVC, bakery workers, descriptive research design, Poblacion district, Davao City*

Soymilk on Blood Pressure and Lipid Profile Among Prehypertension and Borderline Hyperlipidemia Adult Volunteers

Catangui, R. A., Akmad, S. A., Apigo, J. G., Baleva, R., Calangian, C. K., Gaspar, S. D. P. L., Galas, H., Hernandez, M., Kesid, M., Labaco, R. M., Lapitan, H., Mamat, A. M., Pilapil, G. K., Rojo, J. E., Sampulna, J., Sumalde, M. J., Udalve, L. M., Wong, M. A., and Zarate, G.

COLLEGE OF MEDICINE | 2018

Increasing cases of CVD around the world is still the number one cause of death despite available interventions and medications. Over the years, studies have reveal that significance of using indigenous products as natural and equally effective medication and/or prevention to diseases such a CVD. This study determined the effect of soy milk on the arterial blood pressure and lipid profile of pre-hypertensive and borderline hyperlipidemic adult volunteers from Talomo Proper, Davao City. The participants' age, sex, civil status, weight height, and BMI were also recorded. Baseline mean arterial blood pressure, and baseline lipid profile levels were compared with mean arterial blood pressure, and lipid profile of the participants after 4 weeks of intervention. The study utilized a quasi-experimental design. Thirty adult participants were screened using Framingham Risk Assessment Tool. Blood pressure was measured twice a week, and the lipid profile was measured after four weeks. Results showed that both systolic and diastolic, as well as lipid profile parameters on LDL-Cholesterol, Triglyceride, and Total Cholesterol significantly decreased. Although slight increase was observed with the results for HDL-Cholesterol, the result wasn't substantial enough.

Keywords: *Soya Milk, Soya, Prehypertensive, Borderline Hyperlipidemic, Lipid Profile, Arterial Bloor Pressure.*

Effect of Jackfruit (*Artocarpus heterophyllus lam.*) Seeds in the Serum Calcium Levels of Adult Volunteers

Adtoon, M. D., Advincula, J., Anayatin, J., Bacote, N., Birondo, C., Blaya, M. C. T., Cano, M. J. V., De Lima, A. L., Estanda, K. J., Gonzaga, J. J., King, A., Laurel, R. J., Malcontento, H. R., Mundp, J. A., Respeto, K. P., Sale, S., Subron, B. Tanquerido, M. J., Valdez, C. M. V., and Tomaro, I. S.

COLLEGE OF MEDICINE | 2018

Calcium is the least consumed nutrient in the Filipino diet. According to the National Nutrition Survey by the Food and Nutrition Research Institute, a mean one day per capita of only 42.3% of the RENI of Calcium was recorded and nearly 90% of Filipino households are not meeting the average calcium requirements. Several studies on Jackfruit seeds revealed its high calcium contents ranging from 0.02mg/100g to 3,087mg/kg. This study determined the effect of Jackfruit seeds in serum Calcium levels. Thirty first-year medical students from Davao Medical School Foundation, Inc., aged 19-29 years old participated in the study. One Group Pretest-Posttest research design was employed. Jackfruit seeds were boiled for 60 minutes, and 100-gram of these were consumed by the participants daily for 28 days. The participants' mean serum Calcium levels before and after consumption of Jackfruit seeds were compared. Participants' mean age 23. There were more female respondents (63%) than males (37%). The mean pretest and posttest serum Calcium levels were 2.31 0.08 and 2.36 0.07, respectively. Based on the results of our study, the 100g boiled Jackfruit seeds can be a potential dietary calcium supplement.

Keywords: *Jackfruit, seeds, serum, calcium.*

Nutrition Study among Lumad Children (Ages 0-14) in UCCP-Haran, Davao City

Galigao, K. A., Galope, M. A., Guting, P. G., and Srikanth, C.

COLLEGE OF MEDICINE | 2018

Malnutrition is prominent among children all over the globe, especially from the indigenous communities. Because of poverty, they have been eating only rice for the past two months with a budget of nine pesos per meal per person. Other factors that affect nutritional statuses like chronic diseases and intestinal parasitism also play a role in malnutrition. This descriptive study assessed the Nutritional status of Lumad children, zero to fourteen using the World Health Organization growth standards charts. There are 93 study participants, 65% belonged to six to fourteen years old, 29% for one to five years old, and 7% are less than one year old. The length or height for age showed that 57% are within normal range, 38% stunted, and 5% are severely stunted who are all females while 61% of ages zero to five years old are within the normal range, 36% stunted, and 3% are severely stunted. Data also showed that 73% have average weight, 26% are stunted, and 1% was severely underweight. Sixty percent of ages zero to five has average weight, 36% underweight, and 3% severely underweight. The weight for height/length shows 61% is within the normal range, 39% wasted, and none who is severely wasted. The Body Mass Index shows that 77% are within the normal range, 29% wasted, and 1% is severely wasted. The Mid-Upper arm circumference shows that 82% are well nourished, and 18% are at risk for malnutrition.

Keywords: *Malnutrition, lumad, UCCP-Haran*

Knowledge, Attitudes and Practices on Waste Management of Primary School Students from Kibalang Elementary School, Barangay Marilog, Marilog District, Davao City

Guinomla, S. R. U., Hingpit, L. F. B., Ignacio, E. J. D., and Vinushah, K.

