



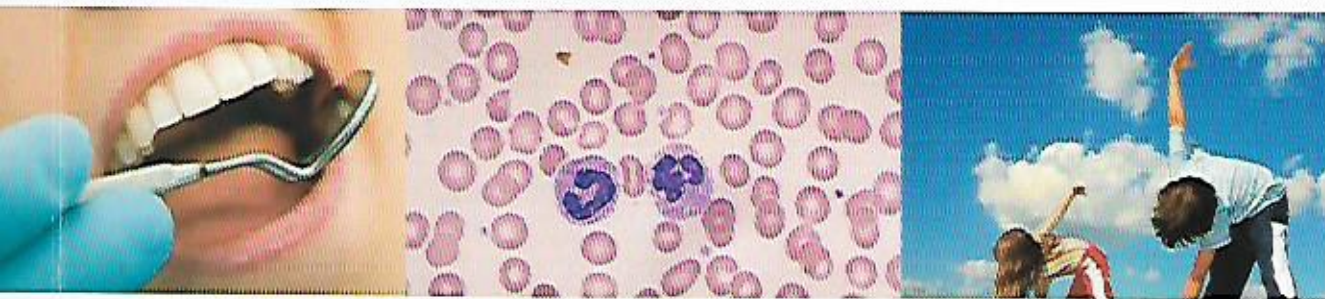
Compendium of Abstracts

DAVAO MEDICAL SCHOOL FOUNDATION, INC.

Medical School Drive, Bajada, Davao City

Volume 1- 2016

ISSN 2545-9678





DAVAO MEDICAL SCHOOL FOUNDATION, INC.

Compendium of Abstracts

Volume 1

2016

PHARMACOLOGY

Anti-glycation Effect of
Metformin-treated

A Prospective Randomized
Centella asiatica Study
of Patients at Southwest

Acute Toxicity/Dose-Response
(Crescental) Curative Effects
Induced Hyperglycemia

Acute Toxicity/Dose-Response
Effective Dose-Response
Hyperuricemia in Rats

Effect of Gata-1 on the
Gravity of Periparturient

Acute Toxicity/Dose-Response
Effect on Serum Alanine
Liver Injury in Rats

A Comparative Study of
Decoction in Water and
Cation Decoction

The Effect of Chinese
the Number of Bacteria
against *Mycobacterium*
A Pilot Study

A Comparative Study of
and Simvastatin

Effects of Cinnamon

Reproductive Toxicity
Sprague-Dawley Rats

DMSFI

Compendium of Abstracts

© 2016

Davao Medical School Foundation, Inc.

WORKING COMMITTEE

Gilbert A. Arendain, MD, MPD

Fercy B. Cavan BS Stat

Victoria T. Lupase, RMT, MPH, PhD

Rodolfo B. Mariano, DMD, DDPH, MPD

Genevieve D. Tupas, MD, MMCE

Consultants:

Gail T. Ilagan, MS, PhD, CSSP, RP

Charity San Juan-Gaspar, RN, MAN

ISSN 2545-9678

The DMSFI Compendium of Abstracts is an annual publication of the Davao Medical School Foundation, Inc. for its students, faculty, alumni, and consortium members. It is dedicated to health research and development.

The articles and opinions included in this publication do not necessarily reflect the views and policies of the Davao Medical School Foundation, Inc. and the members of the working committee of this publication.

No part of this publication may be reproduced or transmitted in any form or by any means, electronic or mechanical, without written permission from DMSFI.

PHARMACOLOGY

Anti-glycation Effects of <i>Asparagus officinalis</i> as an Adjunct Treatment for Metformin-treated Individuals with Non-insulin Dependent Diabetes mellitus	1
A Prospective Randomized Double-blind Controlled Trial of the Effect of Centella asiatica cream and Silver Sulfadiazine on Acute Superficial Wounds of Patients at Southern Philippines Medical Center	2
Acute Toxicity Dose In Mice And Effective Dose (ED50) Of Calabash (<i>Crescentia Cujete</i>) Fruit Decoction as a Hypoglycemic Agent In Alloxan-Induced Hyperglycemic Rabbits	3
Acute Toxicity Dose of Chayote (<i>Sechium edule</i>) Leaf Extract in Mice and Effective Dose (ED50) in Lowering Uric Acid in Pyrazinamide-induced Hyperuricemia in Rabbits	4
Effect of Gotu Kola on the Blood Pressure, Urine Output and Urine Specific Gravity of Pre-hypertensive Patients	5
Acute Toxicity Testing of Sampa-Sampalukan (<i>Phyllanthus niruri</i>) Extract and Its Effect on Serum Alanine Aminotransferase Levels of Acetaminophen-Induced Liver Injury in Rabbits (<i>Oryctolagus cuniculus</i>)	6
A Comparative Study on The Antioxidant Activity of <i>Sargassum Polycystum</i> Decoction In Water And Ethanol Extract Preparation Using Abts Radical Cation Decolorization Assay	7
The Effect of Chinese Hibiscus (<i>Hibiscus rosa-sinensis</i> Linn.) Flower Extract on the Number of Revertant Colonies of <i>Salmonella Typhimurium</i> Ta 98 and 100 against Mitomycin C Using Modified Ames <i>Salmonella</i> Mutagenicity Test: A Pilot Study	8
A Comparative Study on the Effects of Malunggay (<i>Moringa oleifera</i>) Capsule and Simvastatin on the Lipid Profile of Rabbits Fed With High Cholesterol Diet	9
Effects of Coconut Sugar on Fasting Blood Sugar Levels of Diabetic Individuals	10
Reproductive Toxicity of Calabash (<i>Crescentia cujete</i>) Fruit Decoction on Sprague-Dawley Albino Rats (<i>Rattus norvegicus</i>)	11

CONTENTS

<i>Hibiscus rosa-sinensis</i> Linn. Topical Solution as Hair Growing Agent for Males with Pattern Baldness	12
Approximate Effective Concentration of Makahiya (<i>Mimosa pudica</i>) Leaves in Decoction and Ethanol Extract as a Depilatory Agent on Mice	13
Sub-acute Oral Toxicity of Calabash Fruit (<i>Crescentia cujete</i>) Decoction and Its Effect on the Liver and Kidney Function of Albino Rats (<i>Rattus norvegicus</i>)	14

PHYSIOLOGY

CD Interactive and the Mean Pre-test and Post-test Scores of DMSFI First Year Medical Students	15
Malunggay (<i>Moringa oleifera</i>) Capsule on the Semen Quality of Volunteer First Year Medical Students of the DMSFI	16
Vital Signs and Red Blood Cell Counts of Volunteer Female Highlanders of Datu Salunay and Lowlanders of Hagonoy	17
Peak Expiratory Flow Rate of Volunteer Jeepney and Taxi Drivers in Davao City	18
Food Intake and Physical Activity of Obese Children Aged 8-10 in a Private School in Davao City	19
Effect of Rosemary (<i>Rosmarinus officinalis</i>) Scent on the Immediate Memory of First Year Medical Students of Davao Medical School Foundation, Inc.	20
Effects of One-Hour Shiatsu Massage Therapy and One-Hour Sleep on the Mean Arterial Pressure of Hypertensive Clients under Oral Medication	21
Diet and Weight Change of Medical Students Living under Direct Parental Care and Indirect Parental Care	22
Red Blood Cell Count And Hemoglobin Levels In Relation To Daily Cigarette Consumption In Fatima Village, Bajada, Davao City	23
Effects of Video Game Play on the Stress Levels of Young Adults	24
Binaural Beat Audio Stimulation and Verbal Short-Term Memory of First Year Medical Students of Davao Medical School Foundation, Inc.	25

CONTENTS

Two-Point Discrimination
Type 2 Diabetes Mellitus
Magnetic Resonance Imaging
Government Officials
Prevalence of Hypertension
Hearing Loss among
Visual Acuity of
Lipid Profile of
Immediate Memory
Weights, Waist Circumference
GPA Ranging from
Day And Night Shift
Consumption, Prevalence
Agents in Davao City
Effect of Smoking on
Heart Disease in
Cardiovascular Prevalence
Effect of Oral Hypertension
among Type II Diabetes
Davao City
Contact Sensitivity
of a Private Company
Peak Expiratory Flow
Babcock Element
Pulmonary Function
Formaldehyde

CONTENTS

Two-Point Discrimination Positives among Asymptomatic Diabetes Mellitus Type 2 Volunteers of a Local Diabetes Support Group	26
Magnetic Bracelets and the Mean Arterial Pressure of Employees of a Government Office in Davao City	27
Prevalence of Anemia among Chronic Coffee Drinkers	28
Hearing Loss among Residents Living Near Davao International Airport	29
Visual Acuity of Welders in Davao City	30
Lipid Profile of Shifting and Non-Shifting Medical Technologists in Davao City	31
Immediate Effect of a Twenty Minute Jog on a Treadmill and Thirty Minute Free Weights Workout on the Working Memory of First Year DMSFI Students with GPA Ranging From 75 to 85	32
Day And Night Shift Circadian Typology and the Alcohol Intake, Coffee Consumption, Food Intake, Sexual Practices and Smoking Habits of Call Center Agents in Davao City	33
Effect of Soothing Music on the ECG's S-T Segment of Patients with Ischemic Heart Disease in Polyclinic Davao, Inc.	34
Cardiovascular Fitness of Obese Individuals, 35-45 Years Old	35
Effect of Chili Pepper (<i>Capsicum annuum</i>) Intake on Blood Glucose Level among Type II Diabetes Mellitus Patients in Barangay Lapu-Lapu, Agdao, Davao City	36
Contrast Sensitivity among Smoking and Non-Smoking Taxi Drivers of a Private Company in Davao City	37
Peak Expiratory Flow Rate of 10 to 13 year-old Pupils Studying in Sixto Babao Elementary School and Bago Oshiro Elementary School	38
Pulmonary Function Test Results of First Year Medical Students Exposed to Formaldehyde	39

CONTENTS

NURSING

- Views on Teenage Pregnancy of Young Badjaos of Davao City, Philippines 40
- Knowledge and Practices on Solid Waste Management among Residents of Purok Santiago, Barangay Indangan, Davao City 41

DENTISTRY

- Infection Control Compliance of Dental Student Clinicians of a Dental School in Davao City 42
- Written Laboratory Prescription for Removable Partial Denture Received by Dental Technicians from Dentists in Davao City Proper 43

BIOLOGY

- Antibacterial Activity of Oil Extract from Marang (*Artocarpus odoratissimus*) Seeds Against *Escherichia coli* and *Staphylococcus aureus* 44

COMMUNITY MEDICINE

- Malnutrition and the Prevalence of Common Childhood Disease Symptoms among Children Aged 0-60 Months Old In Purok Central 2 45
- From Birthing Facility to the Home: The Story of Three Mothers 46
- Experiences of a Reproductive-Aged Mother with 10 Children 47
- Success of the Under-Five Day Care Feeding Program in Barangay Marapangi 48
- Non-Utilization of Postnatal Care among Women Who Gave Birth in Sitio New Lajog, Barangay Marilog 49
- Contraceptive Use among Married Women in Sitio Sto. Niño, Barangay Marilog 50

PHARMACOLOGY

Anti-glycation as an Adjunct in the Management of Individuals with Diabetes mellitus

Romelino Ben P. Ramos, BS, PhD
Jikko Supenondai, JMD
Hermingilda Narana, MS
MS Biomed, PPSC

COLLEGE OF MEDICINE

Diabetes mellitus (DM) is a chronic feature of hyperglycemia, which consequently appears as a result of the formation of advanced glycation end products (AGEs). To assess the effect of an herbal plant extract on the formation of AGEs, a study was conducted using a group of healthy volunteers with normal glucose levels. Informed consent was obtained from all participants. The study was determined. Participants were followed for 12 weeks while maintaining their normal diet. At the end of ten weeks, the study was conducted using repeated measures ANOVA. The mean serum HbA_{1c} of the participants was 5.04% (p<0.05). The mean serum HbA_{1c} of the participants was 5.04% (p<0.05). There is a significant difference in the HbA_{1c} (which indicates a more striking difference) that the use of *Artocarpus odoratissimus* non-insulin dependent diabetes mellitus (NIDDM) is evidenced by the reduction of HbA_{1c}.

