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Enhanced Antitumor Activity of DHMEQ, a NF-κB Inhibitor, on Cholangiocarcinoma Cell Lines by Decreasing the Expression of ABC Transporters

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Background and Objective: Cholangiocarcinoma (CCA) is markedly resistant to chemotherapy and has a dismal prognosis, but its mechanism of drug resistance is unknown. Several reports have indicated that nuclear factor-kappa B (NF-κB) is constitutively activated in a variety of cancer cells and play a key role in their growth, metastasis and chemoresistance. In the present study, we examined whether NF-κB involved in resistance to anticancer drugs of CCA and whether dehydroxymethylepoxyquinomicin (DHMEQ), a NF-κB inhibitor, can overcome this resistance.

Methods: CCA cell lines were treated with DHMEQ and/or chemotherapeutic drugs and examined for cell viability by MTT assay, apoptosis by IN Cell Analyzer and ABC transporters expression by real time PCR.

Results: NF-κB inhibition by DHMEQ significantly enhanced anti-tumor activity of 5-fluorouracil, cisplatin and doxorubicin. A combination of chemotherapeutic drugs and DHMEQ exerted a significantly enhanced cell death. Furthermore, ABCB1 mRNA level was significantly decreased in DHMEQ treated group.

Conclusions: These findings suggest that the supplementation of DHMEQ in combination with chemotherapeutic drugs enhances the chemoresponsiveness of CCA cells and serves as a potential sensitizer, especially in chemoresistant cell lines.

Keyword: DHMEQ, NF-κB, Cholangiocarcinoma
Costs Analysis of Continuous Ambulatory Peritoneal Dialysis Patients with the Universal Health Coverage Program of Renal Service Center, Srinagarind Hospital, Faculty of Medicine, Khon Kaen University

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Background and objective: High cost of treatment in various diseases affects hospital budgeting and management. Continuous ambulatory peritoneal dialysis (CAPD) is one of chronic treatment which caused high expenses. The purpose of this study was to perform unit cost analysis of CAPD patients with the universal health coverage program (UHCP) of Renal Service Center, Srinagarind Hospital, Faculty of Medicine, Khon Kaen University.

Methods: Quantitative Research with various cost as treatment, diagnostic, nursing etc., were done by retrospective study of total 68 patients in 2011. The analyzed cost was compared with the received compensation from the National Health Security Office (NHSO).

Results: The results revealed that total charged cost of CAPD patients with UHCP was 10.49 million baht. However, the total compensate revenue from NHSO was only 3.34 million baht. For details, about 79.43% of the charged cost was obtained from diagnostic laboratory (29.80%), medicine (25.03%) and others (including of radiology, anesthesia, operation and nursing and medical services (24.60%). Higher costs of the treatment were caused by more re-visits of complicated patients than the limitation of NHSO.

Conclusions: In this study the main expenses of total charged cost of CAPD patients with UHCP were much higher than compensate income as 7.15 million baht in the fiscal year 2011. Then further investigation and details of cost management should be performed in order to reduce the cost with remained of standard treatment.

Keywords: Cost, Continuous Ambulatory Peritoneal Dialysis, CAPD
The Incidence and Risk Factors of Perioperative Complications Related to Anesthesia in Geriatric Patients

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**Background and objective:** Number and complexity of elderly patients presenting for anesthesia is increasing. The aims of this study are to identify the incidence and risk factors of perioperative complication in geriatric patients (age ≥65 years) who underwent anesthesia in order to improve the quality of anesthesia service.

**Methods:** Retrospective descriptive study was conducted between January 1, 2010 and December 31, 2011 in Srinagarind hospital. Medical charts and anesthetic records were reviewed. Univariate factors related to perioperative complications were analyzed. Multivariable Logistic Regression for risk ratio was used to investigate independent factors with significant association to perioperative complications. A forward stepwise algorithm was chosen. A p-value < 0.05 was considered as statistically significant.

**Results:** 4,695 anesthetic records were reviewed. 3,621 geriatric patients underwent surgery receiving anesthesia. Incident reports were 395 (860:10,000). The incidences, after excluded minor complications, were cardiac arrest (19.3%), arrhythmia needed treatment (12.8%) and dental injury (9.2%). Patient’s conditions were the most common etiologic factors of perioperative events in severe case. Common period when incidences occurred was 2-24 hours postoperative (58.5%). The most common contributing factor was inexperience, lack of vigilance and emergency condition. Minimizing factors were vigilance, comply with guidelines and having experience.