COLLEGE OF MEDICINE | 2018

Addressing solid wastes remains to be one of the most critical issues in the continuously developing world, and the Philippines is no exception attributing to its expansive population. The community in Upper Kibalnag, Barangay Marilog, Marilog District in Davao City currently has no established waste collection system. As such, the people have managed their waste by dumping, burying, or burning in their backyard. The community also has a rapidly increasing population, the more significant portion being composed of young children. With this, the researchers assessed the knowledge, attitudes, and practices of primary school students of Kibalang Elementary School on wastes management. An original survey tool, which was a form of an interactive activity, hence utilizing illustrations and scenarios, was administered per classroom. Results showed that majority of the students had satisfactory knowledge in waste management. Results also showed that students from the higher grade are more capable in understanding the illustration, and in reacting accordingly. Students, in general, have a positive attitude towards caring for the environment. Proper waste disposal practices were noted in more than half of the students enrolled in the study. The methods of the respondents could be attributed to their knowledge and attitudes as they have a grasp on how waste should be managed correctly. It is recommended that a school-based solid waste management program that builds positive attitudes, knowledge, and skills in segregation be created and implemented in the future.

Keywords: *knowledge, attitude, practice, waste management, primary school*

Smoking Among the Youth Living in Purok VIII-Panaghiusa, Barangay Manambulan, Tugbok District, Davao City

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COLLEGE OF MEDICINE | 2018

The marketing of tobacco industry targets adolescents and young adults. Being the case, youths become vulnerable to tobacco addiction. This study described the youth's knowledge on smoking and its potential hazards. Twenty three youth aged 11 to 19 years old, living in Purok VIII, Panaghiusa, Manambulan, Tugbok District, Davao City were interviewed. The study utilized the 2012 Global Youth Tobacco Survey (FYTS). Demographic profile of participants were also recorded. The modal and mean age was 15 years. Most of the youths were males and attained secondary education. Majority of the respondents know about dangers of smoking, both to one's self and others, and listed respiratory tract diseases as the most common hazard in smoking for both smokers and non-smokers. There was knowledge about anti- tobacco media and curricula. Most have exposure to smoking inside and outside their household. There was perceived ease of access in buying cigarettes with a modal consumption amount of two to five sticks per day. Health-related reasons were the most common reason for being a non-smoker. Health care professionals have key responsibilities in preventing tobacco use among youth and their families and need to know more about effective smoking prevention and cessation strategies. Clinicians need to integrate tobacco counseling into health assessments of teenagers and be aware of the roles that families, communities, and governments can play in promoting tobacco-free environments. Information, practical strategies, and opportunities for health care professionals to intervene and advocate for adolescents should be discussed.

Keywords: *Smoking, youth, Barangay Manambulan, Tugbok District, sticks, adolescents*

Breaking Free From Domestic Violence

Ng, L. M. S., Nadera, M. J. D., and Thayaneethy, N.

COLLEGE OF MEDICINE | 2018

The phenomenological study determined reasons for the occurrence and impact of domestic violence among urban poor women. Six participants, all of whom are members of Talikala-KKP, were interviewed with both closed and open-ended questions adapted from a standardized set of questions on domestic violence. Conversations were recorded, and data verification was done by repeated questioning. Interview Excerpts were noted and analyzed into a 'Problem Tree' to determine causes and effects of domestic violence in these women. Psychological abuse is the most common form of abuse identified. Five factors are causing domestic violence among these women: perpetrator, victim, relationship, community, and societal, some of which are interrelated. Among these, heavy substance abuse is the most common factor present in the husbands/partners of these women. The effects of domestic violence among these women include physical injuries, depression, anxiety, emotional distance, suicidality, and separation. Their reasons for staying in the relationship with their abuser include family togetherness for their children's sake, love, and hope of change in their husband/partner. They coped with the abuse by confiding in their friends and family and trusting in God. Fortunately, none of the respondents are experiencing physical, sexual, and economic abuse anymore. Finally, their advice to other women in abusive relationships includes resolving marital problems, confiding in family and friends, knowing and fighting for their rights, seeking help from persons in authority, and praying to God for help and guidance.

Keywords: *phenomenological study, domestic violence, abusive relationship*

Violence in Prostitution: A Story of Three Women

Leonor-Cambronero, D., Leyson-Azuela, J., and Librea, M. J.

COLLEGE OF MEDICINE | 2018

The qualitative study explored the lives of active prostituted women via interviews using open-ended questions formulated by the researchers through the guidance of their mentor. All six recounted violence in their field of work, but despite this, only three exhibited the very significant experience of violence and are therefore depicted in this research. The conversations with the participants were recorded, and the data were verified by repeated questioning. Excerpts during the interview were noted and served as information for analysis in the 'Flow Chart' to give an outline on what happened in the lives of these women, particularly in the line of their experience of violence. The flow chart showed that these women experienced abuse and that these women were led to prostitution because of poverty, broken families, inadequate income, low educational level, and early pregnancies. Although violence has become part of their experience before prostitution, this has not led them to tolerate the violence they experienced during prostitution. Threats such as handgun and knife are what led them to endure such abuse because they do not want to lose their thinking of their kids and the people they should take care and most importantly they have nowhere to turn to for income considering their low educational attainment. What motivates them to keep going despite this "inevitable" violence are their families, their strong desire to alter their economic circumstances, and their faith in God.