KEYWORDS

Pharmacology
Diabetes mellitus
Anti-glycation

Anti-glycation Effects of *Asparagus officinalis* as an Adjunct Treatment for Metformin-treated Individuals with Non-insulin Dependent Diabetes mellitus

Romerino Renz Pizarro, Bai Samanodi, Marcelino Samson, Angel Santamaria, Moises Allen Solidum, Jikko Superioridad, Jaymar Tan, Xylia Tacao, Ceasar Benjamin Ubaldo, Melinda C. Tagle, MD, Herminigilda Nartatez, MD, Genevieve D. Tupas, MD, DPPS, and Ma. Eva C. San Juan, MS Pharm, MS Biomed, FPGE

COLLEGE OF MEDICINE

Diabetes mellitus (DM) is a group of metabolic disorders sharing the common underlying feature of hyperglycemia. It is accompanied by a myriad of morbid complications which consequently appear approximately 15 to 20 years after the onset of hyperglycemia brought forth by the formation of advanced glycation end products (AGEs). *Asparagus officinalis* is an herbal plant which contains an active component called *rutin* that delays the formation of AGEs. To assess the anti-glycating effect of *Asparagus officinalis*, this study was conducted using a randomized experimental design. Twenty pre-screened male and female volunteers were randomly assigned to the control and experimental groups. After informed consent was obtained from the participants, baseline Hemoglobin A1c (HbA 1c) was determined. Metformin was then administered to the control group every week for ten weeks while metformin and fresh asparagus were given to the experimental group. After ten weeks, the end-study HbA 1c of the participants was measured. Data were analyzed using repeated measures Analysis of Variance. Results show that the overall mean baseline serum HbA 1c of the control and treatment groups were 8.27% and 8.35%, respectively ($p < 0.05$). The mean end-study serum HbA 1c measurement of the control group was 8.04% while the experimental group had a lower mean end-study serum HbA 1c of 7.47%. There is a significant difference between the baseline serum HbA 1c and end-study serum HbA 1c (which decreased over time) of both the control and treatment groups, however, a more striking difference was observed in the treatment group. These findings suggest that the use of *Asparagus officinalis* as an adjunct treatment for volunteer individuals with non-insulin dependent *Diabetes mellitus* is effective for inhibiting formation of AGEs as evidenced by the reduction of the percentage of glycated hemoglobin.

KEYWORDS: Pharmacology, Diabetes mellitus, *Asparagus officinalis*, rutin, antiglycation, glycated hemoglobin, randomized experimental design

A Prospective Randomized Double-blind Controlled Trial of the Effect of *Centella asiatica* cream and Silver Sulfadiazine on Acute Superficial Wounds of Patients at Southern Philippines Medical Center

Shayne Baquirel, RN, Charlie Clarion, RMT, Christian John Fernandez, RN, John Arthur Magno, Mary Kamille Monfort, RN, Karl Wayne Nuñez, RN, Marianne Rana Santiago, RN, Michelle Stephanie Sevileno, RMT, Patrick Jason Tuason, Gichelle Grace Villafior, Frank Dean James Yap, Ryan Lonzaga, Melinda C. Tagle, MD, Herminigilda Nartatez, MD, Genevieve D. Tupas, MD, DPPS, and Ma. Eva C. San Juan, MS Pharm. MS Biomed. FPGEC

COLLEGE OF MEDICINE

Globally, road traffic accidents account for most of the unintentional injuries. Regionally, Southeast Asian countries including the Philippines rank second with most cases of road traffic accidents worldwide. Wound injuries from vehicular accidents are among the most common emergency cases encountered in hospitals and clinics, with minor traumatic wounds being the most prevalent form of open wound. The management of these acute superficial wounds is oftentimes too costly for the common people, thus, in the hope of finding a cheaper and locally available alternative, this study was done. A prospective randomized double-blind controlled clinical trial on the effect of *Centella asiatica* (local name: Gotu kola) and Silver sulfadiazine creams on acute superficial wounds of patients at Southern Philippines Medical Center (SPMC) was conducted. The study aimed to compare the effect of Normal Saline Solution (NSS) + Silver Sulfadiazine (positive control) and NSS + *Centella asiatica* cream (experimental) on acute superficial wounds at SPMC. Twenty subjects were included in the study (10 for each group). Pre- and post-tests bacterial colony count and wound area measurements were determined, from which mean percentage bacterial colony count reduction and mean percentage wound area reduction were computed. With a p-value of 0.16, there was no significant difference in the mean bacterial colony count reduction between NSS + Silver Sulfadiazine and NSS + *Centella asiatica* cream. In addition, with a p-value of 0.49, there was no significant difference in the mean wound area reduction between the two treatment groups. Thus, considering its anti-bacterial property and rate of wound reduction, NSS + *Centella asiatica* cream proved as effective as the standard treatment of NSS + Silver Sulfadiazine cream for treating acute superficial wounds.

KEYWORDS: Herbal medicine, *Centella asiatica*, Gotu kola, superficial wounds, colony count, rate of wound healing, Silver Sulfadiazine, randomized double-blind controlled clinical trial

PHILIP W. WATSON

Acute Toxic
Dose (ED50)
Fruit Decid
Alloxan-Ind

Sittie Jebraiyeh, Kristine Kundz, Chris Dy, Jennifer Rodelas, Rodenas Dwyer, Ph.D., Melinda Tappin, Ph.D.

DEPARTMENT OF

Diabetes ranks fourth of mortality. Because options for diabetes. With the increasing of diseases, this study of calabash (*Cucurbita*) experimental design an effective dose (AED) hypoglycemic agent. It revealed that Cucurbita Harmonized System non-toxic. AED and rabbits. AED was the calabash fruit 100 kg, an experimental glucose levels (mg/dl). Metformin (201.87) demonstrated that. In conclusion, this is effective in lowering at a dose of 10 mg/kg.

KEYWORDS: *Pharmacokinetics*

Acute Toxicity Dose In Mice And Effective Dose (ED50) Of Calabash (*Crescentia Cujete*) Fruit Decoction as a Hypoglycemic Agent In Alloxan-Induced Hyperglycemic Rabbits

Sittie Jebrailyn Amilhasan, Muhammad Razul Abdullah, Rechie Mae Abear, Sittie Soriena Kundo, Chris Dy, John Edward Padisio, Michael Jan Pimentel, Harris Rashid, Rus Cyan Josef Rodelas, Rodessa Charcey Tabunda, Ruth Kristine Tan, Herminigilda Nartatez MD, Eva San Juan PhD, Melinda Tagle MD, and Genevieve Tupas MD

DEPARTMENT OF PHARMACOLOGY, DMSFI

Diabetes ranks fourth worldwide and eighth nationwide among the leading causes of mortality. Because of its prevalence, significant morbidity, and mortality, treatment options for diabetes are being expanded beyond the practice of conventional medicine. With the increasing popularity and use of herbal medicines in treating a wide array of diseases, this study was conducted to investigate folkloric claim on the potential of calabash (*Crescentia cujete*) in reducing blood glucose level. A double-blind quasi-experimental design was employed to determine the Acute toxicity dose, Approximate effective dose (AED) and Effective dose (ED50) of calabash fruit decoction as a hypoglycemic agent. Results of acute toxicity testing based on the new OECD guidelines revealed that *Crescentia cujete* fruit decoction belongs to category 5 of the Global Harmonized System of Classification and Labelling Chemicals, thus, classifying it as non-toxic. AED and ED50 were determined using Alloxan-induced hyperglycemic rabbits. AED was found to range from 3.98 to 15.84mg/kg. ED50 Probit analysis of the calabash fruit decoction was 9.88 or 10mg/kg. Using the ED50 result of 10mg/kg, an experimental bioassay was conducted which showed the following mean blood glucose levels (mg/dl) in each of the three groups: Normal Saline Solution (283.00); Metformin (261.87) and calabash (241.47). Evaluation using Post Hoc Pairwise test demonstrated that calabash and Metformin had comparable hypoglycemic effect. In conclusion, this study showed that the calabash fruit decoction is nontoxic and is effective in lowering the blood glucose levels of Alloxan-induced hyperglycemic rabbits at a dose of 10 mg/kg. Its hypoglycemic effect is similar to Metformin.

KEYWORDS: Pharmacology, calabash, *Crescentia cujete*, hypoglycemia, Metformin, ED50, diabetes, fruit decoction, double-blind quasi-experimental design

Acute Toxicity Dose of Chayote (*Sechium edule*) Leaf Extract in Mice and Effective Dose (ED50) in Lowering Uric Acid in Pyrazinamide-induced Hyperuricemia in Rabbits

Leonardo Aya-ay Jr., Cyril James Bual, Kay Kashmyra T. Chio, Sudarshan Gherade, Vanessa Layug, Leslie Love Moral, Darleen A. Occeña, Krisha Mir Quico, Kevin Christopher Kevin, Amanda Wonosantoso, Francis Gerwin Jalipa, Herminigilda Nartatez, MD Genevieve D. Tupas, MD, DPPS, Melinda C. Tagle, MD, Ma. Eva C. San Juan, MS Pharm, MS Biomed, FPGEC

COLLEGE OF MEDICINE

Hyperuricemia is an abnormally high uric acid level that is highly correlated to the incidences of gout, urolithiasis, renal dysfunction, and cardiovascular diseases. Chayote (*Sechium edule*) can be a potential alternative for hyperuricemia management. Hence, the researchers decided to determine the acute toxicity dose and effective dose (ED50) of *S. edule* leaf extract in lowering serum uric acid level. Six female mice were used in determining the acute toxicity dose of *S. edule* leaf extract. Three mice received a single dose of 2,000 mg/kg and another set of three mice received a single dose of 5,000 mg/kg of the extract. Both groups survived the 2-week observation period with no significant changes noted in their activity, feeding behavior, and physical characteristics; thus, demonstrating that the leaf extract is non-toxic to female mice. Thirty mg/kg of pyrazinamide was then given to the rabbits daily for 14 days to induce hyperuricemia. To determine effective dose (AED), eight test doses were administered to the rabbits for nine days. The AED was noted between 63.10 mg/kg to 251.19 mg/kg. After the AED was obtained, the effective dose (ED50) was determined. Five test doses were administered to the rabbits for nine days. Probit analysis showed that ED50 is at 155.30 mg/kg.

KEYWORDS: Pharmacology, hyperuricemia, chayote, *Sechium edule*, uricosuric agent, experimental design

Effect of Gotu Kola on the Blood Pressure, Urine Output and Urine Specific Gravity of Pre-hypertensive Patients

Jenny Marie Quiao, Danilee May Flor Abanil, John David Abundo, Aeia Agarano, Diana Dame Alicer, Amytess Alinsugay, Andrew Alvarez, Earl Jan Alvarez, Chastitee Amora, Princess Alora Ibay, Nagendra Kumar Shah, Von Lovel Zarra, Melinda C. Tagle, MD, Genevieve D. Tupas, MD, DPPS, Ma. Eva C. San Juan, MS Pharm, MS Biomed, FPGE, and Bayani Vandenbroeck, MD

COLLEGE OF MEDICINE

Hypertension is a very prevalent disease among humans but it is also one of the most preventable causes of deaths and one of the most important modifiable risk factors for cardiovascular diseases. Using a quasi-experimental double blind research design, this pilot study investigated the effect of *Centella asiatica* (local name: Gotu kola) on the blood pressure, urine output, and urine specific gravity of pre-hypertensive patients. Twenty adult volunteers who fulfilled the inclusion/exclusion criteria were randomized into two groups of ten, assigned as treatment (Gotu kola) group and control (Placebo) group. Depending on group assignment, each respondent received one capsule (435 mg) per day of either placebo or Gotu kola for a total of two weeks. Both groups had access to proper diet and exercise during the two-week period. Results showed no significant difference in the mean fluid intake (ml/day), mean urine output (ml/day), and mean urine specific gravity between control and treatment groups after Week 1 and after Week 2 ($p < 0.001$). Comparison of the mean index of the systolic blood pressure (mmHg) showed a significant ($p < 0.000$) difference with values of 132.14 ± 1.64 and 122.57 ± 1.14 for both Week 1 and Week 2 compared to the control group (122.69 ± 1.25 and 124.00 ± 2.14) in the same periods. Finally, comparison of the mean index of the diastolic blood pressure (mmHg) in the treatment group showed a significant ($p < 0.000$) difference (89.71 ± 1.66 and 81.00 ± 0.93) for both Week 1 and Week 2 compared to the control group (82.14 ± 0.78 and 83.00 ± 1.18) in the same periods. In summary, the results of this study showed that the control and treatment groups were comparable in terms their fluid intake, urine output, and urine specific gravity but the treatment group showed significant lowering ($p < 0.000$) effect on systolic and diastolic blood pressure. The results of this pilot study indicate Gotu kola's potential as an anti-hypertensive herbal supplement and should therefore be studied further.

KEYWORDS: Herbal medicine, Gotukola, *Centella asiatica*, hypertension, antihypertensive, herbal supplement, quasi-experimental double-blind research design

PHARMACOLOGY

Acute Toxicity Testing of Sampa-Sampalukan (*Phyllanthus niruri*) Extract and Its Effect on Serum Alanine Aminotransferase Levels of Acetaminophen-Induced Liver Injury in Rabbits (*Oryctolagus cuniculus*)

Daniel Ivan Asis, Jed Enumerables, Karla May Gentapan, Danla Imlan, Michael Russel Lucentales, Love Joy Mabano, Roxanne Blanche Mante, Kristine Medrano, Ruby Jean Pangilan, Shair Aris Uy Choa Khao, Charmaine Valdez

COLLEGE OF MEDICINE

Acetaminophen or Paracetamol is a widely used over-the-counter analgesic and antipyretic. However, few people realize that acetaminophen is a potentially hepatotoxic drug even in therapeutic doses if given for a prolonged period. In this experimental study, we induced hepatotoxicity among rabbits using acetaminophen at a dose of 500mg/kg and evaluated the hepatoprotective potential of the methanolic extract of the whole plant of *Phyllanthus niruri* by determining the activity of the enzyme Alanine Aminotransferase (ALT). Acute toxicity testing of *Phyllanthus niruri* extract was also done using the OECD Guidelines. The results showed that *Phyllanthus niruri* extract was noted to be toxic at 1200mg/kg (552ml/kg) dose level, classifying it under category 4 of the Globally Harmonized System of Chemical Substances and Mixtures. This implies that it has a low toxicity hazard. Furthermore, when *Phyllanthus niruri* extract (experimental) was compared to L-Carnitine Orotate (positive control) it showed a consistent lowering of ALT levels which was not significantly different ($p < 0.05$) from the ALT-lowering effect of L-Carnitine Orotate. This was analyzed utilizing Analysis of Variance using two-way classification with interaction. Therefore it can be concluded that *Phyllanthus niruri* is a relatively safe herbal plant that has a potential hepatoprotective effect similar to L-Carnitine Orotate.

