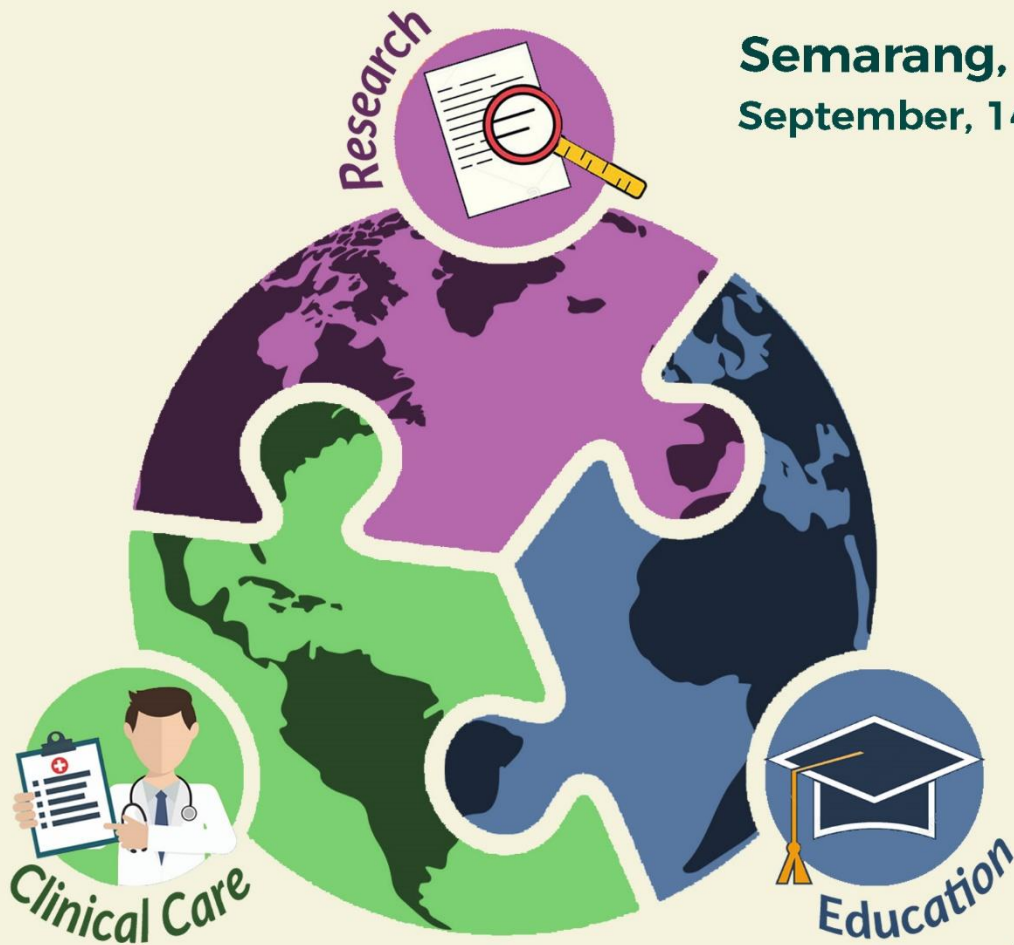




PROCEEDING

**2ND INTERNATIONAL CONFERENCE ON TRANSLATIONAL MEDICINE
AND HEALTH SCIENCES (ICTMHS)**
in conjunction with
**4TH JAVA INTERNATIONAL
NURSING CONFERENCE (JINC)**

Semarang, Indonesia
September, 14th-15th, 2018



**"Creating a Better Future of Health Care:
Partnerships in Research, Education, and Clinical Care"**

PROCEEDING

2nd INTERNATIONAL CONFERENCE OF TRANSLATIONAL MEDICINE AND
HEALTH SCIENCES

in conjunction with

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Proceeding of 2nd International Conference of Translational Medicine and Health Sciences in
Conjunction with 4th Java International Nursing Conference 2018

“Creating Better Future Health Care: Partnership in Research, Education and Clinical Care”

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Collaboration or partnership is a term which is often used in the fields of research, clinical practice and health professional education. Collaboration occurs when two or more people work together to achieve common goals and shared outcomes. Collaboration includes a commitment to reciprocal relationships to achieve certain goals and is developed in conjunction with mutually supportive resources. Research, education and clinical practice are interrelated; research informs education, which in turn will affect the provision of care to patients.

In the area of health, it is believed that collaboration leads to better health services and improves patient satisfaction. Science is the foundation for providing quality service to patients and research is one of the means of doing so. The complexity of patient problems nowadays requires inter-professional collaborations among the health professions since the problems may not be solved when a profession is working alone. Collaboration in research occurs when researchers from more than one profession or disciplines work together to achieve common goals in generating new scientific findings.

Collaboration in the health services occurs when two or more people from multidisciplinary areas work together to solve the problems of the patients comprehensively. This collaboration may occur when each individual mutually respects and contributes according to his/her position to create a conducive environment to optimize the patient's health. WHO states that the health workers who perform collaborations in caring for patients will gain more success in resolving complex patient problems. Collaborations in health services are useful for improving the skills to provide comprehensive care, developing innovations and creativity, and focusing more on patient-centered care.

Collaboration in education or known as inter-professional education (IPE) occurs when two or more students from multidisciplinary studies learn together on a particular topic and jointly solve the case. Collaborations in education does not only occur in the university contexts but also in the clinical practice areas. These collaborations are closely related. IPE is part of the professional practice before the health workers implement it in the healthcare services.

The international conference which focuses on “Creating a Better Future of Healthcare: Partnership in Research, Education, and Clinical Care” is a way to create successful collaborations among the health workers. The conference also aims to introduce the public that the Faculty of Medicine Diponegoro University is committed to creating harmonious collaboration between health workers, including doctors, nurses, nutritionists, pharmacists, and dentists.

Organizing Committee

2nd INTERNATIONAL CONFERENCE OF TRANSLATIONAL MEDICINE AND HEALTH SCIENCES *in conjunction with* 4th JAVA INTERNATIONAL NURSING CONFERENCE 2018

“Creating Better Future Health Care: Partnership in Research, Education and Clinical Care”

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Welcome message

First of all, thanks to **Almighty Allah**, the most merciful, beneficent and compassionate, for His blessing that this conference could be held today.

I would like to express my greatest gratitude to Prof. Dr. Yos Johan Utama, S.H., M.Hum; Rector of Diponegoro University, Prof. Dr. dr. Tri Nur Kristina, DMM., M.Kes.; Dean of Faculty of Medicine Diponegoro University, Prof. Dr.rer.nat Heru Susanto, S.T., M.M., M.T.; Director of LPPM, dr. Ahmad Zulfa, Sp.And., Ph.D, vice dean of research and innovation Faculty of Medicine for all of their kind supervision during the preparation of this event. I would like to express my sincere gratitude to all of the committee members for all of your hard work, kind help, and best effort as a solid team work, by which this event can be held successfully today. I would like to thank all of the honorable speakers for your willingness to come and give lectures here, and all of participants from various institutions in the world. Welcome to **2nd International Conference on Translational Medicine and Health Sciences (ICTMHS) in conjunction with 4th Java International Nuraing Conference 2018**. It is a great pleasure to have all of you here in Semarang Indonesia, on this September 14-15, 2018.