Keywords: *prostitution, violence, interview*

Knowledge and Awareness of Diabetes Mellitus Among Individuals With Diabetes in Purok St. Nino R. Castillo, Barangay Agdao Proper, Davao City

Sureshkumar Suriyakumar, Sivakumar Ajithkumar, Veereswaran Dinesh Guru, Senguttuvan Koushik Visagan

COLLEGE OF MEDICINE | 2018

This study comprised of results gathered from residents of Purok St. Nino R. Castillo, Barangay Agdao Proper, Davao City which determined the residents knowledge and awareness of individuals on diabetes mellitus. This study used survey questionnaires as the research instrument. Of the 178 individuals within the age category of 30 years old and above, in accordance to the data obtained from the Community Diagnosis, 55 individuals were diagnosed with diabetes mellitus - of which 31 individuals participated in this study. Our study showed 20 out of 31 respondents are females and 11 males, all respondents were married, and two had reached high school. Twenty five out of 31 respondents have a family history of diabetes mellitus. On the knowledge regarding diabetes mellitus, 27 out of 31 respondents were diagnosed in government health, and four were diagnosed in private health centers. The same number also knew that diabetes mellitus has blood glucose more than the average level and that the average blood glucose level is between 80-100 mg/dl in fasting. Twenty-eight participants also agreed that many people are diagnosed with diabetes mellitus nowadays but only five are aware that diabetes mellitus is a familial disease. Twenty out of 31 respondents agreed that diabetes mellitus could cause kidney damage, 16 of them believed that one of the outcomes is heart attack and 16 out of 31 respondents said it could cause loss of vision. Twenty-seven of the study participants agreed that diabetes mellitus could be prevented.

Keywords: *Knowledge, awareness, diabetes mellitus, Barangay Agdao Proper*

Risk Assessment of Hypertension Among Adults 40 Years and Above in Purok 7, Barangay Kapitan Tomas Monteverde Sr., Agdao District, Davao City

Thakur Nikhita, Vella Bhavan, Venkatesh Harish, Vunnam Pradeep Jumar

COLLEGE OF MEDICINE | 2018

This study assessed the risk of developing hypertension among adults 40 years old and above in Purok 7, Barangay Kapitan Tomas Monteverde Sr., Agdao District, Davao City using the Framingham Hypertension Risk calculator. It determined the demographic profile of participants as to age and sex; described risk predictions of hypertension in terms of blood pressure, body mass index and smoking; and determined risk estimates of developing hypertension within one, two and four years using the Framingham Hypertension risk calculator. Fifty eight respondents aged 40 years old and above, free of hypertension, diabetes, and coronary artery diseases were involved. Data revealed that 60% of the participants are males with mean age of 58 years old, while 36% were within the age group of 40 to 49 years old. In terms of body mass, 34% of the participants were identified as overweight while 20% are categorized as obese. As to the smoking status of the respondents, 48% of the respondents were smokers. Data analysis on the risk assessment showed that the one-year risk estimate among the participants was 4%; two-year risk estimate is 7%, and the four-year risk estimate is 16%. Older individuals tend to have a higher risk estimate with increasing time frame compared to the younger ones. A higher risk estimate among smokers was also depicted.

Keywords: *Risk assessment, hypertension, Barangay Agdao District*

Ordinance on Smoking Ban and the Perceptins of Smokers in Alonzo Terrazas, Purok-7, Barangay 19-B

Abdul Aziz Mohammed Waleem Shaikh, Zainab Shakil Shaikh, Sivasubramanian Shankar, Ahamed Sanjeetha Zainab Thajudeen

COLLEGE OF MEDICINE | 2018

The greatest known preventable cause of death worldwide is related to smoking and tobacco use. Davao City has an active Anti-Smoking Ordinance to curb smoking in public places and provide a safe and clean environment. The researchers described the perceptions, opinions, and feelings of smokers and other stakeholders towards anti-smoking ordinance, and described the impact of the anti-smoking ordinance on smokers and other stakeholders. The study was conducted in Alonzo Terrazas, Barangay 19-B, Davao City. Among thirty-three households, seventeen households had at least one member that smokes. Eight smokers were willing to be interviewed. The Purok leader and the two Barangay Health Workers were also interviewed. A descriptive study was used for data collection and a survey questionnaire was utilized as the research instrument. Results show that all participants are male and that they are aware of the anti-smoking ordinance and its intention to curb smoking in public places. Data also show that most people feel that the ordinance does well to the environment by making it cleaner, but personally did not affect their smoking behavior as much as "Sin Tax." This study also found that complimenting the ordinance with programs for the cessation of smoking would have a better effect on smoking behavior.

Keywords: *Smoking, tobacco use, behaviour*

Smoking Habits and Attitude Towards the Graphic Health Warning Labels on Cigarette Packets

Sutariya Kashyap, Thaker Yash Vipulkumar, Valiya Prakash Ranchhodhai, Yadav Rujal Vijaykumar

COLLEGE OF MEDICINE | 2018

Cigarette smoking remains a public health problem in the country despite the enacted laws and programs of the Philippine government. This study identified smoking habits and attitudes towards the health warning labels on cigarette packets among residents of Purok-66, Barangay 76-A, Davao City. Twenty-five (25) participants selected through pre-identified sampling during the community survey were involved. Data was collected through a questionnaire. Prevalence of smoking was higher among males compared to females. Majority of participants smokes on a daily basis and smokes about six to 10 sticks per day. The age of onset of smoking is eighteen to twenty-four years of age among the majority of the participants. Majority of smokers buy cigarettes, and they were not able to notice the health warnings on cigarette packets. For the attitude test majority of participants were aware of the importance of stopping cigarette smoking, and they believe that graphic warning creates awareness among smokers and it should be placed on cigarette packets. Results also showed that smokers have a positive attitude towards graphic warnings and most of the study participants believed that pictorial health warnings create awareness about probable health hazards of cigarette smoking and it should be placed on cigarette packets.