KEYWORDS: Herbal medicine, *Phyllanthus niruri*, hepatoprotective, paracetamol, acetaminophen, acute toxicity, hepatotoxicity, L-Carnitine Orotate, acetaminophen, sampa-sampalukan, experimental design

PHARMACOLOGY

A Comparative Study on The Antioxidant Activity of *Sargassum Polycystum* Decoction In Water And Ethanol Extract Preparation Using Abts Radical Cation Decolorization Assay

Shelou Apit, Rose Merin Balite, April Jody Castillo, Eda Kris Mary Corre, Bridget Estillore, Victor Legaspi, Beatrice Delynn Go, Christine Anne Guiritan, Irene Saliganan, Marie Kristine Roldan, Edgardo Tan Jr.

COLLEGE OF MEDICINE

Oxidants can cause oxidative stress which can eventually result to the emergence of several illnesses including malignancies, diabetes, cardiovascular, neurologic, renal, liver, and respiratory diseases, among others. In the Philippines, the top causes of morbidity and mortality are diseases associated with oxidative stress produced by reactive oxygen species. Antioxidants which can be found in plants are proven to reduce the deleterious effects of oxidation. *Sargassum polycystum*, a seaweed species that has extensive biomass in the intertidal and upper tidal zones of the Philippine tropical waters, is a known medicinal herb used in Chinese medicine to cure a wide range of conditions. This experimental study aimed at determining the presence of antioxidant activities in *Sargassum* decoction using water and ethanolic extract preparations. ABTS (2,2'-azino-bis 3-ethyl benzothiazoline-6-sulfonic acid) radical cation decolorization assay with 0.7 absorbance at a wavelength of 734nm was the method used to measure the antioxidant properties of the different test samples. After three trials, both extracts demonstrated consistent increase in the percentage inhibition absorbance over time which equates to increasing antioxidant capacity. When the two extracts were compared using two-tailed t-test, the water extract of *Sargassum* exhibited a significantly higher antioxidant capacity in 2 of the 3 trials compared to the ethanolic extract ($p < 0.05$). This could be due to the fact that *Sargassum* is a known aqueous plant which contains phenolic compounds that are known to be soluble in water. In conclusion, the results of the study showed that *Sargassum polycystum* water and ethanolic extracts have potential antioxidant properties, with water extract showing greater antioxidant capacity than ethanolic extract.

KEYWORDS: Pharmacology, *Sargassum*, antioxidant, ABTS, ethanolic extract, water extract, experimental design

PHARMACOLOGY

The Effect of Chinese Hibiscus (*Hibiscus rosa-sinensis* Linn.) Flower Extract on the Number of Revertant Colonies of *Salmonella Typhimurium* Ta 98 and 100 against Mitomycin C Using Modified Ames *Salmonella* Mutagenicity Test: A Pilot Study

Jeanette Beniga, Leopoldo Diones III, Djarnell Ashley Lim, John Dominic Locsin, Kathreen Marie Nakashima, Datu Nasser Pendatun III, Noname Rodriguez, Roxanne Pearl Rombaoa, Earl Stephen Ralph Tinapay, Angeli Dominique Tupas, Susana Vega

COLLEGE OF MEDICINE

Cancer remains to be a dread disease on the rise despite advancements in treatment that led to numerous breakthroughs, such as the introduction of anti-neoplastic drugs that are derived from plants. *Hibiscus rosa-sinensis* Linn. (local name: gumamela) is one of the many plants believed to have potential anti-cancer properties, particularly due to its flavonoid component. Thus, this study was conducted to evaluate the anti-mutagenic properties of *Hibiscus rosa-sinensis* Linn. flower extract using modified AMES test. The One-Way Analysis of Variance results demonstrated that compared to the standard mutagen Mitomycin-C, both 50% and 100% concentrations of *Hibiscus rosa-sinensis* Linn. flower extract can significantly lower the mean number of revertant colonies of *Salmonella typhimurium* (TA 98 and 100), with 50% concentration showing the least growth of revertant colonies ($p < 0.05$). Furthermore, One-way Analysis of Variance test also showed that when given together with the mutagen (Mitomycin-C), the 50% concentration was most effective in preventing the growth of revertant colonies ($p < 0.05$). In conclusion, the results of the study strongly suggests that *Hibiscus rosa-sinensis* Linn. flower extract, particularly at 50% concentration, is non-mutagenic and has potential anti-cancer properties as evidenced by its capacity to significantly suppress the growth of revertant colonies of *Salmonella typhimurium* even in the presence of the mutagen (Mitomycin-C).

KEYWORDS: Herbal medicine, *Salmonella typhimurium*, modified AMES test, *Hibiscus*, anticancer, antineoplastic, experimental design

PHARMACOLOGY

A Comparative Study on the Effects Of Malunggay (*Moringa oleifera*) Capsule and Simvastatin on the Lipid Profile of Rabbits Fed With High Cholesterol Diet

Sheila May Distor, Eunice Gonzaga, Mur-Jhan Hamis, Hamir Hechanova, Alan Jay Lapore, Sheryl Grace Mudanza, Adrian Raymond Orteza, Sharmaine Ann Reyes, Joseph Raymond Ruta, Winslow Tjitadi

COLLEGE OF MEDICINE

Hypercholesterolemia, the presence of high cholesterol in the blood, remains to be one of the major causes of the increasing numbers of cardiovascular cases. This is primarily due to the elevation of low density lipoprotein (LDL) levels in the blood which predisposes the development of atherosclerotic plaques accumulating inside the lumen of blood vessels, and eventually resulting to ischemic problems. Atherosclerosis is one major predisposing factor leading to myocardial infarction or heart attack. Medical treatments are available to lower cholesterol levels, including the drug HMG-CoA reductase inhibitor (Simvastatin), but these drugs are expensive or have deleterious side effects. Thus, cheaper and safer herbal alternatives that also have potential cholesterol-lowering effect need to be explored. This experimental study aimed to compare the cholesterol-lowering effect of commercially available *Moringa oleifera* (local name: malunggay) capsules (Treatment) and Simvastatin (Positive Control) among rabbits fed with high cholesterol diet. The results analyzed using repeated measures Analysis of Variance showed that both Simvastatin and malunggay capsules were not able to prevent increase in LDL and Triglyceride levels in rabbits put on a 30-day high cholesterol diet. However, there was a significant elevation of high density lipoprotein (HDL) levels for both groups. Elevation of HDL offers a cardioprotective effect in that it serves as scavenger for LDL. In summary, malunggay capsules and Simvastatin were not effective in preventing increase of LDL and triglycerides but can potentially increase the levels of good cholesterol which is HDL. Further studies are still needed to support this claim.

KEYWORDS: Pharmacology, cholesterol, malunggay, *Moringa oleifera*, Simvastatin, high density lipoprotein, HDL, experimental design

Effects of Coconut Sugar on Fasting Blood Sugar Levels of Diabetic Individuals

Daniza V. Tinagan, Eva C. San Juan, PhD, Melinda C. Tagle, MD, Abdul Alekhini A. Guiani, Venus G. Gutierrez, Charlene Mae L. Ho, Bianca Marie D. Isaguirre, Ian Patrick C. Jabonero, Atalie Caye M. Javier, Halima N. Kesal, Safra Mae S. Kuhutan, Paulo B. Lacanilao, Angelica Aisiah G. Lagmay, Genevieve D. Tupas, MD

COLLEGE OF MEDICINE

Despite limited scientific evidence for its efficacy, coconut (*Cocos nucifera*) sugar continues to gain popularity as an adjunct to the treatment of *Diabetes mellitus*, a chronic debilitating disease that is among the most challenging health problems in the 21st century. This study used a randomized single-blind experimental crossover trial to compare the effects of coconut sugar and usual sugar on the fasting blood sugar (FBS) levels of diabetic individuals. Twenty-six participants who fulfilled the inclusion criteria were randomly assigned to two equal groups. Group 1 used coconut sugar with standard treatment for the first two weeks, followed by a one-week washout period, and then another two weeks of using usual sugar with standard treatment. Group 2 used usual sugar with standard treatment for the first two weeks, followed by a one-week washout period, before using coconut sugar with the standard treatment for another two weeks. The FBS levels of each participant were determined before the treatment, after two weeks, and after the fifth week. Results of the study using paired t-test showed that there was a significant reduction of FBS levels after using coconut sugar for two weeks for both groups ($p < 0.05$). No significant change in the FBS levels of both groups was observed after using usual sugar ($p > 0.05$). The use of coconut sugar as an adjunct to standard treatment for diabetes resulted to a better control of the FBS levels than the use of usual sugar. This finding provides a good rationale for pushing the use of coco sugar among diabetics.

KEYWORDS: Pharmacology, coconut sugar, *Cocos nucifera*, fasting blood sugar, *Diabetes mellitus*, crossover trial

Reproductive Toxicity of Calabash (*Crescentia cujete*) Fruit Decoction on Sprague-Dawley Albino Rats (*Rattus norvegicus*)

Raina Mae B. Rombaoa, Stephanie A. Madridejos, June Rey C. Mamalintaw, Kimberly J. Mamburam, Lyndon Anthony G. Manguib, Marcus S. Marasigan, Marvy G. Margallo, Mikael N. Matunog, Elaera Faith S. Medrano, Junah Catmin Mindanao, and Janine Mae P. Monday

COLLEGE OF MEDICINE

Calabash (*Crescentia cujete*) has demonstrated glucose lowering effects, making it a potential herbal drug for managing diabetes. However its safety, particularly its effects on the reproductive system, has never been studied. This study explores the toxicity of calabash on the reproductive system of Sprague-Dawley rats. Utilizing an experimental research design, 20 healthy adult male and 20 healthy nulliparous female rats were divided into heterosexual pairs to be randomly assigned for the treatment group and the control group. The treatment group was orally given a computed effective dose (ED90) of 13.744 mg/kg of calabash fruit decoction daily two weeks before the mating period until one day before preparing the subjects for necropsy. Results showed that there was no significant difference in the mortality of the test subjects and the number of offspring between the control and treatment groups ($p > 0.05$). Furthermore, gross and histological examination of both male and female reproductive systems revealed no significant abnormal morphology for both groups ($p > 0.05$). Spermatogenesis, testicular weight, sperm concentration and morphology, as well as ovary and uterine tube weight also showed no significant difference between the female control and treatment groups. Thus in this study, an ED90 of 13.5 mg/kg of calabash fruit decoction did not show reproductive toxicity in Sprague-Dawley rats.

KEYWORDS: Pharmacology, reproductive, toxicity, calabash, *Crescentia cujete*, Sprague-dawley rats, ED90, spermatogenesis, ovary, epididymis, morphology, experimental design

***Hibiscus rosa-sinensis* Linn. Topical Solution as Hair Growing Agent for Males with Pattern Baldness**

Edmar Deme Andit, Omar Quentin Antolin, Jay Mohammad Ryan Asal Aquino, Asuncion, Carlo Rasmiah, Roderick; Ayco Aturdido, Jan Roman Babac, Ariane Fe, Jayzel Balleras, Bandayanon, Maureen Kyndra Barcinas, Marc Alan, Richelle May Cajoles

COLLEGE OF MEDICINE

Hair loss has been a problem of many and effective means of treating it are often expensive, which may be one reason why people shy away from treatment. This randomized double-blind controlled trial explores *Hibiscus rosa-sinensis* Linn. (local name: *gumamela*) topical solution as an alternative treatment for male pattern baldness. Thirty-two male subjects with male pattern baldness were divided into two equal groups. The treatment group was given *Hibiscus rosa-sinensis* Linn. topical solution while the control group was given 5% Minoxidil solution. After six weeks, hair count, hair shaft length, and hair bulb length and width were measured. Statistical analyses reveal that there is no significant difference ($p>0.05$) between the effects of *Hibiscus rosa-sinensis* Linn. topical solution and 5% Minoxidil in terms of hair count and hair bulb length. However, there is a significant difference between the effects of both topical solutions on hair shaft length and hair bulb width. In terms of hair count and hair bulb length, the hair growing effect of *Hibiscus rosa-sinensis* Linn. topical solution is comparable to that of 5% Minoxidil. However, 5% Minoxidil has a more significant effect in terms of hair shaft length and hair bulb width.