**Conclusions:** Overall incidences were higher than previous studies. Risk factors were female gender, ASA 3-5, underlying myocardial ischemia, thrombocytopenia, sulfa-drug allergy, taking antihypertensive drug, perineal operation, combined general anesthesia with regional anesthesia including turning failed regional anesthesia to general anesthesia, operative time > 2 hours, as well as, orthopedic and plastic surgery.

**Key words:** Geriatric, perioperative complication; incident and risk factors.
Morphological Study of Cervical Pedicles using 3D Reconstruction Imaging Created by MIMICS® 10.01 Software

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Background and objective: Malpositioning of cervical screws risks neurovascular injury. A cervical screw fixation system can provide proper rigidity, alignment correction and high rates of fusion afforded by high pullout biomechanical strength. Knowing the pedicle morphology at each cervical vertebra is therefore necessary for determining the safest insertion method.

Objective: To assess the dimensions and axis of the C3-C7 cervical pedicles to create guidelines for cervical pedicle screw fixation.

Methods: A 1-mm slice thickness CT scan of the cervical spine of 30 patients (15 males, 15 females) were analyzed and reconstructed in 3D using MIMIC® 10.01 software. Morphologic assessments of the cervical vertebrae were thereafter undertaken. We measured pedicle axis length (PAL), pedicle and lateral mass length (PL-LM), pedicle length (PL), outer pedicle width (OPW) and pedicle transverse angle (PTA) from the axial image and outer pedicle height (OPH) and pedicle sagittal angle (PSA) from the sagittal image.

Result: The OPH and OPW at all subaxial cervical spines were suitable for insertion of 3.5 mm cervical pedicle screws. PSA was directed cranially at C3 to C5 (13.84, 7.09 and 2.71) and directed caudally at C6 and C7 (-4.55, -6.94). PTA was greatest at C5 and smallest at C7. The respective difference between the left and right side for nearly all parameters was not statistically significant (except for C6 PL and C7 OPH). Females had a significantly smaller OPH and OPW than males at nearly all level. The PTA was not significantly different between the sexes.

Conclusion: Cervical pedicle screw fixation in the Thai population can be safely performed and guidelines for insertion at each vertebra documented. Appropriate preoperative planning is necessary to achieve safe and accurate placement of the screws.
Incidence of Febrile Morbidity after Laparoscopic-Assisted Vaginal Hysterectomy in Srinagarind Hospital

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Background and objective: Postoperative fever is the most commonly reported adverse event and prophylactic antibiotics were used in all cases. The objective of this study was to assess the incidence of postoperative febrile morbidity and the cost of laparoscopic assisted vaginal hysterectomy (LAVH) in Srinagarind hospital.

Methods: Medical records of women with benign gynaecologic conditions who underwent laparoscopically assisted vaginal hysterectomy between 1 June 2007 and 31 May 2012 at Srinagarind hospital were reviewed. The data extraction were recorded to the case record forms in order to assess their baseline characteristics, the number of post-operative febrile morbidity, and possible related risk factors, and their expenditure during hospitalization.

Results: A total of 199 LAVH procedures were performed from 1 June 2007 to 31 May 2012. The study revealed that mean age 46 ± 6 years, BMI 24.02 ± 3.18 kg., the mean number of child birth was 2 ± 2, the mean duration of the operations were 134 ± 52 minutes, estimated blood loss 259 mL, the postoperative hospital stay 5 ± 2 days. Major intraoperative complications occurred in 3 cases: bladder injury in 1 case (0.5%) bowel injury 1 case (0.5%). Major long-term complications occurred in one case were ureterovaginal fistula. (0.5%). The antibiotic usage: one type in 156 cases (78.39%), two types in 38 cases (19.9%), and three type in 5 cases (4.52%). Single dose-preoperation in 26 cases (13.6%) 1 day-postoperation in 51 patients (25.63%) 3 days-postoperation in 103 cases (51.76%) 5 days-postoperation in 12 cases (6.03%) and postoperation 7 days in 7 cases (3.52%). Postoperative febrile morbidity after LAVH were 31 cases (15.58%) and causes of postoperative fever: Unknown origin 29 case (14.57%) surgical site infection 1 case (0.5%) UTI 1 case (0.5%).