Keywords: *Smoking, habits, attitude, graphic health warning labels*

Knowledge, Attitude, and Practice of Hypertensive Individuals 40 Years and Above in Purok 3 Barangay 19-B, Davao City

Shah Anjali Ramesh, Vittal Ram Priyanka, Xavier James Ajaisha Rexmi, Xavier Suji

COLLEGE OF MEDICINE | 2018

One of the most crucial health problem, and the most chronic disease is hypertension. It is also called as "silent killer" because there are no apparent symptoms and usually diagnosed accidentally. The researchers conducted mass surveillance of blood pressure last January 2018 on adults aged 40 years old and above in 100 households of Purok 3, Barangay 19 B, Davao City to determine prevalence of hypertension. Out of the one-hundred-twelve participants, sixty-four (57.14%) had normal blood pressure level while forty-eight (42.85%) were identified with hypertension. Out of this 48 participants, eight did not answer the questioner while 10 were not available. Participants who are hypertensive were further divided into either diagnosed or undiagnosed case. Out of of the 30 hypertensive participants, 11 were undiagnosed and 19 were diagnosed as hypertensive. However, among these individuals, 15 had a blood pressure level ranging from 140-159 systolic (mmHg) and 90-99 diastolic (mmHg) categorized under stage I hypertension, three respondents fulfilled the criteria of having greater than 100 mmHg so they were categorized under stage II hypertension, and 12 respondents had a blood pressure level of 120.80 mmHg since they were on maintenance medicines. The overall prevalence rate for hypertension in the area as of January 2018 was noted to be at 42.85% which is greater than that of the national prevalence rate of hypertension in the Philippines.

Keywords: *Knowledge, attitude, practice, hypertension*

Nanay Rosa, and Her Herbal Ointment

Parayao, D. Z. R., Pasawa, I. L. M. S., Pasawa, M., and Paulino, R. R. P.

COLLEGE OF MEDICINE | 2018

The association between man and his search for pharmaceuticals dates from the past as revealed by several studies. This study aimed that the government will help expand the collection of herbal plants and alternative traditional medicines. They also want to help the community in promoting the use of alternative medicine in their locality and help enlighten the present and future generation with these specific practices, culture, passed down from generations to generations. This is a qualitative study on Nanay Rosa, an herbalist known by the locals of Barangay Wines, Davao City and her own herbal ointment which is made up of extracts of 10 different herbal plants. The balm is commonly used for relief of skin problems such as itch, insect bites, and fungal infection, for small wounds and minor burns, and for body and joint pains. Individuals who are using the product claims its effectiveness. The researchers focus on the herbalist and her journey towards creating an ointment consisting of ten herbal plants. Testimonies say that her ointment is very powerful that it can cure wounds, ease all kind of pain and relieve any form of skin problems. There were no adverse or side effects against her ointment. However, it needs to be proven safe, legal and provide enough information regarding the dosage, indications, and contraindications before being presented and prescribed to the public. Further study about the properties of the herbal plants and ointment is therefore recommended in order to establish its safe use and shelf life. An evidence-based approach is also needed to support its therapeutic claims.

Keywords: *Herbal medicine, plants, skin problems, herbal ointment, Davao City*

Ethnobotanical Uses of Medicinal Plants of the Mothers in Sitio Site Panipasan, Barangay Marilog Proper, Marilog District, Davao City

Ombao, R. A. P., Ong, A. J. K., Pableo, R. M. B., and Paguirigan, N. E.

COLLEGE OF MEDICINE | 2018

In the Philippines, plants have been widely used for several purposes due to their unlimited potential. Herbal medicine is often used for first line and basic health service because it is locally available, affordable and effective. The researchers determined the medicinal plants used by the mothers in Sitio Site Panipasan, Barangay Marilog Proper, Marilog District, Davao City. The Ethnological information was gathered by one on one interview with the local residents. Thirty nine species distributed to 29 families were recorded. The Lamiaceae was the most frequently used plant family recorded by this study. Under the Lamiaceae family are kalabo (*Origanum vulgare*), lagundi (*Vitex negundo*), mayana (*Coleus blumei*), and mint (*Mentha asp.*). Among the medicinal plants, the most frequent plant parts used were leaves, and majority are prepared by making a decoction. Administration route is mostly oral. Most medicinal plants recorded were used to treat cough, followed by muscle pain. No adverse effects were recorded. Among the medicinal plants identified, hilbas or *Artemisia bulgaris* had the highest use value of 0.20 while the majority of them had the lowest use of 0.03 while lagundi (*Vitex negundo*) had the highest relative frequency of citation (0.6) followed by gabon or *Blumea balsamifera* (0.37). This ethnobotanical survey may become a basis for future researchers. Phytochemical studies are also recommended in order to identify the specific phytochemicals present in the medicinal plants used in the community.

Keywords: *Ethnobotanical use, medicinal plants, Marilog Proper*

Knowledge, Attitude and Practices on Sexually Transmitted Infections of Selected Survivors of Prostitution in Davao City

Prudencio, T L. B., Ruyeras, M. B. J., and Salmasan, J. M. B.