KEYWORDS: Pharmacology, *gumamela*, *Hibiscus rosa-sinensis* Linn., Minoxidil, hair growth, hair count, hair shaft length, hair bulb length, pattern baldness, randomized double-blind controlled trial

Approximate Effective Concentration of Makahiya (*Mimosa pudica*) Leaves in Decoction and Ethanol Extract as a Depilatory Agent on Mice

Erika Magdalena P. Pineda, Anthea Monica D. Dela Cruz, Peter Andre J. Deles, Lyla Grace D. Denura, Kris Ayza A. Dipaling, Rhodel A. Duarte, Charmaine Debster S. Dulla, Diane Jane M. Espiritu, Jade E. Dy, Elevazo, Charmaine Darelle O. Escovilla, Fe M. Asther and Excel B. Estacion

COLLEGE OF MEDICINE

Commercially available depilatory creams that are mainly composed of inorganic compounds have been used as one of the established methods for hair removal. This study aims to establish the approximate effective concentration (with at least 10% hair reduction) of two alternative hair removal agents derived from the leaves of the Makahiya plant (*Mimosa pudica*) decoction (treatment 1) and ethanolic extract (treatment 2) in comparison with a commercial depilatory cream (positive control). The depilatory action of the three interventions at seven different concentrations (1% to 7%) was tested on 21 healthy three-month old albino mice using an experimental study design with crossover analysis. The depilatory effect was determined by manual microscopic hair count before and after each intervention. Percentage depilation was calculated from the results. The approximate effective concentration of *Mimosa pudica* ethanol extract and decoction at which at least 10% hair reduction was seen was noted at 2% and 4% concentrations. Overall, ~52% of the concentrations achieved more than 10% hair reduction after 20 minutes. On the other hand, only ~33% of the concentrations achieved more than 10% hair reduction after 15 minutes. Thus, the significant duration of time when more than 10% hair reduction was observed for the extracts was at 20 minutes. There was a significant difference in the results between the positive control compared to both ethanol extract and decoction. However, the results suggest that the action of ethanol extract and decoction do not differ significantly. Based on the results of the study, Makahiya (*Mimosa pudica*) does have a depilatory action comparable to commercially available depilatory creams.

KEYWORDS: Herbal medicine, Makahiya, *Mimosa pudica* leaves, depilatory agent, crossover experiment

Sub-acute Oral Toxicity of Calabash Fruit (*Crescentia cujete*) Decoction and Its Effect on the Liver and Kidney Function of Albino Rats (*Rattus norvegicus*)

Gerardo Jr. A. Gonzales, Ladona R. Roldan, Camille Judith R. Rosales, Bai Marian K. Sabdullah, Arjonel A. Sala, Lombard A. Saligumba, Kitchemarie E. Salim, Cindy Claire V. Salonga, Jo Leane R. Salveron, Ana Katrina B. Sandig, and Jermelyn R. Saron

COLLEGE OF MEDICINE

Calabash (*Crescentia cujete*) has been used in traditional folk medicine for its various medicinal properties. Scientific studies have been devoted to explore its potential as a herbal medicine but little is known about its toxic effects on the body. This study aims to determine the subacute oral toxicity of the effective dose (ED90) of calabash fruit decoction and its effect on the liver and kidney function of rats. A randomized double-blind experimental study was done utilizing 20 Wistar albino rats randomly assigned to either the control (NSS) group or to the treatment (ED90) group. The ED90 dose computed at 13.5mg/kg was derived from a previous study. Intervention was given daily for 28 days. Pre and post test data on weight, tail length, and SGPT and serum creatinine were determined. At the close of the intervention, all the test animals survived. Paired t-test and t-tests for two independent samples showed no significant difference between the pre and post test mean weight, tail length, SGPT and serum creatinine between the 2 groups. Gross necropsy and histopathologic findings also showed no significant difference. The results of this study signify that the ED90 of calabash decoction does not cause any significant subacute toxicity and is not hepatotoxic nor nephrotoxic.

KEYWORDS: Pharmacology, calabash, *Crescentia cujete*, liver function, kidney function, Wistar albino rats, randomized double-blind experiment

CD Interactive and the Mean Pre-test and Post-test Scores of DMSFI First Year Medical Students

Antenor, J., Crabajales, V., Diones, L., Go, Beatrice D., Fernandez, C., Heitz, AJ., Lorenzo, A., Magdoby, H., Manansala, M., Medrano, K., Moral, L., Soriano, N., Tan, E., Uy, C., and Yap, B.

COLLEGE OF MEDICINE

People learn through different ways and this includes both traditional and non-traditional means. For decades, researchers from various fields of scientific research had postulated on effective approaches in giving information to learners in a way that would make comprehension easier. As a result of many well-planned researches and studies that had explored the phenomena of learning, it was discovered that learning comprehensively could be done throughout the use of a widely accepted multimedia device, the CD interactive. This experimental study sought to determine the effect of CD Interactive as a teaching tool and correlate it with the pre-test and post-test scores. Forty (40) participants were randomly assigned to experimental and control groups, and each group received three different lectures on the endocrine system, within a three-day time frame. The experiment group received a CD Interactive, while the control group did not. Their performance was measured through a pre-test and post-test using a modified type of multiple choice questionnaire. There was significant increase ($p < 0.05$) in the performance of the experiment group which received a CD interactive in addition to the lectures on the different topics of the endocrine system.

KEYWORDS: *Physiology, CD Interactive, learning performance, teaching tool, experimental research design*

Malunggay (*Moringa oleifera*) Capsule on the Semen Quality of Volunteer First Year Medical Students of the DMSFI

Caducoy, r., Colot, D., Corre, E., Estillore, B., Hamis, M., Hechanova, H., Hega, J., Mabano, L., Mesa, M., Santiago, M., Sepe, J., Tabunda, R., Tikmasan, R., Ventic, L., and J. Villaroya

COLLEGE OF MEDICINE

Male infertility accounts for 20% of the reproductive problems affecting married couples, which is contributed by a decrease in the semen quality (alteration of the sperm count, motility, and morphology and/or ejaculate volume). This problem leads to therapeutic methods that are costly and may sometimes be locally unavailable. Malunggay (*Moringa oleifera*), which is readily available and largely distributed in the country, was used in the study. Twenty-six participants, aged 40 years old and below, underwent two semen analyses, one day before and one day after they underwent a 2-week three times daily oral dose of *M. oleifera* capsule. Results showed that there was enough evidence that taking *M. oleifera* capsules increases sperm motility and sperm count ($p < 0.05$). However, there was no sufficient evidence that the said capsule increases semen volume and sperm morphology. Also, no significant difference ($p > 0.05$) was shown that semen liquefaction time was decreased.

KEYWORDS: *Physiology, malunggay, Moringa oleifera capsule, semen quality, semen analysis*

PHYSIOLOGY

Vital Signs and Red Blood Cell Counts of Volunteer Female Highlanders of Datu Salumay and Lowlanders of Hagonoy

Amistad, R., Apit, S., Asis, D., Catalan, L., Draculan, E., Enumerables, J., Gentapan, K., Hermosura, I., Jara, S., Lucentales, M., Mante, R., Mudanza, S., Pimentel, M., Reyes, S., and Rojas, M.

COLLEGE OF MEDICINE

This study is a descriptive-comparative type conducted in two locales - high altitude (Brgy. Datu Salumay, Marilog District (1000-2000 m above sea level) and low altitude Brgy. Sacub, Hagonoy (0.3048-0.9144 m above sea level) areas in Davao. One-hundred thirteen female participants aged 20-40 were assessed for differences in the vital signs and red blood cell counts. The research parameters used in this study included apical heart rate, pulse rate, respiratory rate, blood pressure, and RBC count. Interview schedules, vital signs, and blood sample taking were the means of gathering data. Results exhibited that apical heart rate, pulse rate, and respiratory rate between the two populations had no significant difference ($p > 0.050$), while blood pressure and RBC count exhibited a significant increase ($p < 0.05$) among female highlanders. Other physiological parameters that may be relevant to the study are hemoglobin concentration, lung capacity, lung volume, thoraco-abdomen ratio, and other important parameters of physiologic assessment could be investigated. Further studies may be conducted as to the physiological consequences of alterations in vital signs and red blood cell counts to overall well-being of patients.

KEYWORDS: *Physiology, vital signs and red blood cell counts, apical heart rate, pulse rate, respiratory rate, blood pressure and RBC count, descriptive comparative research design*

Peak Expiratory Flow Rate of Volunteer Jeepney and Taxi Drivers in Davao City

Agustin, P., Antes, C., Aya-ay, L., Baquirel, S., Borromeo, C., Chu, N., Giguiento, N., Jalipa, F., Lim, D., Rashid, H., Rodelas, R., Rombaoa, R., Sunga, K., Uy Choa Khao, S., Tupas, A., and Vega, S.

COLLEGE OF MEDICINE

Pollution is the introduction of contaminants into an environment that causes instability and/or discomfort to the ecosystem or living organisms. It is a great contributor to respiratory diseases that are known to impair the Peak Expiratory Flow Rate (PEFR) - the maximum flow rate attained at any time during a forced expiratory maneuver. A decrease in PEFR is usually associated with upper airway lesion, occupational asthma, and bronchospasm. This study sought to compare the PEFR of volunteer jeepney (non-air-conditioned) drivers and taxi (air-conditioned) drivers. There were twenty-one volunteers for each group. The Fishman's Respiratory Questionnaire was utilized to obtain demographic data, occupational history, and pulmonary history; PEFR levels were measured using a Ferraris Pocket Flow Meter; weight was measured on a bathroom scale; and height was determined with a tape measure. Results showed a mean PEFR value of 505.7 for jeepney drivers and 567.1 for taxi drivers, and the difference ($p < 0.05$) was significant. Using odds ratio, it was found that jeepney drivers have higher incidence of lower than normal PEFR values, and are more likely to develop respiratory problems.

KEYWORDS: *Physiology, Peak Expiratory Flow Rate, jeepney drivers, taxi drivers, PEFR, Ferraris Pocket Flow Meter, asthma, bronchospasm, descriptive comparative research design*

Food Intake of Children Age 5-10 in Davao City

Buenaventura, E., Dela Cruz, A., Tan, A., Tan, R., Tjapal, W.

COLLEGE OF MEDICINE

Obesity is one of the most common health problems in industrialized and developing countries. In children, obesity is a concern that may lead to chronic diseases. This study aimed to determine the food intake and physical activity of children aged 5-10 years old, who were normal weight, overweight, and obese. The study was conducted in Davao City. The results showed that the food intake of children aged 5-10 years old was significantly higher than females. Parents and physical activity were also significantly higher than their food intake. The study also found that the food intake of children aged 5-10 years old was significantly higher than their physical activity. Thus, this study suggests that a protein-rich diet and physical activity may be a good outcome of obesity prevention.

KEYWORDS: *Physiology, Food Intake, Physical Activity, Children, Obesity*

PHYSIOLOGY

Food Intake and Physical Activity of Obese Children Aged 8-10 in a Private School in Davao City

Buenaventura, E., Derla, C., Derla, R., Distor, S., Gonzaga, E., Fostanes, E., Magno, J., Talisic, V., Tan, A., Tan, R., Tjiptadi, W., Tudson, J., Villaflor, G., Wonosantoso, A. and F. Yap

COLLEGE OF MEDICINE

Obesity is one of the biggest health problems today, occurring in both industrialized and developing countries. The increase in the prevalence of obesity in children is so much more alarming and is persisting as a global concern that must be addressed. Increased consumption of high-calorie foods and sedentary lifestyle of Filipino children today are associated with this problem. In this light, this descriptive research sought to determine the food intake and physical activity of 99 obese children, aged 8 to 10 years old, who were recruited with parental consent. By reviewing demographic (age/birthdate) and physical characteristics (height and weight), the children were qualified using the Body Mass Index computation. The sample drawn from the obesity criterion was composed of 99 children, with more males than females. Parental consent forms and checklists regarding food intake and physical activity were distributed to these children. Results show that their food intake is more protein-rich; they take in less of fatty foods, dairy products, vegetables, and fruits; and they did not engage in regular physical activity. Thus, this study has found that the obese children commonly have a protein-rich diet and lack physical exercise. Studies on health risks associated with obesity and measures to disseminate information about the detrimental outcome of obesity to health and well-being of individuals must be initiated.

KEYWORDS: *Physiology, food intake, physical activity, obese children, health risks, private schools, descriptive research design*

PHYSIOLOGY

Effect of Rosemary (*Rosmarinus officinalis*) Scent on the Immediate Memory of First Year Medical Students of Davao Medical School Foundation, Inc.

Ang, P., Bual, C., del Fierro, A., Embalsado, L., Hornido, J., Luague, Z., Monfort, M., Nakashima, K., Pendatun, D., Roldan, M., Sultan, T., Tinapay, E., Tuason, P., and Zafra, S.