ICTMHS is an annual routine program that began in 2017 initiated by the faculty to support the university's vision of becoming a world class university. Nursing, a part of the faculty of medicine, has previously held international nursing conferences since 2010. This time we are together to support UNDIP as a research university by organising this event. The theme of this conference is "Creating a Better Future of Healthcare: Partnership in Research, Education and Clinical Care". The focuses of this conference are Interprofessional Education and Research, Collaborative Practice, Translational Medicine, and Nutrition, Dietetic and Food. This is an interesting theme that invites all health workers to unite to increase collaboration in various aspects to produce quality services. Through this conference, we hope to contribute in introducing and educating the scientific community on the nowadays advance in medical and health sciences. As a major goal of this event, we hope that it can be an excellent chance to discuss interesting ideas and develop fruitful project in the future, network opportunities with old and new colleagues, coordination new partnerships which advance collaboration either about the research field or not, as well as the careers of all participants.

Please enjoy your participation in ICTMHS-JINC 2018 and have a great experience during your stay in Semarang.

Wish you the best in all your work.

Ns. Reni Sulung Utami, S.Kep.,M.Sc

Organizing Chairperson

Praise to the God Almighty for the International Conference on Translational Medicine and Health Science (ICTMHS) in conjunction with Java International Nursing Conference (JINC) 2018, Faculty of Medicine Diponegoro University and I are very excited for this event and we welcome to all of the participants and speakers to this event.

The special acknowledgement, I address to the distinguished speakers dr. Bambang Wibowo, Sp. OG(K), MARS from Ministry of Health Republic of Indonesia, dr. Soetedjo, Sp.S(K) from The Indonesian Medical Association, Prof. Sandra Capra, PhD, FDAA from The University of Queensland-Australia, Prof. Dr.dr Kristina, DMM., M.Kes from Diponegoro University-Indonesia, Prof. Dra. Setyawati, M.App.Sc., Ph.D from Faculty of Nursing University of Indonesia, Fiona Miller from Griffith University-Australia, Lybrich Kramer from Hanze University-The Netherland, Anne Hyre from Jhon Hopkins University-United States of America, Kjara Bernadette V. Agatep from St. Paul University-Philippines, Dr. dr. Mexitalia Setiawati, Sp.A(K) from Diponegoro University-Indonesia, dr.JC. Susanto, Sp.A (K) from Diponegoro University-Indonesia

I am very grateful for your willingness to attend and share your knowledge to us. Faculty of Medicine Diponegoro University has a vision to be the centre for medical and health sciences. ICTMHS is an annual routine program that began in 2017 initiated by the faculty to support the university's vision of becoming a world class university. Nursing, a part of the faculty of medicine, has previously held international nursing conferences since 2010. This time we are together to support UNDIP as a research university by organising this event. The theme of this conference is "Creating a Better Future of Healthcare: Partnership in Research, Education and Clinical Care". This is an interesting theme that invites all health workers to unite to increase collaboration in various aspects to produce quality services.

I hope, from this event we will increase the number of Faculty of Medicine and Diponegoro University's international publications as well as promoting international collaboration. I wish that this event will give a big contribution on sharing knowledge and information about medical and health sciences for the academic members, researchers and all of the participants. I also would like to appreciate to all of the committee members for their effort and hard work so that this event can happen.

Once again, welcome to the International Conference on Translational Medicine and Health Science (ICTMHS) in conjunction with Java International Nursing Conference (JINC) 2018. I hope that all of you enjoy your stay at Semarang and we will see you again on the next event.

Prof. Dr. dr. Tri Nur Kristina, DMM, M.Kes
Dean of Faculty of Medicine
Diponegoro University

Assalamulaikum Warahmatullahi Wabarakatuh

Praise goes to the most merciful God Allah SWT for the blessings of life and knowledge for us to gather in this meaningful occasion.

It is a great pleasure and honour for our University to be the host of 2nd International Conference on Translational Medicine and Health Sciences (ICTMHS) in conjunction with 4th Java International Nursing Conference (JINC). The special acknowledgement, I address to the distinguished speakers dr. Bambang Wibowo, Sp. OG(K), MARS from the Ministry of Health Republic of Indonesia, dr. Soetedjo, Sp.S(K) from The Indonesian Medical Association, Prof. Sandra Capra, PhD, FDAA from the University of Queensland-Australia, Prof. Dr.dr Kristina, DMM., M.Kes from Diponegoro University-Indonesia, Prof. Dra. Setyawati, M.App.Sc., Ph.D from Faculty of Nursing University of Indonesia, Fiona Miller from Griffith University-Australia, Lybrich Kramer from Hanze University-The Netherland, Anne Hyre from Jhon Hopkins University-United State of America, Kjara Bernadette V. Agatep from St. Paul University-Philippines, Dr.dr.Mexitalia Setiawati, Sp. A(K) from Diponegoro University-Indonesia, and dr.JC. Susanto, Sp.A (K) from Diponegoro University-Indonesia. Thank you for the valuable time to deliver knowledge and share scientific information at this conference. I believe that this opportunity will provide the valuable information for us and deliberate some new research ideas for participants of this conference.

For all participants, I would also like to welcome you at this conference. The origin of the conference theme is reflected from the idea of our Center of Excellence (CoE) which was established in 2012 representing our priority as a research university. Since the declaration of Diponegoro University as a research university, the main theme of every research result will be enhanced to the level of international benchmarking. Diponegoro University, has strong human resources and research background related to translational medicine and health sciences. It is also supported by laboratory such as Center for Biomedical Research.

The theme of this conference is "Creating a Better Future of Healthcare: Partnership in Research, Education and Clinical Care". This interesting issue needs to be discussed in this conference by sharing research findings and ideas. Therefore I believe this international conference will be able to present an interesting discussion with prominent speakers from Indonesia, Australia, Netherland, United States of America and Philippines, giving a contribution to the development of science and hopefully will encourage more research on this area.

I am grate full to see that this conference has enormous responses from the participants either from domestic or from other countries. The number of publication indexed by reputable database has been set as an indicator for world university rank including Indonesia. Therefore, Diponegoro University also encourages all scientists and academic staffs to increase their publication records in these international reputation journals.

Currently, Diponegoro University is in the 7th position among universities in Indonesia for the number of publications in reputable international journals. The number of Undip scientific

Welcome message

publications indexed in Scopus is 2350 documents. I sincerely express appreciation to the organizing committee for their effort to realize this conference. By the end of my short welcome address, I hope our foreign guests take advantage of their stay here to enjoy our beautiful city, Semarang.

Finally, once again I would like to convey a warmest welcome to all the distinguished guests and participants of the conference. Diponegoro University is giving the best to assist you in every way, therefore please enjoy our hospitality and have a delightful experience in the conference.

Wassalamulaikum Warahmatullahi Wabarakatuh

Thank you for your kind attention.

Prof. Dr. Yos Johan Utama, S.H., M.Hum

Rector of Diponegoro University

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Implementation Inter-professional Education in the Community

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ABSTRACT

Within higher education, interprofessional education (IPE) is increasingly being incorporated into undergraduate health curricula. Professional health students may have some placement experience of interprofessional practice in clinical settings.

It is essential that IPE incorporate with a range of community relationships. However, there are few opportunities for students to develop an understanding of the possibilities for interprofessional practice within community settings. Undergraduate students from various health disciplines need to have experiences to work together on a community-based health initiative to provide group activities for increasing community health.