COLLEGE OF MEDICINE | 2018

A high incidence of sexually transmitted infections (STIs) has been recorded among prostituted women in Davao City with identified insufficiency on knowledge of STIs. This prompted the researchers to study 12 selected survivors of prostitution who are registered of Lawug Bubai, Inc. and who had attended the sexually transmitted infections seminar conducted by the organization. A descriptive survey research design was used in order to describe their knowledge, attitude, and practices on STIs. Interview guided questionnaires were made based on STI seminars or training and similar studies. All members of this cluster of respondents knew items regarding STI prevention, requisite for STI transmission and condom use, but the confusion was evident on the identification of STIs, definition, types, common symptoms, complications, and other routes of transmission of STI. More than two-thirds of the respondents leaned towards health-seeking attitudes. Only one of the 12 strongly disagreed on going to the doctor after experiencing symptoms of STI and on having HPV vaccinations on women with no sexual activity. More than half of the respondents practice peer counseling, referring a peer, advocacy work against STI, engaging in phone sex, mutual masturbations, seeking counseling, complying with the pink card, seeking treatment of STIs after getting any manifestation and advising partner for treatment. However, 11 out of 12 respondents had no HPV vaccinations while seven had no Hepatitis B vaccinations. In addition, a greater number of responded positively with sexual practices changed due to peer counseling compared to the AIDS campaign.

Keywords: *STI, prostituted women, descriptive survey research, Davao City*

Retrospective Study of the Child Battering Incidents Taken From the Medico Legal Department of Davao City from 2015 to 2017

Lagmay, P. A. A., Laguialam, F. L., Lanoza, J. M. A., and Legarde Jr., E.

COLLEGE OF MEDICINE | 2018

Child battering is an act resulting to serious physical and emotional harm. Children all over the world, including the Philippines, across all sectors and economic backgrounds, are victims of this inhuman act. As a child been beaten, sexually assaulted, verbally abused, every atom of self-confidence lost to fear and that any form of this act is punishable by law. This study compared the child battering incidents taken from the Medico-Legal Department of Davao City, Philippines between 2015 and 2017. This study utilized a retrospective descriptive research design. A total of 64 child-battering incidences were recorded. Results of the study revealed that child battering incidents increase yearly since 2015 and that 47% of the total cases were in 2017. Majority of the victims (42 cases) involve male children. The bulk of the cases (46.9%) are children aging 13 to 17 years old. The top 3 barangays where most of the incidents occurred were in Bucana (17.2%), followed by Toril (14.1%) and Boulevard (10.9%). Upon physical examination, majority of the lesions found were contusions and abrasions. This study also revealed that mothers and neighbors belong to the top potential assailants that may be punished by law. Child battering cases increase yearly and that more children were exposed to violence and exploitation.

Keywords: *Child battering, Davao city, violence, exploitation, abuse*

Critic Paper Assessing the Level of Awareness, Practices and Opinions of Male Health Card Applicants Concerning Pyuria at Davao City Health Office - Dispensary Section

Julao, F. A. C., Julhan, F. D. D., Jumilla II, J. E. S., and Jurilla, J. R. R.

COLLEGE OF MEDICINE | 2018

One of the most common public health problems is urinary tract infection, which is a common cause of pyuria. It is more common in women and rare in men because of the anatomical differences in the urethra. Health education is one of the best interventions to improve people's awareness and practices on diseases in general. The researchers assessed the level of awareness, practices, and opinions of male health card applicants concerning pyuria in Davao City Health Office - Dispensary Section, Felcris Centrale, Quimpo Blvd., Davao City Philippines by employing a descriptive- correlational research design. Male health card applicants were the participants of the study, and were given a 10-item self-administered questionnaire. The data gathered shows that majority of the respondents are aware of the causes and signs and symptoms of pyuria while majority are not aware of its complication and prevention. Other respondents have a share of superstitions as to the causes and prevention of pyuria. Majority of the respondents opt for a medical consult at infirmary/ RHU/clinic while many of them prefer alternative or self-medication. In line with this, the researchers emphasize the necessity to increase the level of awareness and improved practices of the applicants about pyuria, particularly on its complication and prevention to address the increased number of cases of pyuria in men.

Keywords: *Awareness, practices, opinions, pyuria*

Knowledge, Attitudes and Practices of People on Garbage and Waste Disposal in Purok 7, Barangay 8-A

Manikanda Karthik Balaji Venkatesan, Dhivyaa Senthilkumar, Shekina Victor, and Selvin Christopher Yesaraj

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In developing countries, the management of wastes has become a problem because environmental laws are not well implemented. In the Philippines, improper waste disposal is a serious issue. It may cause various diseases which are bacterial, viral, and parasitic in origin. This study determined the knowledge, attitude, and practices of the people and the methods they use for waste disposal. A descriptive survey design was adopted. Simple random sampling technique was used to select 60 respondents. Data collection was carried out using direct observation and questionnaire. The questionnaire was constructed and validated using construct validity while test-retest reliability was used for consistency. Descriptive statistics were used for data classification and simple percentages and frequency count was used for data analysis. The result indicated that the respondents are knowledgeable about waste management though knowledge is not adequate. Observation from the responses showed that respondents have a positive attitude toward waste management. Lastly, findings revealed that there was an improper practice of waste management. Data from this study suggest that the knowledge, attitude, and practice of people were not appropriate. Hence, it necessary to embark on the development of long-term waste management awareness programs.