COLLEGE OF MEDICINE

This study was aimed at investigating the effects of rosemary (*Rosmarinus officinalis*) essential oil on immediate memory of first year medical students. Recruitment of thirty three of the sixty-one screened participants was conducted over a two-week period. A crossover design was utilized, where the experimental group was exposed to the scent of rosemary using five drops of rosemary oil and 30 ml of water placed in aromatherapy lamps that were distributed around an enclosed room, while the control group was not exposed to the scent of rosemary. Using a memory game from the program *Solsuite Solitaire 2009*, this measured the olfactory effect of rosemary scent on memory of subjects. After one week, the treatment assignment was switched in the two groups and the same procedure for measuring immediate memory was done. Results revealed no significant difference ($p>0.05$) between experimental group and control group. Thus, there is insufficient evidence to show that the scent of Rosemary (*R. officinalis*) can enhance memory.

KEYWORDS: Physiology, rosemary scent, *rosmarinus officinalis*, improve immediate memory, aromatherapy, *Solsuite Solitaire* memory game, crossover design

PHYSIOLOGY

Effects of Q Therapy and Arterial Pressure under Oral

Bermudez, K., Bernal, C., Ortiz, A., Peralta,

COLLEGE OF MEDICINE

In the health care field, to extend their work outcomes. Hypertension prevalence. These are present. These are the Shinto Massage. The of alling people, the electrical energy was emerged as a form of derived from some techniques. The effects of 300 Hz. Twenty-five individuals on hypertension and therapy session. The of one-hour sleep were obtained. The and were taken up. have shown that the reading of the part a significant difference lowering the mean

KEYWORDS

PHYSIOLOGY

Effects of One-Hour Shiatsu Massage Therapy and One-Hour Sleep on the Mean Arterial Pressure of Hypertensive Clients under Oral Medication

Bermudez, K., Ebero, R., Javier, J., Kundo, S., Layug, V., Locsin, J., Maulana, A., Nunez, K., Obra, C., Orteza, A., Pangilan, R., Ruta, J., Saliganan, I. and S. Singh

COLLEGE OF MEDICINE

In the healthcare field where therapies are often unsatisfactory, physicians seek to extend their understanding and use of available treatments to improve patient outcomes. Hypertension has been known to be a major health problem with increasing prevalence. There are a lot of factors that could contribute to the increase in blood pressure. These could be related to physical and psychological well-being of the person. Shiatsu Massage Therapy (SMT) has been employed to enhance the sense of well-being of ailing people, reportedly through its action of opening the gateways for the human electrical energy to run throughout the body and restore the body's equilibrium. SMT emerged as a form of manual therapy incorporating gentle manipulation and stretches derived from newer disciplines such as physiotherapy and chiropractic, with pressure techniques exerted through the fingers and thumbs. This study sought to determine the effects of SMT and one-hour of sleep on mean arterial pressure of the participants. Twenty-five individuals aged 39 to 72 years old were asked to complete a questionnaire on hypertensive state. The respondents were engaged in a one-hour shiatsu massage therapy session conducted two times weekly for two consecutive weeks and two weeks of one-hour sleep sessions conducted two times in a week. Baseline measurements were obtained for all the participants prior to the start of the experimental intervention and were taken again after completion of the experimental intervention. The results have shown that both interventions significantly decreased the mean arterial pressure reading of the participants ($p < 0.05$). Furthermore, the results revealed that there is a significant difference between the effects of SMT and sleep sessions in terms of lowering the mean arterial pressure reading of participants ($p < 0.05$).

KEYWORDS: *Physiology, shiatsu massage therapy, sleep, mean arterial pressure, hypertensive clients, experimental research design*

PHYSIOLOGY

Diet and Weight Change of Medical Students Living under Direct Parental Care and Indirect Parental Care

Abear, R., Arendain, M., Dy, C., Gatmaitan, P., Guiritan, C., Imlan, D., Legaspi, V., Nunez, M., Quico, K., Rodriguez, N., Salazar, R., Sinagan, M., Tripole, K., and Velasco, V.

COLLEGE OF MEDICINE

Sudden weight change could lead to serious health risks. First year college students tend to be more prone to either gaining or losing approximately 15 lbs, which suggests weight instability that could have deleterious effects on the body. This is referred to as "Freshman Fifteen," attributed to several causes to include a change in diet. Parental presence is recognized as a key factor in regulating the diet of an individual by providing a venue for regular family meal preparations and an opportunity for role modeling of healthy eating patterns and social interactions among family members. This study sought to determine whether there is a significant difference in weight-change between first-year medical students under direct parental care and indirect parental care. The weight-change of the study subjects were determined by their difference in weight during enrolment (April/May 2009) and during the second semester (February 2010). Diet was determined through a structured-questionnaire, obtaining information on frequency of food choices and then weight changes examined relative to diet. A significant difference ($p < 0.05$) was found in the weights of study subjects who live under direct parental care between weight in April/May 2009 and weight in February 2010. Also, a significant difference ($p < 0.05$) was found in weight among study subjects who live under indirect parental care between weight in April/May 2009 and weight in February 2010. The study also found that there is a significant difference between weight-change of sample subjects living under direct parental control and indirect parental control.

KEYWORDS: *Physiology, diet, weight change, parental care, freshman fifteen, descriptive research design*

PHYSIOLOGY

Red Blood Cell Levels In Relation To Consumption Of Tobacco In Davao City

Abdullah, M., Adson, J., Macayran, E., Pangilinan, J., Ugokan, N., and C. Valdez

COLLEGE OF MEDICINE

There are several leading causes of heart attacks. Smoking is one of the factors to increase the risk of stroke, peripheral vascular disease, and blood cell production. The effect of cigarette smoking on red blood cell (RBC) count and hemoglobin (Hb) levels was extracted from each participant. The study revealed no significant difference in RBC and age patterns in male and female respondents ($p > 0.05$) on hemoglobin levels and females, while RBC levels were significant at 0.01 level of significance.

KEYWORDS: *Physiology, consumption of tobacco, red blood cell levels*

Red Blood Cell Count And Hemoglobin Levels In Relation To Daily Cigarette Consumption In Fatima Village, Bajada, Davao City

Abdullah, M., Adtoon, J., Balite, R., Castillo, A., Deiparine, K., Derla, L., Doromel, E., Lagono, C., Macayran, E., Pangilinan, E., Taya, H., Ugokan, N., and C. Valdez

COLLEGE OF MEDICINE

There are several leading causes of cardiovascular disease. Tobacco smoking is perhaps the most preventable and manageable cause that can lessen the risks of heart attacks. Smoking acts synergistically with other cardiovascular risk factors to increase the risks of myocardial infarction, sudden cardiac death, stroke, peripheral vascular disease, and aortic aneurysm. Cigarette smoke consists of thousands of different chemicals that can affect the body's red blood cell production and hemoglobin levels. This study sought to investigate the effect of cigarette smoke on red blood cell count and hemoglobin level. The study involved 72 male and 72 female participants. The red blood cell (RBC) count and hemoglobin levels were determined using three ml of blood extracted from each participant and subjected to laboratory analysis. Results revealed no significant difference ($p>0.05$) in the means of smoking behavior and age patterns in relation to RBC and hemoglobin levels between female and male respondents. Moreover, results have shown no significant difference ($p>0.05$) on hemoglobin levels brought about by smoking behaviors in males and females, while RBC and hemoglobin levels were positively correlated at 0.01 level of significance.

KEYWORDS: *Physiology, red blood cell count, hemoglobin levels, cigarette consumption, descriptive correlational research design*

PHYSIOLOGY

Effects of Video Game Play on the Stress Levels of Young Adults

Abdulkarim, B., Aseberos, E., Cabuga, J., Dema-ala, P., Gayagas, A., Lagmay, F., Mabanglo, M., Montero, M., Pedregosa, B., Risonar, S., Songcaya, C., and Veliganio, J.

COLLEGE OF MEDICINE

Modern computer simulation technology allows the creation of micro-worlds for which people may explore certain information to their advantage. Video and computer-based games have come to assume a prominent role in the culture and daily lives of many Filipinos. Sufficient facts prove that salivary alpha-amylase is considered as a sensitive and objective biomarker for stress-related changes in the body that reflect the activity of the sympathetic and parasympathetic nervous system. This investigation was designed to evaluate the production rates and concentrations of salivary amylase as a measure of stress levels, before and after sessions of video game play in human subjects who disclosed themselves as frequent gamers. The levels of salivary amylase were analyzed by the Salimterics Research Firm in Pennsylvania, USA. Results show that there is no significant relationship between the variables: age, weight, height, body mass index and actual number of hours to the change in salivary amylase activity. However, a significant difference ($p < 0.05$) in the levels of salivary amylase before and after video game play was found. Thus, video game play may actually induce relaxation instead of stress. Further studies regarding the neural and psychological effects of videogames on stress levels may be done to determine the potential of video games as specific therapy for stress relief.

KEYWORDS: *Physiology, video game, stress levels, salivary amylase, young adults, stress relief, pre-test post-test research design*

PHYSIOLOGY

Binaural Beat Audio Stimulation and Verbal Short-Term Memory of First Year Medical Students of Davao Medical School Foundation, Inc.

Ababon, M., Araneta, C., Buxani, R., de Chavez, A., Gampong, B., Laganson, C., Lumanog, K., Mondero, L., Pastrana, J., Rendon, R., Solaiman, R., and Valbuena, D.

COLLEGE OF MEDICINE

Binaural beats are brainwave-induced responses that result from the interaction of two auditory impulses with different frequency originating from opposite ears. These beats can synchronize the brain to a specific brainwave state that correspond to and may improve certain cognitive functions, one such function being verbal short-term memory. This study was to determine the effects of binaural beat audio stimulation on the verbal short-term memory of medical students, and whether sex affects the perception of binaural beats. An experimental research design was employed, with forty medical students purposively selected. The participants were randomly assigned into two groups – experimental and control. The experimental group received an audio track with binaural beats, while the control group received a track with no beats. Each participant was subjected to fifteen (15) minutes of auditory stimulation and was then immediately subjected to a free word recall memory test. Analysis of the test scores of the experimental and control group found that the mean score was greater in the experimental than in the control group. The verbal short-term memory of medical students exposed to binaural beat audio stimulation was significantly different from those not exposed to binaural beat audio stimulation ($p < 0.05$). Moreover, analysis of data between male and female subjects found no significant difference ($p > 0.05$).

KEYWORDS: *Physiology, binaural beat audio stimulation, verbal short-term memory, medical students, experimental research design*

PHYSIOLOGY

Two-Point Discrimination Positives among Asymptomatic Diabetes Mellitus Type 2 Volunteers of a Local Diabetes Support Group

Acosta, H., Asiong, N., Callos, K., dela Cruz, F., Gagwis, R., Jualo, M., Lompot, K., Mohammadsali, S., Pavino, C., Sabal, A., Talon, F., and L. Yumang

COLLEGE OF MEDICINE

The prevalence of diabetes mellitus type 2 increases each day in a worldwide scale. In the Philippines, 80 percent of diabetes-associated deaths are becoming more and more of a concern. Diabetes is known to lead to a variety of complications, most particularly that of diabetic neuropathy that, when severe, could lead to amputation of the affected limb. This study was to determine the frequency of two-point discrimination positives among asymptomatic diabetes mellitus type 2 volunteers of a Local Diabetes Support Group in Davao City. A descriptive design was utilized to determine the two-point discrimination (TPD) values on both big toes of 39 volunteers, using U-bent paper clips calibrated with Vernier calipers. Results showed that 64.1% of the volunteers were TPD (+) on the right big toe, and 69.2% on the left big toe. The findings validate the two-point discrimination as an early detection tool for diabetic neuropathy. Early assessment of diabetic neuropathy means greater chances of preventing the occurrence of cases of foot ulcerations and amputations in the context of medical management and treatment. Moreover, this study generates information with which various health centers can use in managing asymptomatic diabetes mellitus type 2 patients with diabetic neuropathy.

KEYWORDS: *Physiology, two-point discrimination positives, asymptomatic Diabetes mellitus type 2, descriptive research design*

PHYSIOLOGY

Magnetic Bracelet Pressure of Em Office in Davao

Alvarez, E., Bata, A., Cocjin, C., Pizarro, R., Samson, M., and

COLLEGE OF MEDICINE

Jewelry is a billion different forms and sizes of magnetic bracelets. In medical or therapeutic use, this claim, a quasi-experimental government employees and control groups. Magnetic the study group to wear a magnetic bracelet to wear pressure (MAP) readings the study period; which a control group. The decrease be due to two modes of cell shape, decreasing diameter ultimately lowering blood as having inducing effects walls, thus promoting vasodilation.

KEYWORDS: *Physiology, hypertension*

PHYSIOLOGY

Magnetic Bracelets and the Mean Arterial Pressure of Employees of a Government Office in Davao City

Alvarez, E., Bata, A., Cocjin, C., Doromal, G., Grino, J., Larrobis, R., Macario, M., Naigan, R., Pizarro, R., Samson, M., and Viado, M.