IPE in the community has been implemented for 3 years in the Faculty of Medicine Diponegoro University. Each year, almost 500 of 6th semester medical, nursing, and nutrition students participated in this program during one semester. They have to identify family health problems, implement interventions and evaluate the result of their interventions. In correlation with the program of local health government, small group of students was attached to 1 family that had pregnant women and they have to work together to improve health of family member.

This program resulted positive perception among students especially in the aspect of learning environment and team work ability. Close collaboration and partnerships with key stakeholders have been identified as lesson learned of our successful IPE program in the community setting.

Nutrition during the first 1000 days of life

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ABSTRACT

All over the world, children grow up in different settings. With different cultural habits, different songs, different food. Nevertheless, during the first 1000 days, all children have similar needs to become chubby, with smiling eyes and optimal opportunities.

This presentation sets off with a short introduction to the contemporary nutritional advices for the first 1000 days of a child's life. This entails among others nutrition of the woman before and during pregnancy, duration of exclusive breastfeeding and choices in complementary feeding. WHO states in their latest report on the SDGs that 72 countries in the world face childhood stunting, 95 countries face overweight in adult women and 125 face anemia in women of reproductive age. 29 of these countries face all three of the burdens of malnutrition. These figures show that the nutritional status of women, infants and children is compromised all over the world, with all the harm that this may imply. It has become apparent that the outer layers of the social determinants of health model, the more distant determinants, have a large impact on health: determinants impacting on living conditions seem to be responsible for three quarters of our health problems.

After you have been introduced to the complex reality of malnutrition, it becomes clear that all sectors need to work together to help a child, his or her mother and their community to achieve optimal growth. A couple of evidence-based courses of action for researchers, for medical professionals as well as for government planners will be given, to set off improving the prospect of children. To make it possible for them to become healthy thriving adults, free to add to their family and community wellbeing and free to help increase the prosperity of your beautiful, plentiful, rich country.

Fail to thrive and to overcome

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ABSTRACT

Linear growth faltering or stunting on early life children in low and middle-income countries remains a persistent global health challenge. Most of postnatal stunting happens between birth and 24 months of age. Stunting affects all life stages, decreasing survival in infancy, poor cognitive, motor, and socio-emotional as well as development educational accomplishment in childhood and economic productivity in adulthood. Stunted children do not reach their full growth potential and become stunted adolescents and adults.

There are some thresholds for concern about faltering growth in infants and children. However, considering the birth-weight, fall across 1 or more weight centile spaces, can be classified as failed to thrive. Besides, if the children length or height is below more than 2 centiles spaces compared with predicted of parental heights, be aware that this could suggest under-nutrition or a primary growth delayed. By using measurement of BMI for children over 2 years of age, be aware of the under-nutrition or small build if the BMI is below the 2nd centile.

To make intervention for faltering of growth, be established a management plan together with parents or caregiver with specific goals for every infant or child. This plan could include assessments or investigations, interventions, and clinical or growth monitoring when reassessment to review progress and achievement of growth goals should happen. Provide feeding support and encouraging the feeding rules including an avoiding coercive feeding and establishing regular eating schedules, as well as setting environment and procedures of feeding for the children. Using dietary fortification by energy-dense foods, oral liquid nutritional supplement, or enteral tube feeding for infants and children with faltering growth, only when considering if there are serious concerns about weight gain and it needs an appropriate specialist for multidisciplinary assessment and monitoring.

Interventions to Prevent Stunting in Early Life

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ABSTRACT

The first 1000 days of life are the most decisive times for the child's future. This period is very short compared to all human life. However, at this time very rapid growth in the physic and brain occurs, so the occurrence of growth delay in this period can determine the future of the child. Height in children aged 24 months has reached 50% of adult height, even the brain has reached 65% of the adult brain volume.

Symptoms that can be seen easily are stunting, or slowing growth that occurs early in life so that it determines the child's future. Children who suffer from stunting at the end of the first 1000 days of life, will experience symptoms of delayed in growth & development, and disease or metabolic problems. Stunting at the end of the first 1000 days of life has a permanent impact. Therefore, early detection of growth delays is very important and can be prevented from before conception until the age of 24 months (this period is called a window of opportunity). Intervention to prevent stunting must be carried out early and comprehensively. Interventions are differentiated into nutrition-specific and nutrient-sensitive interventions. Nutrition-specific interventions include the form of adolescent health, family planning, antenatal care, breastfeeding, complementary feeding, management of malnutrition, growth monitoring and promotion.

In this way and involving all healthcare workers with the target of women before pregnancy until the baby is 24 months of age will reduce stunting rate and improves quality of human resources.

Stunted Growth among Children in Cabagan Isabela; A Population- Based Cross-Sectional Study

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ABSTRACT

Introduction: This study assessed the prevalence and risk factors associated among stunted, wasted and underweight children among aged 0–24 months in the town of Cabagan Isabela with 30 barangays.

Methods: A cross-sectional population-based study using a multistage, proportionate to size sampling was conducted from 2012 to 2017. A structured questionnaire was used to collect socio-demographic, economic, feeding and child information. Anthropometric data were collected by trained Barangay Health workers, and the data were used to assess child nutritional status. A total of 1500 children were enrolled in this study.

Results: The prevalence of children classified as underweight was 46.0%, stunting was 41.9%, and wasting was 24.7%. About 33% were both underweight and stunted, and 12% had all three conditions. In a multivariate logistic regression, child age, child being ill and birth weight were associated with all anthropometric indices. Child being breastfed was associated with being underweight and wasting. Mother's education was associated with being underweight and stunting. The prevalence of child undernutrition is high in this region.

Conclusion: Strategies that target each risk factor for child undernutrition may help to reduce the problem in the region.

Keywords: underweight; stunting; wasting; breastfeeding; child illness; malnutrition

Dietetics in Maternal Emergency

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ABSTRACT

Science tells us that the “first 1000 days” is the window of opportunity if we are to manage long term malnutrition, strengthen the immune system, improve economic well-being and reduce the burden of diet related chronic diseases. Nutrition professionals must act as we can have a major effect in achieving positive outcomes.

There is a complex, interacting system involving morbidity, infections, age and other demographic parameters, socio-economic status and education as well as genetics. The material must be synthesized and translated into practical actions.

Diabetes in pregnancy is associated with increased risk and controlling diabetes at all times is crucial. Nausea and vomiting has a profound effect on women's health and quality of life during pregnancy. The risk from excessive and prolonged vomiting is that there can be weight loss, Wernicke's encephalopathy and the exacerbation of any underlying malnutrition. Excessive vomiting with dietary change can also affect gut microbes or microbiota known to be associated with poor mental health. Hypertension and pre-eclampsia remain common. An emerging area is particulate matter in the air leading to adverse pregnancy outcomes. Moreover, the role that nutrition can play in reducing the oxidative stress and chronic inflammation that occur.

Dietetics professionals have to intervene at all stages from pre-pregnancy through to postpartum if we want assist in protecting mothers and infants. Newer concepts such as the microbiome and oxidative stress add to the food insecurity and malnutrition issues.

Keywords: Dietetics professionals; vomiting; malnutrition; microbiome

Capacity Building Approaches to Create Effective Teamwork in Obstetrics Emergencies

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ABSTRACT

Labor and delivery process can be a fast paced, quickly changing environment where clear communication and excellent teamwork are important. Communication and teamwork deficiencies have been identified as major contributors to poor clinical outcomes in the labor and delivery unit.