Keywords: *Knowledge, attitude, practices, garbage, waste disposal*

Knowledge, Attitude and Practices Among Parent with Malnourished Children In Purok Leon Garcia, Barangay Agdao Proper, Agdao District, Davao City

Velu Sivaprasad, Thangaraj Pravin, Udayakumar Surya, and Vadivel Murali Kumar

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This study comprised of results gathered from the residents of Purok Leon Garcia, Barangay Agdao Proper, Agdao District, Davao City. The study determined the knowledge, attitude, and practices of malnourished children between parent/caregiver, with regards to Malnourished children. The study employed a quantitative approach using a survey questionnaires as research instrument. In terms of knowledge on appropriate time for initiating breastfeeding, 22 respondents said within an hour of birth, five mentioned one day after birth, while three are not certain. Further, 24 respondents acknowledge that infants should be breastfed exclusively for the first six months of life; rest do not know. On the frequency of breastfeeding, 24 mothers said they would breastfeed two hours while the rest are uncertain. Data also showed that majority mothers believed that initiation of complementary foods should be done after six months of birth but six mothers mentioned that it should be done in less than six months time. Eleven respondents reported that their babies fed on other foods (i.e. *lugaw*) within six months of birth while others were exclusively breast fed.

Keywords: *Knowledge, attitude, practices, malnourished children, Purok Leon Garcia, Agdao Proper, Davao*

Individual Histories of Physical Violence Among Men in Barangay Lapu-Lapu, Davao City

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Violence can happen to any person, yet this problem is often unnoticed and being left out. This study initiated programs and projects in the community regarding physical violence. Study locale was in Barangay Lapu-Lapu, Davao City. This study documented the individual histories of physical violence among men in the said barangay. In this study, we have a husband who wanted to dominate his wife, but cannot because his wife is the breadwinner of their family. This conflict turned into male dominance through power and strength, which may also precipitate physical abuse towards women. Substance use and misuse are quite common among the participants that all of them were smokers and alcoholic- beverage drinkers while two (2) of them were previously using illicit drugs such as methamphetamine and cannabis. The innate character of the aggressor is a factor identified which will also be a cause of domestic violence among men. There was one (1) participant who find it difficult to control his anger leading him to physically or verbally abuse his wife whenever arguments occur. Personal experiences were also identified as a significant history of domestic violence among men, two participants reporting to have similar experience. One participant has seen an abuser beating his wife while he was still young. The other participant witnessed his father physically and verbally abusing his mother. Both events triggered the abuser to become violent towards his wife or partner.

Keywords: *Factors, physical violence, Barangay Lapu-Lapu*

Water Boiling and Handling Practices in Purok 9A

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In Purok 9A, Barangay Cadalian, Baguio District, Davao City, water sanitation is a problem. The water source of the said area is a well-developed spring located on Barangay Carmen, Davao City. However, the water turns murky, especially during rainy days. This made the residents grow apprehensive on drinking their water directly from the tap. As a result, out of 47 households, 22 acquire their drinking water by purchasing it from refilling stations, two households purify their tap water through filtration and 23 through boiling. However, there is still an increased prevalence of acute gastroenteritis among the households, which uses boiling as their way of purification even though it was an approved way of the purification process. In this study, the researchers used a mixed methods design. The proper boiling and handling process were: hand washing with soap, boiling time of at least 1 minute, cooling of boiled water, using a container for collecting and storing only untreated or tap water, using a separate container for storing only treated water, regularly cleaning the storage container with soap, storing the treated water off the ground and away from animals, material used in collection method, using the treated water on the same day, type of container for storing treated water. Among these processes, hand washing with soap, regular cleaning of the storage container with soap and storing water off the ground were not practiced by the majority of the respondents with 14, 10, and 12 out of 23 households not practicing the said processes, respectively.

Keywords: *sanitation, drinking, tap water*

Effect of Sambong (*Blumea balsamifera*) Tablets on the Blood Pressure of Hypertensive Residents of Purok 7

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Cardiovascular diseases (CVD) are the primary cause of death globally. This study determined the effects of Sambong (*Blumea blasamifera*) tablets on the blood pressure of volunteer hypertensive residents of Purok 7, Barangay Buda, Marilog District, Davao, who are compliant to their medications. One group, pre-test, post-test quasi- experimental study was utilized. The researchers personally identified the respondents who were initially interviewed for adherence to management as well as demographic attributes. Baseline blood pressures of participants were measured using one manual sphygmomanometer and stethoscope for all. Commercially-prepared Sambong tablets from a single brand, obtained from a local pharmaceutical store, were given to the participants. Three measurements of blood pressure were taken from all study participants for 10 days (8 am, 12 nn, 4 pm), average readings were used for analysis. Laboratory parameters (creatinine, ALT, sodium, and potassium) were also measured to monitor possible side effects of Sambong tablets. The study used univariate analysis, Paired T-Test, and Wilcoxon Signed-Rank Test for data analysis. Results show that mean age was 58 years, dominated by female participants. During daily visits and BP monitoring, no complaints of any adverse reactions or untoward events were noted from the participants. With these results, the potential clinical significance could not be disregarded for a reason that majority of the respondent's blood pressure decreased. Also, serum creatinine level of the respondents showed a statistically significant decrease, which reflects a beneficial effect of the herbal plant even for a 10-day study.