COLLEGE OF MEDICINE

Jewelry is a billion dollar fashion industry world-wide. Jewelries come in different forms and sizes and a variety of functionality, such the emergence of magnetic bracelets. Manufacturers claim that magnetic bracelets have a medical or therapeutic benefit of lowering the blood pressure. To investigate this claim, a quasi-experimental design was employed using forty hypertensive government employees who were randomly assigned into the treatment/study and control groups. Magnetic bracelets were distributed for the members of the study group to wear. The members of the control group were not given a magnetic bracelet to wear. A significant decrease ($p < 0.05$) on the mean arterial pressure (MAP) readings was seen in the study group five to six weeks into the study period; which was significantly lower compared to the MAP of the control group. The decrease in blood pressure due to magnetic bracelets may be due to two modes of action: 1) the effects of magnetic fields on red blood cell shape, decreasing distance, increasing shear rate, decreasing viscosity and ultimately lowering blood pressure; and, 2) magnetic fields have been observed as having inducing effect on the release of nitric oxide on the blood vessel walls, thus promoting vasodilation and decreasing blood pressure.

KEYWORDS: *Physiology, magnetic bracelets, mean arterial pressure, MAP, hypertension, blood pressure, quasi-experimental design*

PHYSIOLOGY

Prevalence of Anemia among Chronic Coffee Drinkers

Bantillo, A., Ciudadano, N., Doromal, R., Hong, M., Lim, E., Masbad, A., Nasser, M., Plenos, W., Samaodi, S., Tan, J., and F. Yecyec

COLLEGE OF MEDICINE

Coffee is a popular beverage due to its stimulatory effect to the central nervous system. Current studies show that coffee drinking has two-fold effects: an effective anti-oxidant effect, owing to its polyphenol content; and a strong potential for competing with absorption of iron in the gastrointestinal system. This study was to determine the prevalence of anemia - through hemoglobin count - among chronic coffee drinkers of first- to third-year medical students. Results show that five percent of the respondents have hemoglobin counts below normal, thereby exhibiting anemia.

KEYWORDS: *Physiology, anemia, chronic coffee drinking, polyphenol content, iron absorption, hemoglobin count, descriptive research design*

PHYSIOLOGY

Hearing Loss Davao Interna

Algonos, J., Basa, R., Cam
Pescadero, R., Samanodi, A.

COLLEGE OF MEDICINE

This study was to determine the prevalence of hearing loss in subdivisions near the school. Two respondents were selected to have possible hearing loss through audiometry. Hearing loss was determined by Weber Test showed 30 dB with left ear lateralization. Abnormal hearing on the types of hearing loss was conductive hearing loss.

KEYWORDS: *Physiology, hearing loss*

PHYSIOLOGY

Hearing Loss among Residents Living Near Davao International Airport

Algonos, J., Basa, R., Cembrano, C., Dizon, P., Go, D., Lampauog, A., Luque, J., Muga, H., Pescadero, R., Samanodi, A., and Vargas, C.

COLLEGE OF MEDICINE

This study was to determine the prevalence of hearing loss among residents in subdivisions near the Davao International Airport. Three hundred ninety two respondents were randomly selected, and nine percent said that they have possible hearing problem, while 88 percent suggested hearing test for audiometry. Hearing loss was measured using the Weber and Rinne Tests. The Weber Test showed 30 percent with right ear lateralization and 21 percent with left ear lateralization, while the Rinne Test revealed 78 percent with abnormal hearing on the right ear and 79 percent on the left ear. Two different types of hearing loss were identified: sensori-neural hearing loss (29%), and conductive hearing loss (4%).

KEYWORDS: *Physiology, hearing loss, Weber and Rinne Tests, sensori-neural hearing loss, conductive hearing loss, descriptive research design*

PHYSIOLOGY

Visual Acuity of Welders in Davao City

Abrasia, L., Asotigue, R., Calio, L., Diez, A., Grecia, I., Langbid, C., Madid, M., Pendaliday, H., Rosit, J., Superioridad, J., Villa-Abrille, I.

COLLEGE OF MEDICINE

Welding requires melting of metals using a welding torch whose light emits a wide spectrum of radiations. This light may affect the physiological systems of the exposed individual. The fumes and gases produced during welding may also affect the visual acuity or the clarity of vision of welders. Normal visual acuity is necessary not only for work but also in one's everyday life. This study was conducted to determine the visual acuity of thirty randomly selected volunteer welders in Davao City, whose mean age was at 31.3 years and who had been working as welders for an average of 8.6 years. Visual acuity was measured using Snellen's Chart. The data show that majority of the participants have normal visual acuity. But still, some of the participants had either an above normal or below normal visual acuity that may have been caused by their exposure to welding light or fumes that contain chemicals. The fumes and gases can cause eye irritation when welding is done in confined spaces. The results of this study generate information to reinforce safety protocols in welding industries such as the use of proper protective gears since normal visual acuity is critical for effective and injury-free welding activities.

KEYWORDS: *Physiology, welding, welding light, vision, visual acuity, welders, descriptive research design*

PHYSIOLOGY

Lipid Profile Medical Tech

Alicer, D., Bantugan, M., Sandoval, C., Tapia, C., and

COLLEGE OF MED

This study sought to compare the lipid profile of non-shifting medical technology students with the lipid profile of non-shifting medical technology students. The research design was descriptive. A total of 100 students were selected, of which 50 were non-shifting medical technology students and 50 were non-shifting medical technology students. The demographic profile of the students was recorded. The lipid profile (total cholesterol, high density lipoprotein (HDL), low density lipoprotein (LDL), and triglycerides) were recorded after overnight fasting. The data were analyzed by independent t-test. The results showed that the non-shifting medical technology students exhibited no significant difference in lipid profile and body mass index (BMI) compared to the non-shifting medical technology students. A significant difference ($p < 0.05$) was found in the total cholesterol and HDL levels of the non-shifting medical technology students compared to the non-shifting medical technology students, with the exception of the internal de-synchronization.

KEYWORDS: *Physiology, lipid profile, medical technology, cross-sectional study*

Lipid Profile of Shifting and Non-Shifting Medical Technologists in Davao City

Alicer, D., Bantugan, M., Embalsado, M., Humol, M., Llanes, M., Matilos, S., Neo, K., Prior, S., Sandoval, C., Tapia, C., and Yokota, R.

COLLEGE OF MEDICINE

This study sought to determine the serum lipid profile of shifting and non-shifting medical technologists in Davao City. The study used a cross-sectional research design. A total of 64 subjects with ages ranging from 20-30 years were selected, of whom 32 were shifting medical technologists and 32 were non-shifting medical technologists. They have worked for at least one year as medical technologists. Questionnaires were distributed to determine their demographic profile. Height, weight, body mass index, and resting blood pressure were recorded before collection of blood. Blood samples were collected, after overnight fasting, to estimate the serum lipid levels using the standard laboratory technique in a secondary laboratory in Davao City. Data were analyzed by independent t-test. Results showed that the study participants exhibited no significant difference ($p > 0.05$) in terms of age, sex, height, weight and body mass index. Furthermore, the lipid profile panels, triglyceride and high density lipoprotein-cholesterol (HDL-C) of the respondents showed no significant difference ($p > 0.05$). However, the total cholesterol and low density lipoprotein-cholesterol (LDL-C) of the respondents exhibited a significant difference ($p < 0.05$) for both lipid profile panels, which indicate a significantly higher total cholesterol and LDL-C among shifting medical technologists than non-shifting medical technologists. The changes in serum lipid levels with the exception of triglycerides and HDL-Cholesterol may be related to internal de-synchronization due to disruption of circadian rhythm.

KEYWORDS: *Physiology, serum lipid profile, triglyceride, high density lipoprotein-cholesterol, medical technologist, circadian rhythm, cross-sectional*

Immediate Effect of a Twenty Minute Jog on a Treadmill and Thirty Minute Free Weights Workout on the Working Memory of First Year DMSFI Students with GPA Ranging from 75 to 85

Andoy, W., Belen, M., Comilang, K., Dujali, P., Guimar, N., Ledesma, J., Malate, C., Nival, J., Precia, M., Santamaria, A., and Villano, M.

COLLEGE OF MEDICINE

This study compared the effects of a 20-minute jog on a treadmill, and a 30-minute free weights workout on the working memory of first year DMSFI students with GPAs ranging from 75 to 85. There were 3 test groups, each with 5 subjects. One group was tasked to jog for 20 minutes on a treadmill; another group did a 30-minute free weights workout. The third group, designated as the control, remained rested throughout the experiment to stimulate absence of physical exercise. All groups were made to take the Digit Span test prior to their respective form of activity and were tested again thereafter. The experiment was done over a 5-day period. The data were analyzed using the ANOVA statistical test. Results show that the test subjects for the two forms of exercise showed significant increase in their working memory, while the control group did not exhibit any significant change. Additionally, no significant difference ($p > 0.05$) was observed between the two forms of exercise, which would best enhance the working memory of test subjects. The increase in the working memory may have been brought about by various factors due to the exercise done. The increased heart rate as a result from the 20-minute jog on a treadmill may have led to an increase in blood flow and oxygen supply to the brain, thereby enhancing neural activity, while the 30-minute free weights workout may have led to recruitment of neurons and increase in synaptic connections, also enhancing neural activity. Furthermore, both forms of exercise may have similar benefits, such as an increase in levels of certain neurotransmitters, such that there is no significant difference in their effect of improving the working memory.

KEYWORDS: *Physiology, twenty minute jog, thirty minute free weights workout, working memory, general weighted average, experimental research design*

Day And Night Shifts and the Alcohol Intake and Food Intake Habits of Call Center Agents

Agustin, J., Baker, J., Casanueva, J., Pinili, C.J.M., Salvador, A., and Villano, M.

COLLEGE OF MEDICINE

This descriptive correlational study was conducted between the day shift and night shift typology, with the frequency of coffee consumption, and alcohol intake, using a validated questionnaire. 100 call center agents were recruited, of whom 50 were from the day shift call center and 50 from the night shift call center. The results showed a significant difference ($p < 0.05$) in the frequency of coffee consumption and alcohol intake practices among call center agents. There was no significant difference ($p > 0.05$) in the frequency of food intake habits, and sexual practices. Night shift call center agents had a higher frequency of alcohol intake than the day shift call center agents.

KEYWORDS: *Physiology, alcohol intake, food intake, descriptive research design*

PHYSIOLOGY

Day And Night Shift Circadian Typology and the Alcohol Intake, Coffee Consumption, Food Intake, Sexual Practices and Smoking Habits of Call Center Agents in Davao City

Agustin, J., Baker, J., Casas, K., Domingo, A., Hermosa, S., Libre, X., Martel, C.J., Nanez, L.V., Pinili, C.J.M., Salvador, A., and J. Yap

COLLEGE OF MEDICINE

This descriptive correlational study was conducted to determine the relationship between the day shift and night shift call center agents' circadian rhythm typology, with the frequency of alcohol intake, smoking habits, food intake, coffee consumption, and sexual practices of the subjects. Data were gathered using a validated questionnaire. One hundred seventeen (117) respondents were recruited, of whom 73 were night shift call center agents and 44 were day shift call center agents. Results showed that there is a significant increase ($p < 0.05$) in the smoking habits, meal frequency, alcohol intake, and sexual practices among call center agents. The researchers found no significant difference ($p > 0.05$) in the frequency of alcohol intake, food intake, smoking habits, and sexual practices between day and night shift call center agents. Night shift call center agents have higher coffee consumption compared to the day shift call center agents ($p < 0.05$).

KEYWORDS: *Physiology, call center agents, circadian rhythm typology, alcohol intake, coffee consumption, food intake, sexual practices, smoking, descriptive correlational research design*

Effect of Soothing Music on the ECG's S-T Segment of Patients with Ischemic Heart Disease in Polyclinic Davao, Inc.

Aqui, T., Bravo, S., Cualing, P., Escudero, J., Hernandez, M., Licayan, M., Mangudadatu, K., Omayung, M., Quejadas, K., Sarona, N., and Yangyang, J.

COLLEGE OF MEDICINE

Despite the vast research conducted on the effects of music on the physiological processes of the body, little has been known on its definite dynamics on the autonomies of the heart and the cardiovascular system. This study sought to explore the effect of soothing music on the height of the S-T segment of ECG tracings of ischemic patients. This research employed a quasi-experimental design and 11 participants were selected using purposive sampling. The study was conducted for ten days. The participants listened to soothing music for thirty minutes while ECG tracings were being registered. The results were compared from baseline tracings. Three of the 11 ischemic patients showed significant decrease in the S-T segment tracing. Overall, there was no significant difference in the S-T segment amplitude of the ischemic patients before and after listening to soothing music. This reflects that the study failed to gather sufficient data that would otherwise prove that listening to soothing music can change the height of the S-T segment of the patients with ischemic heart disease.

KEYWORDS: *Physiology, soothing music, ECG's S-T Segment, ischemic heart disease, quasi-experimental design*

Cardiovascular 35-45 Years

Agudo, A., Avila, M., G...
Pandaliday, A., Salaver...