The fundamental management of critical clinical emergencies needs a rapid coordinated response by multiprofessional teams. It is known that some teams unsuccessful to manage clinical emergencies optimally because of poor team working, which can result in permanent harm and medical litigation. The relationships between team performance and team behaviours, including leadership, communication and task allocation should be an integrated component of continued quality-improvement efforts to ultimately produce teams of experts that perform proficiently.

Some of strategies to create capacity building in teamwork is the use of simulation-based team training (SBTT). The method is rapidly becoming an integral part of quality-improvement initiatives in many labor and delivery units, and has become an effective tool to reduce global maternal and perinatal morbidity and mortality. The other part teamwork in obstetrics emergencies cases has not built by improvement in health provider skill competency in teamwork itself but the management team in health facilities also has a main role to support the effectiveness work process in one team. By recognizing, mutual collaboration between management team and health service provider in supporting their role in emergency cases, it can improve team-work performance to manage better outcome in obstetrics emergency.

Perception, experience and expectation of pregnant women about emergency care during pregnancy and labor

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ABSTRACT

Introduction: Obstetrical emergencies are life threatening medical condition that occurs during pregnancy, labor, or the post- partum period. Globally, every year an estimated 287,000 women die of complications during pregnancy or childbirth. There are a variety of obstetrical emergencies of pregnancy that can threaten the well-being of both mother and child. Obstetrical emergencies are the leading causes of maternal mortality worldwide particularly in developing countries. Government has implemented some programs, but the maternal mortality as well as infant mortality remains high. A proper program to solve this problem that based on the needs and expectation of women is needed. The aim of the study was to identify and explore the experience, perception and the expectation of pregnant women of the emergency in pregnancy and labor.

Methods: This study was a qualitative approach with a phenomenology design involving eight pregnant women in Depok West Java participated in this study.

Results: The result found six themes namely: Minimal knowledge and attitude toward emergency in pregnancy and birth among women, anxious and fear in dealing with emergency effect especially for their baby; women do not know how to deal with emergency situation; women need support especially from family and professionals; expectation for more professional care; women expectation of knowledgeable, caring and friendly nurses in nursing care.

Conclusion: This study recommended for further study which implementation protocols reproductive emergency for health providers by taking account the needs of women.

Keywords: Emergency; pregnancy and labor; pregnant

The Quality of Health Care Services and Referring in Maternal Emergency: Based on EMAS

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ABSTRACT

An increasing number of women and families are accessing hospitals and Puskesmas for normal childbirth and the management of emergencies. This session will describe quality of clinical care and quality of referrals, based on data from the EMAS program. The session will also outline steps that can be taken to improve quality of care and referrals in order to improve response to maternal emergencies.

Functional Outcome, Cognitive and Coping in Stroke Ischemic Survivors after Three Months Onset: Comparison between Post Stroke Depression and Non-Post Stroke Depression Groups

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ABSTRACT

Introduction: The functional outcome, cognitive, and coping were correlated with PSD among stroke survivors after three months onset. Studies comparing cognitive, functional outcome and coping between ischemic survivors after three months onset who are experiencing PSD and who are not were not well established. This study aimed to compare the functional outcome, cognitive, and coping between PSD and Non-PSD in Stroke Ischemic Survivor after three months onset and to demonstrate Odd Ratio

Methods: It was cross sectional study, which was conducted in outpatient services. The questionnaires were GRID-HAMD 17 for measuring PSD, Mini Mental Status Examination (MMSE), Barthel-Index (BI) and Medical Coping Modes Questionnaire (MCMQ). Statistical analysis was Mann-Whitney U was used to analysis the total score and crosstab was used to demonstrate the odd ratio. The ethical approval was obtained from faculty and hospital ethics committee.

Results: We involved 77 stroke ischemic survivors after three months onset. The prevalence of PSD was 58.5. The MMSE ($z=-2.37$, $p=.001$), BI ($z=-2.39$, $p=.016$), coping confrontation ($z=-2.583$, $p=.01$) and coping acceptance resignation ($z=-3.115$, $p=.002$) in PSD and Non-PSD groups were significantly different. Meanwhile, coping avoidance ($z=-1.385$, $p=.165$) was not significance. Stroke ischemic survivor with MMSE <27 ($p=.19$, OR=3.279, 95%CI 1.061 - 10.135), BI ≤ 60 ($p=.014$, OR=5.333, 95%CI 1.402 - 20.292), high score coping confrontation ($p=.17$, OR=.3.536 95%CI 1.352 - 9.247) and low score coping acceptance resignation score ($p=.006$, OR=5.165 95% CI 1.687 - 15.815) was risk for experiencing of PSD. Meanwhile coping avoidance ($p=.326$, OR=1.759, 95%CI, .704 - 4.384) was not.

Conclusion: This study has provided good estimates for the exposure rate of cognitive, functional outcome and coping among stroke ischemic survivors after three months onset with PSD. This study suggests important initial insights for complex nursing interventions.

Neurology Impacts Related on Mercury Intoxication, From In-vivo to Population Studies in Indonesia

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ABSTRACT

Introduction: Mercury (Hg) is a well-known neurotoxicant and rank among the priority metal that was reported to cause central nervous system damage in human. The effects of Hg intoxication are related with various neurology disorders. While high dose of Hg cause cell death, the neurology impacts on low dose are not well understood. Our studies are focus on neurology impacts related on low dose of Hg intoxication, from in vivo to population studies in Indonesia.

Methods: The experimental study with post-test only control group was conducted using male Balb/c mice, age 8-9 weeks old. Different non-toxic doses of MeHg were induced to mice, from 0, 0.05, 5, and 10 mg/kgbw/day, and the neurobehaviour effect was investigated. The population study was conducted in 42 male potato farmers in volcanic area, aged 18-59 years old, who had long-term pesticide exposure (at least 2 years). A cross-sectional study using hair samples was conducted to know the correlation between hair Hg level with neurocognitive effects. Memory functions were measured using memory impairment screen (MIS) instrument. Data were analyzed using Mann-Whitney and Chi-Square test.

Results: Intoxication of low-dose Hg was significantly correlated with ataxia symptom, while mice group with 10mg dose showed more earlier than 5mg group. Three mice in 10mg groups were died after having severe ataxia symptom. The concentration of pro-inflammatory cytokines (IL-6, MIP-2, and MCP-5) were higher in group treated with Hg than negative control group. In the population study, we found that 11 participants were detected having memory function impairment and significantly associated with increased hair Hg level (Hg>0.464 ppm; $p<0.044$).

Conclusion: The low dose of Hg could cause ataxia disorder in mice, and the increasing hair Hg levels are associated with memory function impairment in Indonesia's volcanic area population. Intoxication of Hg, even at low concentration has neurology impacts in in-vivo to human studies. Further studies are needed to check other natural heavy metals exposure influence in the community living nearby volcanic area.

Keywords: Low dose mercury; hair mercury; ataxia; memory function impairment

Optimizing Intervention for Perinatal Women with Management Cortisol

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ABSTRACT

Perinatal depression is depression that occurs in pregnant women up to 12 months postpartum. Cortisol is a biomarker marker which is a glucocorticoid steroid hormone. The role of cortisol in pregnancy is correlated with a momentary mood state. The role of cortisol in labor related to maternal / fetal health. Increased cortisol levels in early postpartum associated with high-risk postpartum depression and inhibit milk ejection. Decreasing cortisol levels at the end of postpartum associated with high-risk postpartum. Cortisol management aims to maintain cortisol levels at normal levels. The interventions to optimize cortisol are massage, mindfulness and exercise. Some research shows that can reduce cortisol levels and mindfulness on pregnant women can reduce cortisol levels.