Conclusion: Although prophylactic antibiotics were used in all cases, this study revealed that high incidence of febrile morbidity after laparoscopically assisted vaginal hysterectomy in Srinagarind Hospital.

Keywords: postoperative febrile morbidity; laparoscopically assisted vaginal hysterectomy
Mammographic Density and Metabolic Syndrome in Climacteric Women

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Background and objective: The metabolic syndrome is associated with an increased risk of breast cancer. However, there has been limited data regarding the risk in Asian countries. This study aims to evaluate whether the metabolic syndrome is associated with an increase in percent mammographic density, which is a breast cancer risk.

Methods: A study design is cross-sectional analytical study. A total of 761 climacteric women of ages between 40-70 years were included in our study. We performed general physical examination, blood test and mammogram for all women. These women were then classified according to AHA/NHLBI into two groups; such as having metabolic syndrome and no metabolic syndrome. A skilled radiologist read and categorized mammographic density of every included woman into four groups: 1-25%, 26-50%, 51-60%, and 61-100%. We used ordinary logistic regression and mixed model to examine the associations of metabolic syndrome and components of metabolic syndrome to percent mammographic density.

Results: The prevalence of metabolic syndrome in our study was 17.9%. The most common ranges of mammographic density in climacteric women with and without metabolic syndrome were 0-25% and 76-100%, respectively. When adjusting for body mass index, we found the inverse association between metabolic syndrome and percent mammographic density. In addition, after controlling for body mass index, the inverse associations were also demonstrated between percent mammographic density and every criterion of metabolic syndrome; such as blood pressure, fasting plasma glucose, triglyceride, and HDL-cholesterol.

Conclusion: In our study, after controlling for body mass index, metabolic syndrome inversely associated with an increase in percent mammographic density. However, as the percent mammographic density is considered as an intermediate outcome of breast cancer, it is still inconclusive whether metabolic syndrome is a risk factor of breast cancer or not.

Keywords: Metabolic syndrome, Percent mammographic density, Climacteric women
Prevalence of Urinary Incontinence in woman after 6-week Postpartum Period

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Objective: To study the prevalence and risk factors of urinary incontinence in 6-week postpartum women.

Methods: Total of 363 women, aged 15 to 44 years, delivered in a University Hospital and scheduled for 6-week postpartum check up were recruited. Self-administration questionnaires and structural interview were used to collect baseline data. The quality of life was measured with a condition-specific validated instrument. Urine analysis was used to determine the urinary tract infection in the woman with postpartum urinary incontinence.

Results: The prevalence of urinary incontinence in 6-week postpartum women was 75 in 363 (20.66%; 95% CI 16.61, 25.19). Divided into three groups, stress incontinence 56, urge incontinence 2 and mixed incontinence 17. The 6-week postpartum urinary incontinence women affected her quality of life 89.3% (67 in 75). The urinary tract infection was detected 17.3% (13 in 75). Risk factors of postpartum urinary incontinence were: BMI more than 30 (OR 6.94; 95% CI 2.15, 22.42), baby head circumference more than 35 cm (OR 4.07; 95% CI 1.51, 10.95). Pelvic floor muscle exercise showed protective effect in postpartum urinary incontinence (OR 0.007; 95% CI 0.002, 0.025).

Conclusion: The prevalence of urinary incontinence in woman after 6-week postpartum period was high. BMI, baby head circumference and pelvic floor muscle exercise were contributing factors to postpartum urinary incontinence.
Prevalence of Urinary Incontinence in Pregnant Women at Tertiary Care Hospitals in Khon Kaen Province

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Background and objective: Pregnancy was claimed as the major risk of urinary incontinence. No existing data of urinary incontinence in Thai pregnant women. This study aimed to determine prevalence of urinary incontinence during pregnancy.

Methods: A total of 330 pregnant women, aged 15 to 43 years, attended antenatal care clinic at two tertiary care hospitals (Srinagarind and Khon Kaen) in Khon Kaen province between March and July 2013 were recruited. Self-administered questionnaires were used to collect baseline data and urinary symptoms.

Results: The prevalence of urinary incontinence during pregnancy was 59 in 330 (17.9%). Of this, forty (67.8%) pregnant women suffered from stress urinary incontinence, 27.1% from urge urinary incontinence. The risk factors for urinary incontinence on univariable analysis were multiparous (p = 0.004), age ≥ 35 years (p = 0.035), caffeine drinking (p = 0.001). But on multivariable analysis, the risk factors for urinary incontinence during pregnancy were multiparous (OR=2.317, 95%CI 1.295-4.147) and caffeine drinking (OR 3.087, 95%CI 1.553-6.135).