Keywords: *Sambong, Hypertension*

Depression Among Female Inmates in Gawad Kalinga Ray of Hope Village, Ma-a, Davao City

Gloriani, D. J. G., Homez, M. R. E., Isaguirre, N. P. D., and Kintanar III, A. O.

COLLEGE OF MEDICINE | 2018

Sudden death without a cause has been a scenario in a correctional facility. Furthermore, WHO mentioned that depressed individuals are increasing and are more common in a jail facility with 10-15% incidence. The study determined the presence of depression and association of the different factors that can manifest the symptoms. Case-Control study design was used, and stratified random sampling was utilized to choose the respondents in the female correctional facility. A transmittal letter was sent. Upon approval, the researcher then identified the possible respondents and was assigned designated numbers for anonymity. A consent form, data collection form, and center for epidemiologic studies depression scale-revised to determine the presence of signs of depression. The study used the percentage, frequency, and distribution. Furthermore, the researchers utilized Chi-square and odds ratio (OR) to estimate the strength of the association between exposure and outcome. Demographic Data results showed that age 51-above, the married, and elementary level has the highest case number. While based on inmate profile, absence of visitors, drug-related, and more than five years detained had the highest case, respondents. The following predictors of educational attainment, presence of visitors, and frequency of visitors showed statistical significance. Furthermore, elementary level detainees and absence of visitors have five and seven times respectively most likely to have depressive symptoms. Hence, the null hypothesis was rejected at 0.05 alpha levels due to the statistical significance of predictors educational attainment, the presence of visitors, and the frequency of visits.

Keywords: *depression, female inmates, mental health, Gawad Kalinga*

Prevalence, Knowledge, Attitude and Practices of Hypertensive Individuals in Sitio Crossing S. Barangay Marilog Proper, Marilog District, Davao City

Millanes, D. S. T., Notarte, D. J. G., Nuval, C. L., and Rondez Jr., R. C.

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Hypertension is the leading cause of death worldwide. A significant number of individuals with hypertension are unaware of their condition, and among diagnosed individuals, treatment is frequently inadequate. In the Philippines, prevalence of hypertension is 22.6% in 2015 while in Davao City 22% prevalence in 2007 was reported. This study determined prevalence, knowledge, attitude, and practices of hypertensive individuals in Sitio Crossing S. Brgy. Marilog Proper, Marilog District, Davao City. A descriptive research design using a questionnaire-guided interview was employed. Of the 105 individuals screened, 30 of which were hypertensive. The prevalence was then calculated to be 28.5%. Among the 30 hypertensive individuals, 25 were previously diagnosed, and the researchers diagnosed five. Mean age of respondents was 51 years old, and majority were females. Only 13 out of the 30 were taking their medications indicating lack of education in terms of long term effects of persistent high blood pressure. Majority did not have any cardiac diseases, renal diseases, and diabetes mellitus. Most participants have at least one relative with hypertension, which is a substantial risk factor. In terms of knowledge, the majority of the individuals had the right idea on some common symptoms, factors, and prevention, and education was needed in terms of its definition and monitoring. In terms of attitude, most of the respondents were worried that they have hypertension though many believed that diet modification and professional help is necessary for its treatment. Education on the complications caused by persistent elevation of blood pressure needs to be emphasized.

Keywords: *prevalence, knowledge, attitude, practices, hypertension*

Depression and the Association of Predictors among Detainees in a Male Correctional Facility in Davao Region

A

COLLEGE OF MEDICINE | 2018

Sudden death without a cause has been a common scenario in a correctional facility. Furthermore, WHO mentioned that depressed individuals are increasing and are more common in a jail facility with 10 to 15% compared to 2% in the general population. The study was conceptualized to determine the presence of depression and the association of the different factors that can manifest the symptoms. Case-Control study design was used, and stratified random sampling was utilized to choose the respondents in the male correctional facility. A transmittal letter was sent. Upon approval, the researcher then identified the possible respondents and was assigned designated numbers for anonymity. A consent form, data collection form, and center for epidemiologic studies depression scale-revised to determine the presence of signs of depression. The study used the percentage, frequency, and distribution. Demographic data results showed that age 51-above, the married, and elementary level has the highest case number. While based on inmate profile, absence of visitors, drug-related, and more than five years detained had the highest case, respondents. The following predictors of educational attainment, presence of visitors, and frequency of visitors showed statistical significance. Furthermore, elementary level detainees and absence of visitors have 5 and seven times, respectively, most likely to have depressive symptoms. Hence, the null hypothesis was rejected due to the statistical significance of predictors educational attainment, the presence of visitors, and frequency of visits.

Keywords: *Depression, Detainees, Male correctional facility*

Factors for Non-Adherence to Pharmacological Treatment Among Chronically Ill Residents of Barangay Maa

Dinesh Balasundar Steve, Durairaj Nehru Rajesh Kumar, Ebenezer Priyadharshini, Elumalai Sowmiya

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Hypertension is one of the most crucial health problem and most common chronic disease in developed and underdeveloped countries. The World Health Organization data revealed that more than one in five adults worldwide have hypertension. Even though hypertension is hailed a preventable and treatable condition, failure or lack of treatment can lead to severe and life-threatening complication such as Heart attack, aneurysms, kidney disorders, metabolic syndrome and loss of vision. Prevention plays a significant role as does treatment in controlling this disease, which is primarily achieved by increasing the knowledge by promoting awareness of and changing the attitudes and practices of the people with regards to hypertension. Around 54% of stroke and 47% of coronary heart disease are attributable to high BP. Over 80% of this burden occurs in low and middle-income countries (LMIC). BP and cardiovascular mortality are rising rapidly in LMIC. Although age -specific BP and cardiovascular mortality are falling in developed nations, the overall number of cardiovascular death continues to rise in accord with the rapid aging of societies. Because of the continuous relationship between BP and cardiovascular deaths down to 115/75 mmHg, BP-related disease also contributes to cardiovascular death among people below the hypertensive threshold of 140/90 mmHg. Hypertension remains "the silent killer."