COLLEGE OF MEDICINE

Obesity is a major problem of the body that affects health. It was used in this study (kg/m²). The main purpose was to assess the fitness of eight obese subjects. The highest prevalence of anthropometric measurements among respondents ranged from 181.79 kg; BMI range was found to range from 30.0 to 40.0, fair cardiovascular risk test. Six out of eight

KEYWORDS: *Physiology, obesity, cardiovascular risk, BMI, fitness*

Cardiovascular Fitness of Obese Individuals, 35-45 Years Old

Agudo, A., Avila, M., Ganete, F., Diaz, E., Garcines, K., Kho, N., Lozada, K., Montejo, G., Pandaliday, A., Salaver, F., and Tingzon, J.

COLLEGE OF MEDICINE

Obesity is a major problem in the Philippines. It has physiological effects in the body that affects an individual's activity level. Body Mass Index (BMI) was used in this study to determine if an individual is obese (BMI of >30 kg/m²). The main purpose of this study was to determine the cardiovascular fitness of eight obese individuals, 35-45 years old, and the range which has the highest prevalence rate of obesity. Height, weight, and BMI were the anthropometric measurements investigated in the study. The height of the respondents ranged from 66.99 to 70.01 cm; weight ranged from 150.41 to 181.79 kg; BMI ranged from 34.2 to 36.9, and the calculated VO_2 max was found to range from 24.46 to 34.58. Among the eight respondents, two had fair cardiovascular fitness in relation to the calculated VO_2 max from the beep test. Six out of eight had an average cardiovascular fitness.

KEYWORDS: *Physiology, cardiovascular fitness of obese, beep test, VO_2 , descriptive research design*

Effect of Chili Pepper (*Capsicum annuum*) Intake on Blood Glucose Level among Type II Diabetes Mellitus Patients in Barangay Lapu-Lapu, Agdao, Davao City

Andico, R., Bastian, J., Cabonita, K., Eliseo, K., Jardinico, S., Lorena, E., Mendez, M., Pe Benito, D., Saripullah, A., and Untalan, B.

COLLEGE OF MEDICINE

Capsicum annuum, commonly known as chili pepper, contains the active substance capsaicin, known to affect glucose concentration in the systemic circulation. The action of capsaicin stimulates insulin secretion by the beta cells located in the Islets of Langerhans of the pancreas, which eventually lowers blood sugar level, thereby showing its potential in helping type II diabetes mellitus patients. Evidence supporting its beneficial effect is still inadequate due to limited studies on animal models and physiologically normal humans. This study was conducted to determine the effect of chili pepper intake on blood glucose level among 14 type II Diabetes mellitus patients in Barangay Lapu-Lapu, Agdao, Davao City using a crossover design. The subjects were selected purposively in accordance to the formulated inclusion criteria and informed consent was obtained. A significant decrease ($p < 0.01$) of blood glucose was observed upon administration of chili pepper capsule as supported by p-values of relative effectiveness and treatment-period interaction effect. It can be deduced, therefore, that chili pepper intake has a significant effect in lowering the blood glucose level of type II diabetic patients.

KEYWORDS: *Physiology, chili pepper (capsicum annuum) intake, blood glucose level, type II Diabetes mellitus patients, crossover design*

Contrast Sensitivity in Non-Smoking Taxi Drivers in a Company in Davao City

Amora, C., Barrientos, M., Udang, M., Yu, J., and Yu, J.

COLLEGE OF MEDICINE

Driving is considered a high-risk activity, especially at night time where low contrast sensitivity is required. Night vision includes contrast sensitivity, which is not stand out from the background. Contrast sensitivity damage to the eyes is a common problem among the greater likelihood of accidents. This study sought to compare the contrast sensitivity of non-smoking taxi drivers with non-smoking taxi drivers through purposive sampling. Visual acuity and contrast sensitivity was measured. Results show that contrast sensitivity was significantly affected on contrast sensitivity tests should be performed. Contrast sensitivity function.

KEYWORDS:

Physiology, Snellen, contrast sensitivity

PHYSIOLOGY

Contrast Sensitivity among Smoking and Non-Smoking Taxi Drivers of a Private Company in Davao City

Amora, C., Barrientos, M., Cabading, R., Edillon, M., Jalamana, M., Lim, W., Pader, N., Razon, S., Udang, M., Yu, J., and Meling, R.

COLLEGE OF MEDICINE

Driving is considered to be a visually intensive task, most especially during night time where low contrast is most often encountered. Visual function at night includes contrast sensitivity, which is the ability to see objects that do not stand out from their background. Chronic smoking increases oxidative damage to the eyes, leading to early loss of contrast sensitivity, accounting for the greater likelihood of night time automobile accidents of smokers. This study sought to compare the contrast sensitivity measurements among smoking and non-smoking taxi drivers in Davao City. There were 60 participants gathered through purposive sampling, 30 of whom are smokers and 30 who are non-smokers. Visual acuity was first measured using the Snellen's Chart. Contrast sensitivity was measured using the Pelli-Robson Contrast Sensitivity Chart. Results show that there is no significant difference ($p>0.05$) between the contrast sensitivity measurements for both groups. Smoking has no significant effect on contrast sensitivity measurements on smoking taxi drivers, but other tests should be performed to confirm if there is indeed a decline of the contrast sensitivity function.

KEYWORDS: *Physiology, contrast sensitivity, chronic smoking taxi drivers, Snellen's chart, Pelli-Robson Contrast Sensitivity Chart, descriptive comparative research design*

PHYSIOLOGY

Peak Expiratory Flow Rate of 10 to 13 year-old Pupils Studying in Sixto Babao Elementary School and Bago Oshiro Elementary School

Amador, J., Cabatu, M., Chua, I., Dumanan, R., Embalsado, M., Galang, R., Kali, S., Mabang, N., Melanio, A., Penduma, I., Sala, A., and Taha, M.

COLLEGE OF MEDICINE

Worldwide, respiratory illness is the leading cause of mortality. More than half of this disease burden is borne by the population of developing countries. In the Philippines, acute lower respiratory tract infection is the first cause of morbidity and the third cause of mortality among children. This study was to determine the peak expiratory flow rate (PEFR) of children ages 10 to 13 years old from Sixto Babao Elementary School and Bago Oshiro Elementary School. A total of 57 participants were selected and their mean peak expiratory flow rates were measured. The participants were interviewed to determine age, sex, height and weight. The peak expiratory flow rate was measured using a peak flow meter, for three times with three trials for each participant. Results revealed that the participants from Sixto Babao Elementary School had a mean PEFR of 223.9, while those in Bago Oshiro Elementary School had a mean PEFR of 254.4. A significant difference ($p < 0.05$) was found between the two groups. Health awareness programs on risks of respiratory diseases must therefore be initiated.

KEYWORDS: *Physiology, Peak Expiratory Flow Rate, PEFR, schoolchildren, descriptive comparative research design*

PHYSIOLOGY

Pulmonary Function Test in Medical Students

Vernadette Adalin, Rodolfo Marie Isaguirre, Gabriella Pavino, Justin Lawrence, Gilbert B. Arendain, MD

COLLEGE OF MEDICINE

As part of their training in Medicine, first year students during cadaver dissection of the substance commonly used for odor and had reported a claim, this a cross-sectional function test (PFT) on 13) who were exposed to PEFR as measured by before exposure to the the Gross Anatomy (post-test 2); and 24 Repeated Measures of Way Analysis of Variance significant ($p < 0.05$) after the third hour of was greater in males after 24 hours. The can be attributed to the Analysis using Odds hours of exposure to Thus, strict implementation ventilation at the Gross

KEYWORDS: *Physiology, Pulmonary Function Test, PFT, medical students*

Pulmonary Function Test Results of First Year Medical Students Exposed to Formaldehyde

Vernadette Adalin, Roderick Aturdido, Jayzel Ballera, Irwin Capistrano, Diane Jane Dy, Bianca Marie Isaguirre, Gabrielle Nicole Limlengco, Kimberly Mamburam, Mikhail Olalo, Al Roger Pavino, Justin Lawrence Ramintas, Mary Grace Dawn Salvi May Solier, Dave Torrijos and Gilbert B. Arendain, MD

COLLEGE OF MEDICINE

As part of their training in the Davao Medical School Foundation College of Medicine, first year medical students are constantly exposed to formaldehyde during cadaver dissection at the Gross Anatomy Laboratory. This colorless substance commonly used for preservation of cadavers gives off a powerful pungent odor and had reportedly caused respiratory problems to students. To investigate the claim, this a cross-sectional study design was employed to analyze the pulmonary function test (PFT) results of 44 first year medical students (DMSF SY 2012-13) who were exposed to formaldehyde. The PFT included were FVC, FEV1 and PEFR as measured by digital spirometer. PFT measures were taken at four points: before exposure to the Gross Anatomy Laboratory (pre-test); after 90 minutes in the Gross Anatomy Laboratory (posttest 1); after 180 minutes in the laboratory (post-test 2); and 24 hours after exposure to formaldehyde. Analysis was done by Repeated Measures of Analysis of Variance (ANOVA), Independent T- test, One-Way Analysis of Variance and Odds & Risk Ratio. The results revealed a statistically significant ($p < 0.01$) decrease in values of FVC, FEV1, and PEFR of the students after the third hour of exposure to formaldehyde. Furthermore, the decline of values was greater in males than females, but both values returned to pre-exposure levels after 24 hours. The changes in the PFT across time for both males and females can be attributed to the acute effects of formaldehyde to pulmonary function test. Analysis using Odds and Risk Ratio noted that there is a strong association between hours of exposure to formaldehyde and the occurrence of respiratory restriction. Thus, strict implementation of continuous use of protective gears and appropriate ventilation at the Gross Anatomy Laboratory must be implemented.

KEYWORDS: *Physiology, pulmonary function test, formaldehyde, medical students, cross-sectional*

NURSING

Views on Teenage Pregnancy of Young Badjaos of Davao City, Philippines

Bankas, S.M.M., Cabrera, J.P.M., Ozoa, J.P., Porras, M.L.M., Quico, S.I., Salvador, D.J.B., and Sarosos, R.J.

COLLEGE OF NURSING

Teenage pregnancy continues to be one of the most difficult reproductive health issues, especially among the poorest of the poor in the third world. This descriptive study determined the views on teenage pregnancy among young Badjaos in Davao City. Ten female Badjaos aged 13 to 19 years old were interviewed. Results showed that all had experienced early pregnancy as early as 13 years old (mean age at first pregnancy is 14.8 years). Eight were married and claimed their pregnancies to have been planned. Getting pregnant was influenced by their culture, and by family members, peers or neighbors. All of them said that their early pregnancies were difficult but they were accepted and helped by their parents. Nine agreed that prenatal check-up is important, but only 7 had sought consultation in the health center. Seven were ignorant of complications during pregnancy.

KEYWORDS: *Nursing, teenage pregnancy, views, Badjao, descriptive, Philippines*

NURSING

Knowledge Management Santiago, B

Gonzaga, K.A., Suralita, J.,
Jamiana, J.J., Escobar, J.

COLLEGE OF NURSING

Purok Santiago, from the city proper household survey was the residents on solid household heads were that vegetable peeling cans (71.7%) are not (92.8%) are non-biodegradable the residents claim garbage bins (43%) defective devices (36%) the sanitary napkins leaves (48.8%). They animal manure (30.3%)

KEYWORDS: *Nursing, descriptive, knowledge management*

Knowledge and Practices on Solid Waste Management among Residents of Purok Santiago, Barangay Indangan, Davao City

Gonzaga, K.A., Sucaldito, A.M., Loquellano, G.X., Molina, S.M., Villarin, J., Puerto, A., Untalan, B., Jamiana, J.J., Escobal, J.P., and Magsipoc, R.J.

COLLEGE OF NURSING

Purok Santiago, Barangay Indangan, Davao City is more than 10 kilometers from the city proper and is rarely serviced by garbage collecting trucks. This household survey was conducted to describe the knowledge and practices of the residents on solid waste management. Using a survey questionnaire, 166 household heads were interviewed. Results showed that the residents knew that vegetable peelings (94%) and tree twigs (71.7%) are biodegradable; tin cans (71.7%) are recyclable; and, candy wrappers (95.8%) and broken glass (92.8%) are non-biodegradable. In terms of solid waste management practices, the residents claimed that they disposed their residuals in biodegradable garbage bins (41%); they either recycled or sold the plastic bottles (62%), defective devices (90.4%), tin cans (94%), and newspaper (69.3%); burned the sanitary napkins/diapers (39.8%), candy wrappers (33.7%) and withered leaves (48.8%). They also said that they buried the dead animals (58.4%), animal manure (81.9%), and vegetable peelings (57.8%).

KEYWORDS: *Nursing, solid waste management, knowledge, practices, descriptive, Philippines*

Infection Control Compliance of Dental Student Clinicians of a Dental School in Davao City

Asentista, G., Fabular, C.K., Gallardo, C.C., Halipa, H. and Hipolito, J.