Conclusions: The prevalence of urinary incontinence during pregnancy was high. Multiparity and caffeine drinking contributed major risk factors.

Keywords: Urinary incontinence, Pregnancy
Menstrual Pattern in Upper Secondary School Students, Khon Kaen, Thailand

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Objectives: to determine the prevalence of menstrual patterns and effects of menstrual bleeding on academic and daily life activities of the upper secondary school students.

Methods: This study is cross-sectional study. Students enrolled in three upper secondary schools of Khon Kaen, Thailand. A total of 339 secondary school students were randomly selected and asked to respond to an anonymous questionnaire. Only students who had already started menstruating were requested to participate in. Information was collected by a questionnaire which composed of items on demographic data, menstrual patterns, impact of menstruation academic and daily life activities and related menstrual symptoms.

Results: Three hundred and thirty nine students whose ages between 15 and 19 years, were surveyed. Their mean age of menarche was 12.3 ± 1.1 years. The menstrual cycles of 75.0 % of them (n=254) were regular and the rest (n=85) were irregular. There were four patterns of menstrual irregularity. The prevalence of oligomenorrhea, polymenorrhea, menorrhagia or hypermenorrhea and metrorrhagia were 9.4 % (n=8), 35.3% (n=30), 17.7 % (n=15) and 37.6 % (n=32), respectively. Academic and daily life activities such as poor classroom concentration 48.2% (n=41), school absenteeism 8.2% (n=7), limited sport activity 42.3% (n=36) and limited social activities 27.6% (n=23) were interfered. False negative of surveyed student's perception of abnormal menstruation was 17.8 %. The first consultant of their menstrual irregularity was their mother in 90.6 % (n=307), the second order was to search for knowledge from internet and social medias 22.67% (n=77), only 0.8 % (n=3) asked their teacher who given menstrual health program. The other symptoms related with menstruation such as dysmenorrheal 86.4 % (n=292), irritability 82.0% (n=278), tired feeling 56.3 % (n=191), breast tenderness 51.8% (n=172), anxiety 26.2% (n=89) and headache 33.0% (n=112).

Conclusion: Abnormal menstrual bleeding is common in menstrual disorders; however, the first order is dysmenorrheal. Menorrhagia and polymenorrhagia had high prevalence. Academic as well as daily life activities and missing perception of normal menstruation were affected. Consequently, health promotion programs in secondary school should be provided for improving the menstrual health.

Keywords: Menstrual pattern, Adolescent, Menorrhagia, Polymenorrhea, Menorrhagia or hypermenorrhea, Oligomenorrhea
Outcome of Antenatal Hydronephrosis in Srinagarind Hospital

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Background and Objective: Antenatal hydronephrosis (ANH) is a condition of fetal renal pelvic dilatation during pregnancy. It is detected in 1-5% of all pregnancies. Most of ANH are physiologic but some are pathologic and can cause morbidities. The aim of this study is to determine the causes of ANH and factors correlated to complications and surgical requirement in patients with ANH.

Method: We reviewed the medical records of infants who were diagnosed with ANH, defined by renal pelvic anteroposterior diameter e" 5 mm. from antenatal ultrasonography, and followed up in Srinagarind hospital.

Result: Forty-six infants (32 males and 14 females) with ANH were identified. 56.5% of patients were inborn. The two most common causes of ANH were uteropelvic junction obstruction (34.8%) and transient hydronephrosis (23.9%). Of those 64 kidneys, 53.1% needed surgical intervention. Twenty-two patients (47.8%) had urinary tract infections and most of them occurred more than 1 episode. None of patients had chronic renal failure but one died due to lung hypoplasia. Severity of ANH and time of first postnatal ultrasonography were related to complications and surgical requirement. Comparing between transient and non-transient hydronephrosis, more severe ANH was significantly correlated with non-transient hydronephrosis.

Conclusion: Most of ANH are pathologic and half of them required surgical treatment. Severe ANH and delayed investigation were associated with poor outcomes.