Keywords: *Non-adherence treatment, Pharmacological treatment, ill residents*

Phytochemical Profiling of *Crescentia cujete* Fruit Using Decoction and Leaf Using Ethanol Crude Extraction Method

Castañeda, E. A. J., Olipas, F. A. M., Patalinghug, G. S., and Valdez, P. B. B.

COLLEGE OF MEDICINE | 2018

Diabetes mellitus is a metabolic disorder occurring when there are higher than normal levels of blood glucose because of insufficient insulin release or improper response of cells to insulin. In this study, the researchers tested the antidiabetic activity of *Crescentia cujete* fruit and leaf extracts. The fruit extracts were obtained through decoction extraction to acquire pure extracts, while the leaf extracts were obtained through ethanolic crude extraction. The pure extracts of the plant were diluted with distilled water into 50% concentrations. Phytochemical screening was performed for both fruit and leaf. Results revealed that the fruit extract contain terpenoids, flavonoids, saponins, alkaloids, and steroids while tannins, cardenolides, glycosides, iridoids, were absent. In the leaves, tannins, terpenoids, flavonoids, saponins, alkaloids, cardenolides, were present while glycosides and iridoids were absent. A greater number of good outcomes were noted from the treatments using calabash leaves. It is recommended to use the ethanolic extraction method and increase its concentration to test its maximum antidiabetic capability further. However, since the calabash fruit showed the least, and moderate potentials respectively, it is recommended to use the ethanolic crude extraction method to increase their effectivity.

Keywords: *calabash, alkaloids, fruit decoction, leaf ethanol, phytochemical screening*

Phytochemical Detection of Asparagus (*Asparagus officinalis* L.) Shoots and Blue Ternatea (*Clitoria ternatea*) Flowers

Apurada, A. M. L., Javellana, C. A. L., Sam, A. M. L., and Te, S. J. F.

COLLEGE OF MEDICINE | 2018

Asparagus (*Asparagus officinalis* L.) is one of the most commonly consumed vegetables found in people's diets. The blue ternatea flower (*Clitoria ternatea*) is a plant that is common in the Philippines and is often mixed in foods and beverages to add flavor and blue color to the food or drink. Both plants have previously been observed to have antioxidants activities. This study conducted a qualitative phytochemical screening for both *A. officinalis* L. shoots and *C. ternatea* flowers and determined the possible uses and implications of the phytochemicals. This study was limited only to the shoot part of asparagus and flower part of the blue ternatea. The raw plant material was bought from Ynot farm (asparagus) and a farm in Iligan City (blue ternatea). The collected plant materials were washed, chopped, oven-dried at 105°C for seven hours (for asparagus) and air-dried for 14 days (for blue ternatea), and then further pulverized via grinder. This was then extracted with 8% ethanol for 48 hours and evaporated using a rotary evaporator. The resulting extract was then tested for the presence of phytochemicals using various established qualitative tests. The phytochemical analysis showed that alkaloids, amino acids, carbohydrates, and tannins were present in asparagus shoots, while carbohydrates, glycosides, proteins, and resins were present in blue ternatea flowers. Further studies can be done with improvements to better determine the phytochemicals present in the plants.

Keywords: *phytochemical profiling, blue ternatea flower, asparagus shoots*

Quantitative Analysis of Hypoglycemic Activity and Antioxidant Properties of *Clitoria ternatea* (Flowers, Stems and Leaves) and *Asparagus officinalis* (Stalk) Extracts

de Leon, I. K. V., Gonzales, P. R. G., and Tinagan, D. A. V.

COLLEGE OF MEDICINE | 2018

Clitoria ternatea and *Asparagus officinalis* are used as traditional medicine because both contain major chemical constituents offering therapeutic potential. *C. ternatea* and *A. officinalis* are labeled as antidiabetic plants that help control blood glucose. Oxidation is a chemical reaction that can produce free radicals, leading to chain reactions that may damage cells. In line with this, the researchers identified hypoglycemic activity and antioxidant properties of flowers, stems, and leaves of *C. ternatea* and stalk of *A. officinalis*. Spectrophotometer was used to identify the amount of glucose that was inhibited from absorption by yeast cells from the extracts that were obtained from the flowers, leaves, and stems of *C. ternatea* and stalks of *A. officinalis*, having a higher absorption value corresponds to a high inhibition of glucose uptake by yeast cells. Hydrogen Peroxide radical scavenging assay was used to measure total antioxidant activities of *C. ternatea* ethanol extracts of flower, leaves, and stems and *A. officinalis* ethanol extracts of its stalk. Among the samples that were analyzed, *C. ternatea* leaves and stems extract have a significant hypoglycemic effect and antioxidative property.

Keywords: *antioxidant property, Asparagus officinalis, Clitoria ternatea, free radicals, Hypoglycemic activity, oxidation*



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