Keywords: cortisol; massage; mindfulness; perinatal depression

Stress Level and Coping Strategies in Elderly in Nursing Homes

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ABSTRACT

Background: One of the psychological problems often experienced by elderly in the nursing homes is stress. Stress can arise from changes or problems in physical, psychological, and social. The level of stress experienced by each elderly is different influenced by both internal and external factors. Stress in the elderly can affect the disruption of physical condition, psychological, until the daily activities. Adult self-adjustment to stressors that arise is diverse, so that the strategy of coping every elderly is also different. This study aims to determine the description of stress level and coping strategy of elderly in Nursing Home in Semarang City.

Method: The research method used is descriptive quantitative research with approach cross-sectional. The sampling technique used was total sampling with 95 respondents. The data were collected using the questionnaire Stress Assessment Questionnaire (SAQ) and Brief Cope.

Result: The results showed that 63 elderly (66.3%) had moderate stress. The adaptive coping strategies that frequently used by elderly are self distraction, using instrumental support, active coping, religion, acceptance, positif reframing. The maladaptive coping strategies that sometimes used are emotional support, venting, and self blame.

Conclusion: Nursing homes is suggested to help the elderly in improving their quality of life and to advise families to provide more support to the elderly.

Keywords : Elderly; stress level; coping strategy

Cognitive Disorder in Epilepsy Patients

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ABSTRACT

Epilepsy is a disease that has a large impact on cognitive integrity. The problem that often arises from this cognitive cognition is loss of attention, and memory impairment. This cognitive impairment is usually caused by several complex factors such as seizure etiology, age and onset of epilepsy, epileptogenic location (seizure focus), seizure duration, use of AED as well as psychosocial problems.

In Indonesia, the treatment of patient with epilepsy still requires a holistic approach so that the problem of rehabilitation of cognitive functions can be optimized. Data from our study found that patients with seizure-free had a significant difference in better cognitive function. This includes a significant change in verbal IQ after the patient undergoes surgery with a controlled seizure status.

Post-surgically treated patients after epilepsy surgery, rehabilitation program such as compensatory method is commonly used improve the cognitive function. This method allowed patients to have an alternative cope dealing with the information flow. Some simple techniques that can be done were mnemonic methods to practice how they overcame problem in the remembering process

Keywords: cognitive, memory; epilepsy; surgery

Finding The Link between Hyperuricemia and Atrial fibrillation and Its Potential Therapeutic Strategy

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ABSTRACT

As the most prevalent cardiac arrhythmia with high risk of mortality and morbidity, atrial fibrillation (AF) has been studied comprehensively, from its pathogenesis to its treatment. Clinical studies reported a strong association between the incidence of AF and the presence of hyperuricemia. Hyperuricemia has also been concluded to be associated with either paroxysmal or persistent AF. A retrospective analysis of Japanese subjects with hypertension, type-2 diabetes and cardiovascular diseases, as well as those healthy subjects revealed that hyperuricemia is a strong competing risk factor for AF.

Many attempts have been addressed into the exploration of the mechanisms underlying this association. The probable explanation for this association might include both inflammation-related and inflammation-independent pathway, which affect the structure of atrial muscle causing atrial remodeling, and/or the expression of ionic channels causing shortening of the action potential duration. Inhibition of xanthine oxidase to decrease serum uric acid (SUA) level, and nicotinamide adenine dinucleotide phosphate (NADPH)-oxidase to reduce intracellular oxidative stress might be useful strategies to prevent AF from occurring in hyperuricemic patients. As the intracellular urate is considered most important in AF pathogenesis, identification of uric acid transporters (UAT) expressed in the cell and developing a treatment which inhibits/promotes the activity of certain UAT might be plausible in hyperuricemia-induced AF therapy.

Life Skills as a Behaviour Change Strategy in The Prevention of HIV and AIDS in Central Java School

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ABSTRACT

The prevention of HIV and AIDS, especially amongst young people, is very important, as they are the future leaders. Indonesia carries a high burden of the HIV and AIDS disease, and efforts at the prevention of the disease need to be intensified. Students are also at risk, and prevention efforts need to be intensified to ensure that students graduate and enter the world of work to become productive citizens. Failure to pay attention to preventative behaviour amongst students may have negative socio-economic consequences for the country. The paper presents a quantitative study undertaken amongst students at the school, central Java.

The aim of the study was to explore the perceptions of students regarding life skills as a behaviour change strategy at Semarang. Data were collected by means of self-administered questionnaires and were analysed by using the Statistical Programme. The findings revealed that students have a need to attend life skills workshops, which are facilitated by trained student counsellors since they believe that the life skills training will assist them to be assertive and practise behaviours which will not make them vulnerable to the HIV and AIDS infection.

Enzymatically Modified Resistant Starch from Banana

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ABSTRACT

Eighty percent of colon cancer cases are related to the diet, 15% are caused by hereditary factors while the other comes from the environment and others. The high percentage of colon cancer related to the diet shows that colon cancer can actually be avoided. One component of foods that reported to be able to inhibit colon cancer is resistant starch (RS). RS is a part of starch that cannot be digested in the small intestine, but is fermented in the colon. The main fermentation products are short chain fatty acids (SCFA) which are acetic acid, propionate and butyrate. Butyrate is not only the main energy source for colonic cells but also inhibits the development of colon cancer cells. Bananas are foods that contain compounds that are not easily digested with high proportions, such as resistant starch. Several types of bananas, such as Batu Banana and Kepok Banana had higher content of type II RS compared to other types of bananas.

Type II RS content from fresh food ingredients can be converted into type III RS physically and enzymatically so that it can be used as a functional food ingredient for prevention of colon cancer. The enzymes that are often used for modification of type III RS are α -amylase and pullulanase.

Keywords: enzymatic resistant starch; banana

Nutriceuticals Encapsulation by Modified Liposome Study in Vitamin D3

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ABSTRACT

Liposomes are vesicular structures made of lipids and formed in aqueous solutions. Structurally, liposomes resemble the lipid membrane of living cells, thus the material is widely used as a carrier material for the protection or delivery of bioactive materials. Due to its unique nature, such as the ability to protect components from specific degradation and targeting, liposomes are widely utilized primarily in gene delivery, cancer and cosmetic therapies. To date the utilization of liposomes in food ingredient is very limited mainly due to the instability of food-grade liposomes in the human digestive tract. Vitamin D3 (VD3), a lipid soluble vitamin that is very sensitive to the environment as oxygen, and light. In recent study, VD3 was encapsulated by DPPC added by cholesterol to increase the stability of liposome and β -lactoglobulin as a protection layer for delivering VD3 to the target cells. The solubility of VD3 might decrease by the cholesterol related to the similar active site of cholesterol and VD3 to DPPC. Though, existences of β -lactoglobulin in the liposome could increase the solubility of VD3 in the system. Furthermore, the coating of β -lactoglobulin might decrease the leaking of vitamin D3 in gastrointestinal tract.