Keyword: Antenatal hydronephrosis, complication, surgery, cause
Brainstem Gliomas in Children at Srinagarind Hospital

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**Background and Objective:** Incidence of brainstem gliomas in children is occurred approximately 15% of central nervous system tumor. Outcome of treatment is 20-30% of 5-years survival rates irrespectively aggressive chemotherapy or radiation. Role of surgery is not possible due to location of tumor. This study aims to review and determine prognostic factors of brainstem glioma.

**Methods:** We retrospectively reviewed children diagnosed with brainstem glioma confirmed by magnetic resonance imaging of brain between Jan 1, 2002-Dec 31, 2011.

**Results:** Forty-three cases (1.5:1 male:female ratio) were reviewed with mean age of 7.33±3.48 years. Mean duration of symptoms prior to diagnosis was 1.45±1.62 months. The most common initial presentation is ataxia, following presentations with headache and weakness. The most common neurological findings is long tract sign, following findings with facial palsy and weakness. The most common location is pons with size more than 2 cm. (42 of 43) and diffuse pattern of tumor (38 of 43). Tissue diagnosis was performed 14% with results as follows; pilocytic astrocytoma (1), diffuse astrocytoma (2), anaplastic astrocytoma (2), and glioblastoma multiforme (1). Treatment included 37 cases receiving cranial irradiation (complete 67%, incomplete 33%), 19 cases underwent surgery (VP shunt insertion 16, tumor biopsy 6), and five cases receiving chemotherapy. Complications of treatment included aspirated pneumonia (8), obstructive hydrocephalus (8), seizure (3), urinary tract infection (3), infected VP shunt (2) and diabetic insipidus (2). Outcome of treatment are death (88%) and alive (12%). Mean survival time is six months and 5-year survival rate is 10.5%. Progressive free survival is 2 months. None of prognostic factors including size, age, pathology, location, and treatment is associated with outcome.

**Conclusions:** Outcome of brainstem gliomas is still unfortunate despite adequate treatment compared to previous literature. Mean survival time and 5-year survival are similar to previous literature.

**Keyword:** Brainstem glioma, radiotherapy, chemotherapy, surgery
Rate and Reasons for Cancellation of Elective Surgery at Srinagarind Hospital

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**Background and Objective:** Cancellation of elective surgery leads to an inefficient use of operating room time and a waste of resources. It can also affect patients and their families in terms of cost and emotional involvement. This study aims to determine rate and reasons for cancellation of elective surgery at Srinagarind hospital.

**Methods:** This prospective descriptive study in elective surgical patients whom were scheduled between June 1, 2012 and September 30, 2012 at Srinagarind hospital. The total number of patients as well as the number of cancellation cases were daily recorded. The reasons for cancellation were explored by interviewing the surgeons, anesthesiologists and scrub nurses who were responsible in the cancellation case. The reasons were divided into three groups according to the main factors; group 1: patient’s factor, group 2: doctor’s factor and group 3: hospital service’s factor.

**Results:** Cancellation was recorded in 81 out of 4,016 patients scheduled for elective surgery which resulted in 2.02% (95% CI: 1.6%-2.5%) cancellation rate. Most of the cases were from department of general surgery. The main reasons for cancellation were from doctors (87.7%), patients (11.1%) and hospital services (1.2%). List overrun was the most common reason in the doctor group while, in the patient group, the reason were associated medical problems which were fever and infection.

**Conclusion:** The cancellation rate of elective surgery was 2.02% at Srinagarind hospital. List overrun was the most common reason. Although the cancellation rate was low in comparison with the reported rates worldwide, the reductions might be achieved by appropriate strategies to prevent unnecessary cancellation.

**Keywords:** Surgical cancellation, Surgical postpone
**Sophora Japonica** Agglutinin Reveals Aberrant Glycosylation in Cholangiocarcinoma

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**Background and Objective:** Cholangiocarcinoma (CCA), a malignancy of bile duct epithelia, is a rare cancer worldwide but has high incidence in Khon Kaen province, Thailand. Most of CCA patients are diagnosed at late stage with distant metastasis and poor survival. Aberrant glycosylation has been demonstrated in many cancers including CCA. The aberrant glycans and glycoconjugates were reported to be the markers for diagnosis and prognostic prediction of the cancer.

**Method:** We determined the expression of N-acetylgalactosamine (GalNAc) in CCA patient tissues using *Sophora japonica* agglutinin (SJA), a GalNAc binding lectin by lectin histochemistry.