COLLEGE OF DENTISTRY

This is a descriptive study to determine the compliance of dental clinicians to infection control practices. Thirty student clinicians were observed for a month as they performed 120 treatment cases in the different clinical sections. In 81 percent of the treatment cases, the clinicians were observed to don complete personal protective equipment, with those in the Prosthodontics Section wearing scrub suits instead of gowns. Keeping the hands clean through improved hand hygiene is also important. However, only in 9 percent of the cases were the clinicians observed to properly wash their hands; the rest did not wash or washed only with water. Protective barriers in all contact surfaces is also important to protect the surfaces from splashes and other contaminants during treatment, but only in 6 percent of the cases were the clinicians observed to put protective barriers. Only 4 percent disinfected the surfaces before putting the barriers.

KEYWORDS: *Dentistry, dental clinicians, infection control, personal protective equipment, hand hygiene, protective barriers, descriptive study*

Written Lab Partial Dental Technicians

Buendia, A.L., Canlas, J.

COLLEGE OF DENTISTRY

It is the dentist's duty to assure the quality and it is the technician's duty to the dentist's authorization. This study was made by dentists and 11 dental laboratories. The names and addresses of the laboratories; 27.3 percent did not indicate the names and addresses; also did not show the direct retainers (54.5%), shade (36.4%), type of metal (36.4%).

KEYWORDS: *Dentistry, dental technicians, partial dentures, written lab, quality assurance*

Written Laboratory Prescription for Removable Partial Denture Received by Dental Technicians from Dentists in Davao City Proper

Buendia, A.L., Cabillar, E., Mascardo, K.C., Sowik, V.B., and A.K. Sta. Ana

COLLEGE OF DENTISTRY

It is the dentist's obligation to write a meaningful laboratory prescription to assure the quality and accuracy of the dental prosthesis to be fabricated; and it is the technician's responsibility to create the prosthesis according to the dentist's exact specifications as evidenced by the laboratory work authorization. This study was to determine the contents of the prescriptions made by dentists in Davao City proper. One hundred ten prescriptions from 11 dental laboratories were studied. Results show that 8.1 percent did not have the names and addresses of the dentists; 60.9 percent did not have the license numbers; 27.3 percent did not have dates of prescription; and, 33.6 percent did not indicate the dates when the prosthesis was due. The prescriptions also did not show the major connectors (69.1%), minor connectors (98.2%), direct retainers (54.5%), indirect retainers (100%), rests (93.6%), pontics (18.2%), shade (38.2%), denture base and type of acrylic (46.4%), and the type of metal (86.4%).

KEYWORDS: *Dentistry, dental technicians, laboratory prescription, removable partial denture, content analysis*

Antibacterial Activity of Oil Extract from Marang (*Artocarpus odoratissimus*) Seeds Against *Escherichia coli* and *Staphylococcus aureus*

Johannis, C.A.R., Rabanes, A.B., and Tan, S.L.

Extracts from plants of the genus *Artocarpus* have been reported to contain inhibitory properties against several species of bacteria. This study aimed to determine the effect of oil extracts from marang (*Artocarpus odoratissimus*) seeds against *Escherichia coli* and *Staphylococcus aureus*. Oil extracts were obtained using three different solvents (acetone, ethanol and methanol). *E. coli* and *S. aureus* were streaked onto plated Muller-Hinton Agar medium and subjected to four different treatments, namely: ethanol extract, methanol extract, acetone extract, and distilled water (negative control). The plates were kept in an incubator (37°C) for 24 hours, after which the degree of antibacterial activity (zone of inhibition) was determined. Results show that the methanol and acetone extracts had the capacity to inhibit the growth of *S. aureus*, with the methanol extract having the highest antibacterial activity. None of the extracts were able to inhibit the growth of *E. coli*.

Keywords: Biology, *Artocarpus odoratissimus*, marang, oil extract, *Escherichia coli*, *Staphylococcus aureus*

Malnutrition in Childhood Children Age 2 Central 2

Deiparine, K.L.L., and

Malnutrition remains a common childhood problem. The prevalence of malnutrition in the Waterlow Classification of common childhood malnutrition, fever, vomiting and 60 months old was 56% are stunted. Mildly wasted and of children have malnourished children least once for the severely malnourished well-nourished.

KEYWORDS: Child

Malnutrition and the Prevalence of Common Childhood Disease Symptoms among Children Aged 0-60 Months Old in Purok Central 2

Deiparine, K.L.K., and K.M.C. Gentapan

Malnutrition remains a major risk factor for morbidity and mortality among children worldwide. It renders children more vulnerable to developing common childhood illnesses. This descriptive study aimed to determine the prevalence of malnutrition among children aged 0 to 60 months old, using the Waterlow Classification system of wasting and stunting, as well as the prevalence of common childhood disease symptoms, including cough, coryza, fever, vomiting and diarrhea. A complete enumeration of children aged 0 to 60 months old was done and anthropometric measurements, including height and weight, were obtained. Results showed that 30% of the children are wasted, 56% are stunted. When further categorized, a big percentage of children is mildly wasted and stunted. On the other hand, a relatively low percentage of children have moderate to severe wasting and stunting. Majority of the malnourished children experienced common childhood disease symptoms at least once for the past year. Furthermore, children who are moderately and severely malnourished experienced these symptoms more than those who are well-nourished.

KEYWORDS: *Child health, malnutrition, childhood diseases, descriptive study*

From Birthing Facility to the Home: The Story of Three Mothers

Tupas, A.D., Uy, C., Uy Choa Khao, S., Vega, S., and Wonosantoso, A.

The World Health Organization in 2008 revealed that 358,000 women die every day due to pregnancy and childbirth-related complications. Most maternal deaths can be avoided when women have access to adequate health care, are handled by skilled health workers, and have access to emergency obstetric care. In the Philippines, 62 percent give birth at home and are assisted only by either a traditional birth attendant or a midwife. In a local survey in Sitio Davao Gulf, Barangay Tamugan, Marilog District, Davao City, 55 percent of the mothers had given birth at home. This qualitative study was done to determine why mothers still prefer to deliver at home, even after they had experienced delivery at hospitals or lying-in clinics. Using a qualitative method of study design, three mothers who had experience of both giving birth in a hospital or maternity clinic and at home were selected. The main findings of this study revealed that mothers preferred delivering at home because of the following reasons: economic practicality, precipitous labor and lack of access to health services, perceived need for traditional birth attendants, need for autonomy, care, comfort and convenience, continuity of care, and faith in God. The recommendations by the mothers consist of the following: reconsider the important roles that traditional birth attendants have in the community, reassess the possibility of opening an extensive training program for traditional birth attendants in partnership with the local midwives and physicians, and strengthen the health sectors' effort on education and information campaign.

KEYWORDS: *Maternal health, birthing facility, home birth, qualitative study*

Experiences with 10 Children

Santiago, M.R.T., Tan, A.

Family Planning has been a key component of the Philippines' health policy. The Philippines has one of the highest prevalence rates of contraceptive use in the world. It is predicted that it will continue to grow. However, it is difficult to understand the reasons for this. An attempt to space and limit births was revealed through a study which revealed that the decision was influenced by the attitudes of relatives, and influenced by the effects of large families on health. Data revealed that family planning, resorting to abortion, she used had its own risks on the failure of women's contraceptive relationship. She also revealed that she sometimes experienced assignment imposed on her.

KEYWORDS: *Family planning, contraceptive use, abortion, women's health*

Experiences of a Reproductive-Aged Mother with 10 Children

Santiago, M.R.T., Tan, R.K.E., Tiang, S.N.M. and E.S.R.A. Tinapay

Family Planning has a direct influence on maternal health and mortalities. The Philippines has employed a number of strategies to increase the contraceptive prevalence rate (CPR) to 60 percent by 2015. However, current statistics predict that it will take a longer time to reach this target. There is a need to understand the birth control experience of Edna, a mother of 10, in her attempt to space and limit her pregnancy. The study used an in-depth interview which revealed the respondent's experience with family planning and how it was influenced by her beliefs and practices, relationship with husband and relatives, and information and knowledge on such. The study also covered the effects of large family size to childbearing, relationship with husband and health. Data reveal that Edna exerted effort to use different methods of family planning, resorting to several types of contraception. Each individual method she used had its own reason for failure. Her husband had the greatest impact on the failure of whatever method she tried due to his indifference towards contraception, desire for a large family, and attitude towards their sexual relationship. She claimed that some methods had disagreeable side effects and that she sometimes did not bother with contraception when her husband's job assignment imposed temporary physical separation upon the couple.

KEYWORDS : *Reproductive health, family planning, in-depth interview, qualitative research*

Success of the Under-Five Day Care Feeding Program in Barangay Marapangi

Joaquin, J.C.B.V., Callos, K.L.A. Callos, Tan, J.V., and Asotigue, R.P.

This descriptive study evaluated the effectiveness of the supplementary daycare feeding program in Barangay Marapangi, Toril, Davao City in combating malnutrition. The first supplementary feeding program organized by the City Social Services and Development Office was done from June 13, 2012 until November 13, 2012. The daycare feeding program enrolled children ages 3-5 years old regardless of their nutritional status. Data from the day care center were analyzed by the researchers and showed positive results. In terms of weight-for-age, there were originally 57 (95%) preschoolers who were of normal nutrition status and that was increased to 59 (98.3%) by the end of the feeding program. Only 1 (1.7%) remained malnourished, classified as overweight. In considering height-for-age, 7 (11.7%) were considered stunted before the start of feeding, and by the end of 5 months, there were no longer stunted. The number of tall children also increased by 2 (3.4%) from 7 (11.7%) to 9 (15%). In weight-for-height, 54 (90%) children were considered normal, 3 (5%) were wasted, 2 (3.3%) severely wasted and 1 (1.7%) overweight. By the end of the feeding program, the number of normal children in terms of weight-for-height increased to 58 (96.7%) and there were no longer severely wasted children. Two (3.4%) children remained malnourished, however, 1 was still wasted and the other still overweight. The mean weight gain of the 60 children was 838 g., with the malnourished children gaining a mean of 1010 g. while the children of normal nutrition status gaining a mean of 800g.

KEYWORDS: *Nutrition, feeding program, effectiveness, weight for age, height for age, descriptive study*

Non-Utilization of Postnatal Care by Women Who Delivered in Barangay Marapangi

Pulong, S., Velez, S., and Asotigue, R.P.

Based on the health survey conducted in the Philippines, 45 percent of women who delivered in the government health facilities did not utilize quality postnatal care. In a study conducted in New Lajog, Barangay Marapangi, Toril, Davao City, that five out of ten women who delivered in the health center did not utilize postnatal care. This descriptive study was conducted to determine the non-utilization of postnatal care by women who delivered in the health center. Narrative description of the barriers to postnatal care was obtained from each respondent. The barriers to postnatal care include lack of knowledge, lack of time, and lack of resources.

KEYWORDS: *Postnatal care, barriers, non-utilization, women who delivered in the health center*

Non-Utilization of Postnatal Care among Women Who Gave Birth in Sitio New Lajog, Barangay Marilog

Pulong, S., Velesrubio, A.L.M., and Viado, J.R.S.

Based on the health statistics from the Department of Health (DOH), Philippines, 45 percent of maternal mortality is due to other pregnancy-related complications occurring in the course of labor, delivery, and puerperium. Seventeen percent is due to post-partum hemorrhage. Despite the efforts of the government to improve postnatal care among mothers, poor utilization of quality postnatal care services remains. In Region XI, 94 out of 181 (52%) of mothers who delivered were not able to obtain quality postnatal care. In Sitio New Lajog, Barangay Marilog, Marilog District, Davao City, it was revealed that five out of ten mothers did not avail of the postnatal care services. This descriptive study was aimed to identify and describe the barriers leading to the non-utilization of quality postnatal care services among these five mothers. Narrative descriptions were made after gathering the data via interview of each respondent. Results showed that the main barrier for the utilization of postnatal care services was the lack of awareness among mothers. Other barriers include socio-economic status and the lack of perceived need for post-natal care.

KEYWORDS: *Maternal Health, non-utilization, postnatal care, descriptive study*

<http://www.boston.gov>

<http://science.sagepub.com>

stop-worrying and

<http://www.elsevier.com>

<http://www.stallman.org>

<http://library.mcd.com>

<https://www.google.com>

```
try+&log=dev
```

ac.1.64

KEYWORDS: Reproductive Health, contraceptive use, cross-sectional study

PHOTO CREDITS

<http://www.homeremediess.com/centella-asiatica-medicinal-uses-and-pictures/>

<http://scienceblogs.com/insolence/2015/07/16/mouse-magic-or-how-lab-mice-learned-to-stop-worrying-and-trust-the-healing-energy/>

<http://www.ahwla.org.uk/site/tutorials/BVA/BVA08-Rabbit/Rabbit.html>

<http://www.stuartxchange.com/Cujete.html>

<http://library.med.utah.edu/WebPath/HEMEHTML/HEME001.html>

https://www.google.com/search?site=&tbm=isch&source=hp&biw=1320&bih=656&q=dentistry+&oq=dentistry+&gs_l=img..3..0110.2184.6424.0.7161.10.9.0.1.1.0.147.642.0j5.5.0....0...1ac.1.64.img..4.6.626.1ZyaT5UENhc