Keywords: Encapsulation; liposome; vitamin D3; β -lactoglobulin

Assessment of Inter-Professional Education

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ABSTRACT

Inter-professional Education (IPE) is one form of collaboration which can be practiced by students in delivery of health care services. IPE is defined as a learning process in which students from various health disciplines collaborate to provide health care services to patients, and the goal is to increase the quality of care. IPE is a process for students to learn how to collaborate and to communicate in delivery health care services. IPE needs to be conducted to build a culture of collaboration and communication. For that reason IPE needs to be introduced to the students as early as possible to facilitate them to work in teams and collaborate with other students from different disciplines.

Learning Outcomes (LO) or competencies were referred to Inter-professional Education Collaborative (IPEC), namely Values/Ethics for Inter-professional Practice, Roles/Responsibilities, Inter-professional Communication, and Teams and Teamwork.

Assessment has considerable potential to enhance learning. Assessment is a process that will drive students to learn and achieve the competencies or it is known as assessment drives learning. Students need to collaborate and to work in a team to achieve competencies. Assessment process of IPE must be created and be linier with learning outcomes since it helps students to evaluate the achievement of learning outcomes. Assessment consists of two components, namely assessment method and assessment tool or instruments which are developed from learning outcomes. Assessment is a measurement of students' performance. It must serve feedback for learning aspect such as, level of students' performance, effectiveness of the teaching situation, and appropriateness of the content input. Before using an instrument as an assessment tool, it is important to consider several points, for instance, what should be assessed? Why assess? Is it valid? Is it reliable? Is it feasible? Will it motivate the students to learn? Will it builds a healthy educational environment?

There are many assessment methods that can be applied to assess LO in IPE program, such as portfolio, sumative and formative assessment, and short answer questions. It will be better to invite many assessors such as multi sources feedback, cognitive assessment, and patient questionnaires. Furthermore, it is stated that Multi Source Feedback (MSF) is one of the assessment methods using questionnaires and involving a range of co-workers and patient feedback. Beside self and peer assessment, MSF can involve patients and supervisors as sources.

Caring in The Health Care Team to Improve Patient Safety Goals

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ABSTRACT

The six goals of patient safety have not been achieved optimally. Some of the problems that still arise are the lack of safety culture, attention and education for patients at risk of falls, and reporting systems. In addition there are still lack of knowledge, facilities and infrastructure, leadership, supervision, cooperation and communication among teams, and management support; and height of workload. To improve the achievement of patient safety goals, a concept is needed that involves various parties comprise leaders, all staff of inter dicipline, patient and family. The purpose of this study is to identify concepts that can improve the achievement of patient safety goals by involving various parties. The method used is the literature review.

The results of the review were analyzed and synthesized to examine the application of the concept to the phenomenon. The results of the study show that the concept of caring in the health care team has 4 dimensions, namely (1) caring leaders to staff; (2) caring among staffs; (3) caring staff to patients; and (4) caring staff to families. Each dimension of caring has 5 stages, namely knowing, being with, doing for, enabling and maintaining belief. The concept synthesis shows that caring for the health care team involves various elements comprise the leadership, staff, patients and families in accordance with the complexity of achieving patient safety goals.

The conclusion show that caring in the health care team can improve the achievement of patient safety goals.

LQT Syndrome Type 2: A Focus on the Enhancement of Mutant hERG Protein Expression

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ABSTRACT

Long QT syndrome 2 (LQT2) is characterized by prolongation of the QTc interval in electrocardiogram, and a high incidence of lethal arrhythmias. It is caused by mutations in the human ether-a-go-go-related gene (*hERG*) which give rise to unstable hERG proteins and low expression on the cell surface. Ubiquitin and proteasome have a responsibility on the mutant hERG protein degradation. Modulation of heat shock factor 1 (HSF1) and heat shock proteins (hsps) improved the protein trafficking defect through activating protein chaperone and inhibited proteasome related degradation. The HDAC6 inhibitor induced acetylation of hERG which counteracted ubiquitination leading its stabilization. All of those strategies increased protein expression on the cell surface and channel function, respectively. Thus may be a novel therapeutic for LQT2 patients.

The Effect of Cloud Ear Fungus (*Auricularia Polytricha*) on Lipid Profile on Wistar Rats Induced by Reused Cooking Oil

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ABSTRACT

Introduction: The usage of reused cooking oil affects the increase of serum total cholesterol (TC) and LDL, also the decrease of serum HDL. This condition escalates the risk of atherosclerosis, which could lead to the incidence of cardiovascular disease. Cloud ear fungus is a natural antioxidant that contains polysaccharides, flavonoids, niacin, and vitamin C, which can improve the lipid profiles. Objective of this research is to analyze the impact of water from boiled cloud ear fungus on total cholesterol, LDL, HDL, and TG levels of Wistar rats that have been given reused cooking oil.

Methods: This study is a true experimental research with post test only control group design, using 12 weeks-aged male Wistar rats (n = 24) that were randomly divided into 4 groups. K1 as the negative control, K2 was given reused cooking oil and standard diet, K3 was given water from boiled cloud ear fungus and standard diet, and K4 was given reused cooking oil, water from boiled cloud ear fungus and standard diet. Serum total cholesterol, LDL, and HDL levels were measured by the CHOD-PAP method after 28 days treatment.

Results: The study showed that TC mean value of K1 (80.2217 ± 3.61 mg / dL), K2 (195.8483 ± 5.47 mg / dL), K3 (75.5800 ± 4.02 mg / dL), and K4 (110.8683 ± 5.82 mg / dL); $p = 0.000$. LDL mean value of K1 (29.9200 ± 1.53 mg / dL), K2 (78.4167 ± 1.77 mg / dL), K3 (24.3167 ± 1.77 mg / dL), and K4 ($40,1617 \pm 2.84$ mg / dL); $p = 0.000$. HDL mean value of K1 (65.8950 ± 1.99 mg / dL), K2 (24.3233 ± 1.44 mg / dL), K3 (73.2300 ± 1.92 mg / dL), and K4 (54.9550 ± 2.04 mg / dL); $p = 0.000$. TG levels were also decreased significantly ($p < 0.05$) in the groups after they were treated by cloud ear fungus decoction water.

Conclusion: Water from boiled cloud ear fungus decreases the serum total cholesterol, LDL and TG levels, and increases serum HDL levels of Wistar rats that has been given reused cooking oil.

Keywords: Cloud ear fungus; Reused cooking oil; total cholesterol; HDL; LD; TG levels

The Social and Humanistic Nursing Technology Model to Enhance the Quality of Patient Care for Critically Ill Patients: A Feature Perspective

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ABSTRACT

An increasing critically ill patients in the hospital paired with an insufficient number of nurses in intensive care unit is a common problem in the healthcare system. It is needed a revolution idea to facilitate whether the technology used is incredible helpful the nurses. Therefore, those who do work in nursing will distant from stress and fatigue (Moneke & Umeh, 2013; Terry & Weaver, 2011), and will burden on nurses and improved quality of care for the patients (Tanioka, Osaka, Locsin, Yasuhara, & Ito, 2017). An invention idea nowadays, robots is a current trends of nursing shortage and unsafe patient ratios. Robots will be integrated into all hospital technologies and monitors so that the healthcare providers can detect the patients' condition accurately from other area. Robot has several function in nursing such as help to schedule task during nursing shift and prioritize the patient's care program, accompany the patients with close monitoring, and help the patient to ambulation and lifting (Locsin, et al., 2018).