**Result:** The SJA histochemistry showed that SJA-binding glycoconjugates (SBG) were highly detected in hyperplastic/dysplastic bile ducts (81.3%, 26/32) and neoplastic bile ducts (77.3%, 34/44) but was not detected in normal bile ducts, hepatocytes and the infiltrating cells. The SJA histochemistry of *Opisthorchis viverrini* (OV) associated CCA hamsters revealed that the abnormal bile ducts of the OV-infected, NDMA-treated, and OV-NDMA groups expressed SBG as early as one month post-treatment. No SBG was detected in normal bile duct epithelia of non-treated group. This information suggested that SBG may associate with carcinogenesis of CCA. SJA histochemistry of hepatocellular carcinoma tissues (HCC) was performed to validate the specificity of SBG. In contrast with CCA, most of HCC tissues (92.3%, 12/13) showed negative staining for SBG. This evidence suggested the potential of using SBG to differentiate CCA from HCC.

**Conclusion:** SBG was defined in abnormal bile ducts and may be used as biomarker for early detection of CCA and differentiating CCA from HCC.

**Key word:** Lectin, Biomarker, SJA, Carbohydrate antigen, Glycoconjugate, Glycosylation
Knowledge about Blood Donation among the Clinical-year Medical Students of Khon Kaen University

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Background and objectives: The Clinical-year medical students who are working closely with the patients should have a working knowledge of blood donation. This study aims to determine the proportion of the clinical-year medical students on their general and clinical knowledge of blood donation and to determine the relationship between general and clinical knowledge of blood donation.

Methods: This was a descriptive study, setting in the Faculty of Medicine, Khon Kaen University, Thailand. The study population was 113 clinical-year medical students, randomly sampling from the total number of 441and self-administered questionnaire were used. Results were presented as descriptive statistics and inferential statistics included Pearson Chi-Square, Linear by Linear Association and Kruskal-Wallis test.

Results: Response rate was 100%. The survey showed, proportion of good knowledge on general knowledge about blood donation was 74.3% (95%CI: 65.1, 81.9). There was 7.1% of sample had good level, 76.1% had fair level and 16.8% had poor level of knowledge on clinical knowledge about blood donation. There was 54% of sample blood donation. This study found statistically significant between knowledge on general blood donation (p <0.05) while there was no statistical significant between clinical knowledge about blood donation (p >0.05)

Conclusions: Most of the clinical-year medical students known general knowledge and fair level in clinical knowledge of blood donation. Level of general knowledge of blood donation was significantly associated with donating, but no statistical significant between clinical knowledge about blood donation.

Keyword: knowledge, blood donation, medical students
Stroke Knowledge of OPD Patients in Srinagarind Hospital

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Background and objectives: Stroke is the second most common cause of death in Thailand and deters enormously the quality of life of survivors. People should know the signs and risk factors of stroke. This study aims to evaluate the level of knowledge of OPD patients about the signs, risk factors, and severity of stroke and to identify factors that may have impact on stroke knowledge.

Methods: This study was descriptive study, setting in Srinagarind Hospital, Khon Kaen, Thailand. A systematic sample, sample size calculation reveals 100 samples were out patients receiving care at the internal medicine outpatient department were surveyed with a structured questionnaire. Data were analyzed using descriptive statistics included frequency, percentage, mean, SD, median, IQR and 95% CI.

Results: Response rate was 100%. Stroke knowledge regarding signs had a median score of 6 (IQR 3.75) out of 10. The most common sign was speech difficulty and hemiparathesia (72%). Stroke knowledge regarding risk factors had a median score of 9 (IQR 4) out of 13. The most common risk factor noted was lack of exercise (84%). Knowledge regarding time to hospital at 270 minutes was 51% (95%CI 41.35-60.58) and identified 1669 as the emergency number at 24% (95%CI 16.69-33.23). Mass media at 34% was the most common source of information for health education. Higher salary and education shows a trend for increase knowledge for stroke.

Conclusion: OPD patients have knowledge of signs and risk factors of stroke, but still lacked knowledge in the severity of stroke.

Keyword: Stroke knowledge, out patients
Incidences and Reporting vs Under-Reporting NSI and Exposure to Body Fluids among Medical Student’s Clinical Practice

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Background and objectives: Needle stick injury (NSI) or exposures to patients’ body fluids are the second most common work-related accidents among medical students and yet these are under-reported. This study aims to examine the incidence of NSI or exposure to patients’ body fluids among the 4th year medical students at Srinagarind hospital.