The development of nurse robot is excited novelty in the recent years. A scholar reviewed that social robots might support the health care for particular patients. The robots appeared to have positive impacts on agitation, anxiety, and qualitative of life but no statistical significance in the meta-analysis. However, a narrative review indicated that social robots interactions could improve participation in self management, reduce stress due to the loneliness for elderly patients, and as a medication reminder (Pu, Moyle, Jones, & Todorovic, 2018), Therefore, we should think about the aspects of nursing that cannot be replaced by robots.

Nursing is as a caring healing human process, respect diversity, and act on human intuition to response on the human needs. In Indonesia, robots are not being implemented in hospital yet to improve current practice. Nurses and other healthcare providers in intensive care unit (ICU) is stagnant working for the collaboration in providing patient care. The technologies used in the ICU are instruments that support to advance life support such as ventilator, IV pump, and more. Thus, the practical lesson learned in current developing of smart technology is that, although the nurses certainly should remain in touch with technology, the main purpose will to improve the quality of patients care. Social and human response will never be switched by technology, and the need for the holistic nurses function will remain assure in the future

Thromboprophylaxis: Prevention and Treating of Venous Thromboembolism

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ABSTRACT

Venous thromboembolism (VTE) is a frequent complication in critically ill patients and it's associated with increased rates of morbidity and mortality. The use of thromboprophylaxis to reduce the risk of VTE in this patient population is the standard of care. Venous thromboembolism (VTE), including deep vein thrombosis (DVT) and pulmonary embolism (PE), are frequent complications encountered in critically ill patients admitted to intensive care units (ICUs) leading to increased rates of morbidity and mortality within this patient population. This review will summarize about thromboprophylaxis for prevention and treatment of VTE in Intensive Care Unit (ICU).

Keywords: Thromboprophylaxis; intensive care unit; venous thromboembolism; prevention; treatment

Telenursing for Haemodialysis Patients based on Empowering with Self Efficacy Training as an Effective Nursing Care Intervention

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ABSTRACT

Introduction : Haemodialysis patients that suffering many symptoms from Chronic Kidney Disease (CKD) condition and side effects from dialysis process experience changes in their life (bio, psycho, socio, and spiritual) resulting in lower quality of life. Patients have to undergo self care as an advised by medical officer to maintain their quality of life. Self efficacy training with telenursing method can be an effective nursing intervention to improve patient's self care and their quality of life. This analytical review study aims to provide an overview of the telenursing intervention with self efficacy training among haemodialysis patients.

Methods: The method used electronic database that were identified from EBSCO, Spinger PubMed, Science Direct, ProQuest, CINAHL, and Google Scholar with keywords: self care, telenursing, self efficacy training, health education, quality of life, haemodialysis, and chronic kidney disease published in 2013–2018, which were available in full text, the article using English or Bahasa, the method of this study was using experimental study. The netted articles were 8 articles experimental research articles which were then analyzed using PRISMA without meta-analysis.

Results: The results of several studies in the intervention group had a positive effect in improving self efficacy of self care, health outcome, and quality of life among chronic disease patients especially haemodialysis patients in adult age. Four articles told that telenursing method with message and telephone follow up about 12 weeks after self care health education (self efficacy training of self care) among chronic disease patients could improve their self efficacy of self care especially among CKD with haemodialysis patients for water intake restriction and interdialytic weight gain control and also their quality of life ($p < 0.005$). One article with telephone follow up as a telenursing in nursing practice among haemodialysis patients are significant could reduce depression, anxiety, and stress level. One article is randomized control trial with study protocol in 2 groups based on comparison between pre and post test data showed that telenursing can improve satisfaction and health outcomes among patients with chronic disease and their families. Two RCT articles are using application of self monitor based on android mobile phone and website for telenursing to chronic disease patients showed that any significant differences of self care level between before and after program self efficacy training with telenursing.

Conclusion: Based on the result analysis of several studies, it could be found that telenursing with self efficacy training was an effective method for improving self efficacy of self care and quality of life among haemodialysis patients.

Keywords: Self care; telenursing; self efficacy; quality of life; haemodialysis; chronic kidney disease

Spirituality to Promote Recovery among People with Schizophrenia

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ABSTRACT

Schizophrenia is a common mental illness that affects a large number of persons around the world. In 2017 figures showed that 24 million people worldwide were affected by schizophrenia. Schizophrenia is a serious mental disorder characterized by impairments in the thought process which influences behaviors such as hallucination and delusion.

Spirituality has been increasingly viewed as important components of mental health, especially for people with schizophrenia. Spiritual is the essence of man, self-awareness of who we are, the purpose of life and the source of strength. The evidence revealed that spirituality and religion have impacts on people with schizophrenia such as fewer negative symptoms, decreased anxiety and depression, better clinical global impression, better social functioning and quality of life.

Spirituality also has been reported to be a positive coping for the symptom management such as hallucination and mood for people with schizophrenia. Some spiritual interventions for instance mindfulness based spirituality and Murottal have positive effects on depression, hope and recovery for people with schizophrenia. Since spirituality plays an important role for schizophrenia, nurses need to identify the fulfillment of spiritual needs among people with schizophrenia as well as the spiritual intervention which in turn can promote their recovery process.

Discharge Planning Elements for Prisoners with TB

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ABSTRACT

Correctional facilities are known as TB reservoirs where its prevalence is higher than in the general community. TB treatment interruption is a crucial issue in this setting particularly in post-release period. This literature review aims to explain about discharge planning elements for prisoners with TB in order to ensure TB treatment completion after release. There are several elements that health-care providers should consider in conducting discharge planning in prisons for a prisoner who have to continue his TB therapy after release including starting planning as early as possible, providing case management, gaining detailed contact information, assessing and planning for mentally ill and substance abuse patient therapy, building agreement for post-detention and follow up, arranging detail procedures for unplanned release and movement, and performing education and counselling. The policy maker may establish a flow chart of discharge planning for inmates with TB from diagnosis within institutions until released and finished their treatment.

Keywords: discharge planning; prisoner; TB

Family Income Rate, Maternal Knowledge and Nutritional Status among Stunted Children Under Five Years Old in Mlonggp Sub-district, Jepara District

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ABSTRACT

Background: Stunting prevalence are common in children aged 12-36 months with a prevalence of 38.3-41.5%. Stunting in children under five years old is usually less aware because of differences in children who are stunting with a normal child at that age is not very seen. Age under five years is a period of gold period or golden period in determining the quality of human resources in terms of physical growth and intelligence, so this should be supported by good nutritional status. The purpose of the study is to analyse the correlation between family income rate, maternal knowledge and nutritional status among stunted children under five years old in Mlonggi Sub-district, Jepara Regency.

Methods: The research design is observational which is done by cross sectional approach. The study population is children under five who live in Mlonggo sub-district, Jepara regency. The sampling technique is consecutive sampling and the number of research subjects is 40 toddlers. Data were collected by questionnaire; data include weight (BB), height (TB), characteristics of children, mother, family income, knowledge and food frequency questioner. Data is analyzed by computer software.

Results: The results showed that the average age of children under five years is 3.6 years. Average of family income 1.786.000 IDR. Mean of z-score weight / height in stunting children -0.78 ± 1.3 SD. As many as 74.4% of samples have more energy sufficiency level, 95.3% of samples have more protein adequacy level, 51.2% of samples have more iron sufficiency level, and 58.1% of samples have more zinc sufficiency level. 68% of mothers have good confidence. There is a correlation between family income with nutritional status of stunted children ($p = 0,003$). There was no correlation between maternal knowledge with nutritional status ($p = 0,392$).