Methods: This study was descriptive study. There were 150 4th year medical students who worked in Srinagarind hospital during March 2012 -February 2013 completed the questionnaire. Data were analyzed using descriptive statistics included frequency, percentage, mean, SD, median, IQR and 95% CI.

Results: Response rate was 91.3% (137/150). The combined prevalence of NSI or exposure to body fluids was 52.6% (n=72) [95%CI 45.7, 63.2].The incidence of non-reporters was 65.3% (n=47) because they thought (a) the injury was not serious and the risk of severe infection was low (33.8%) (b) the laboratory result was negative (24.8%) or (c) the process is too cumbersome (24.1%). Over one-third (34.7%; n=25) [95%CI 24.1, 46.9] reported an incident because (a) they were afraid of severe infection (31.9%) (b) did not yet know the laboratory sample (23.6%) and (c) the laboratory result was positive (18.1%).

Conclusions: The incidence more than a half of population studies and two-third is under-reporting. The main reasons for under-reporting were the injury was not considered serious and the risk of infection was considered low. The factor most associated with reporting was fear of severe infection.

Keyword: Incidences, Needle stick injury, body substance, medical student
The Awareness about the Impact on Public Health Resulting from
Thailand Moving Towards ASEAN Community of Fourth to Sixth
Year Medical Students in a Hospital in Khon Kaen

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Background and objectives: As ASEAN moves towards
a unified community in 2015, awareness of the implications of the mobility of health professionals needs to be raised. This study aims to explore the level of awareness among the 4th- to 6th-year Thai medical students regarding the impact on public health in Thailand as a result of implementation of professional mobility within ASEAN. Methods: This study was descriptive study, setting in a hospital in Khon Kaen, Thailand. A systematic sampling of 185 from the population included the 4th- through 6th-year medical students in academic year 2013 were used. The study tool was self-administered questionnaire. Descriptive statistics were calculated using SPSS-PC v.17 (i.e., frequency, percentage, median, interquartile range, and the 95% CI).

Results: The response rate was 91.4% (169/185). The study showed that the median score on the cognitive component of the questionnaire was 5.00 from a total score of 10 (95% CI: 5.00, 5.41). The question answered most correctly was about the implementation timing to the AEC in 2015 (76.3%). The least awareness issue was the fact that Thailand’s public health will depend on ASEAN socio-cultural policy (5.4%). The issue of most concern was the wide spread of communicable diseases (80.5%). The issue of the least awareness was the potential lack of specialists (42.0%) if specialists move away from rural to urban.

Conclusion: Medical students had an intermediate level of knowledge about facts relating to the policy and a high level of awareness of the potential health system problems regarding the coming implementation of the ASEAN community.

Keywords: Medical student, Awareness, ASEAN community
The Prevalence of Office Workers with Musculoskeletal Disorders in Faculty of Medicine, Khon Kaen University

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Background and objectives: Musculoskeletal symptoms are common among office workers. Still there is no information of its prevalence at the Faculty of Medicine, Khon Kaen University. This study aims to estimate the 12-month prevalence of self-reported musculoskeletal symptoms and their health behavior among office workers of the faculty of Medicine, Khon Kaen university.

Methods: This study was descriptive study, study setting in Faculty of Medicine, Khon Kaen University, Thailand. The study population comprised of 648 office workers working at the Faculty on the days when sampling was done. The sample size was 240. SPSS PC ver.17 was used to analyze and report the following descriptive statistics: frequency, percent, median, inter-quartile range, and 95% CI.

Results: The response rate was 76.3%. The prevalence of office workers at the faculty with work-related musculoskeletal disorders over the last year was 89.3%. The most common problem areas were neck (65.3%), shoulders (63.3%) and lower back (47.3%). The region which most affects work performance were shoulders (41.9%), lower back (35.1%) and neck (33.3%), respectively. The reported methods using to relieve the symptoms are resting, changing position, stretching or taking a walk (74.3%), and using balm (60.3%).

Conclusion: The musculoskeletal disorders occur in every nine out of ten office workers in the Faculty and the symptoms are having a deleterious effect on work performance. The most affected regions are in the midline of the body more than the extremities.

Keywords: Musculoskeletal disorder, Office Worker