Conclusion: There was a correlation between family income with nutritional status of toddler stunting ($p = 0,002$) There is no correlation between maternal knowledge with nutritional status ($p = 0,392$).

Keywords: stunting, toddler, family income, Mlonggo

Relationship of Affective Function of Families with Behavior of Temper Tantrum of 3-5 Years Old Children in Patrang Sub-District of Jember District

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ABSTRACT

Introduction: Temper tantrums are an explosion of anger that occurs in children, characterized by behaviors such as screaming, whining, crying, falling to the floor, hitting, kicking, throwing items, stomping, or swearing. Normally, duration of tantrums that occur in children aged 1-4 years lasts for 2-5 minutes. The family affective function is a family effort to meeting the individual's emotional needs. This study aimed to know the correlation between family affective function with temper tantrum behavior of children aged 3-5 years in sub-district of Patrang, Jember regency.

Methods: This research was analytic correlation with cross-sectional. Research instrument used questionnaire family affective function and temper tantrum behavior. The sample consisted of 134 respondents with simple cluster sampling.

Results: The t-test independent samples rank showed the correlate between family affective function with temper tantrum behavior of children aged 3-5 years ($p\text{-value} = 0.000 < \alpha = 0.05$). Implementation of affective function of the family effectively can provide support to the child's psychosocial development.

Conclusion: Implementation of effective affective family function includes three indicators (1) parenting, bonding-attachment, and identification; (2) separateness and connectedness; and (3) patterns of family needs and responses.

Keywords: Family affective function; temper tantrum; children aged 3-5 years

Development and Trial of a Paediatric Falls Screening Tool for Use in an Indonesian Context

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ABSTRACT

Introduction: Falls in hospital have become an important issue internationally with numerous studies and assessment tools developed with a focus mainly on elderly adults. However, little has been written about falls in children in hospital until 2007 which reveals evidence that falls and the sequels are significant problems. This study aimed to develop a culturally based instrument for paediatric falls prevention.

Method: This action research study, a design in which participants, in this case clinical nurses, join the researcher in progressive problem solving, was comprised of three phases, starting with a systematic review of the literature and identification of a risk falls tool suitable for implementation in an Indonesian context. The instrument, the Paediatric Risk of Falls (PROF) Scale, was developed, based on a literature review, contemporary models and the local context, and its content validity. In phase two the staff of one local hospital participated in an education program in use of the tool. Phase three involved the screening of all falls within two months on 156 paediatric patients in the paediatric ward in a local hospital in the city of Salatiga. Data were analysed to examine the validity and reliability of the PROF scale.

Results: Two of seven items related to medication and surgery were judged as not valid. This might be caused by its parameters and some technical problems in completing the items. One item on parental involvement which was developed based on cultural practice in Central Java was judged as a valid item. All items demonstrated acceptable reliability statistics.

Conclusion: The PROF Scale demonstrates satisfactory validity and reliability as a scale for assessing falls in paediatric settings in an Indonesian context, but needs to be tested in other settings to further test validity and reliability as well as its application.

Keywords: Culture; falls; paediatric; prevention; safety

Differences in Children's Physical Activity after a Self-Management Program of 5A Method in an Elementary School

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ABSTRACT

Introduction: One of the priorities for the health of school children according to the program of Healthy People 2020 is inadequate physical activities. Data from the South East Asian Nutrition Survey (SEANUTS) 2015 showed that 57.3% of Indonesian children were categorized as inactive. These children spent their time for activities of watching television and playing computer or video games. A 5A method is one of the methods used to increase physical activity and involves 5 stages: assessing, advising, agreeing, assisting, and arranging. This study aimed to determine the differences of physical activity after a self-management program of 5A method in an elementary school in the work area of Ungaran I Public Health Center (PHC) of Semarang regency.

Methods: This study used a quasi experimental design by comparing the final measurement (post-test) between the intervention and control groups. The samples were 60 students in the intervention group and 60 students in the control group. The intervention given was the self-management program of 5A method.

Results: The results of Mann-Whitney test found a significant difference of physical activity between the children in the intervention group and the children in the control group with p value = 0.000 ($p < 0.05$). This indicated that the children experienced changes in their physical activity from sedentary to active conditions.

Conclusion: The effectiveness of 5A method can be used as an alternative for nursing intervention particularly for children with sedentary behaviors.

Keywords: Children; physical activity; self-management; 5A Method

Milk and Fish Consumption of Preschool Children with Stunting in Developing Country

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ABSTRACT

Introduction: Stunting is a chronic condition of malnutrition which described as height for age <-2SD according to WHO growth chart. Prevalence of stunting in Indonesia is quite high at 37.2%. Some of etiology of this condition is lack of protein from the daily meal. Fish and milk have known to be source of protein and adding it to daily meal could prevent stunting in early age. This study aimed to analyze association of milk and fish consumption on the incidence of stunting in preschool children

Method: This study was case control study conducted in Public Health Center in Semarang. The subject was children aged 2-5 years. Statistical test used Chi-square test, Mann-Whitney and logistic regression multivariate analysis.

Result: From 106 children, we divided into two groups: 53 children with stunting and 53 children with normal height. We found consumption of milk (p=0.03, OR 2.4(1.08-5.32), type of fish (p=0.013, OR 0.34 (0.15-0.8) and economic status (p=0.017, OR 2.59 (1.17-5.75) had significant association with incidence of stunting. There was no significant association between consumption of fish, history of breastfeeding, mother's education, with incidence of stunting.

Conclusion: Consumption of milk less than 500 ml/day has a significant role in incidence of stunting of preschool children in developing country.

Keywords: Milk; fish; stunting

Identifying Factors Influencing Survival in Pediatric Sepsis Using Various Analysis Model

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ABSTRACT

Introduction: Sepsis is one of the leading cause of death in children worldwide. It is caused by infection results in physiological changes interaction between immune, autonomic, and neuroendocrine systems. This study aimed to identify clinical and hormonal factors influencing survival in pediatric sepsis using analysis factor and linear regression model.

Methods: This is a cohort study conducted in Pediatric Intensive Care Unit of Dr. Kariadi Hospital in 2012 with a total of 30 children enrolled consecutively. We recorded age, gender, nutritional status, blood culture, diagnosis (surgical/nonsurgical), PIM (Pediatric Index of Mortality), PELOD (Pediatric Logistic Organ Dysfunction) score (assessed on day-1, 3, and 6), serum cortisol and thyroid level taken on the first day of admission. Variables were analyzed using analysis factor and multiple regression model.

Results: Eight (27%) children did not survive. Three factors were constructed using factor analysis. Factor 1 (46.69%) comprised of PELOD day-6 (0.927), PELOD day-3 (0.913), cortisol level (0.857), and PIM (0.600); Factor 2 (19.06%) comprised of Diagnosis (0.841); and Factor 3 (14.60%) comprised of TSH level (0.844). Together, all three factors account for 80.36% of the variability in the 13 clinical variables. Linear regression analysis showed a strong correlation between serum cortisol level, blood culture, and PELOD day-6 with survival in pediatric sepsis ($r=0.884$, $r^2=78.2\%$, $P<0.001$); all three variables had significant linear association with survival ($P=0.001$, $P=0.026$, and $P=0.029$, respectively).

Conclusion: By two analysis models, we found that PELOD score assessed on day-6 of admission and cortisol level as the most influencing factor in pediatric sepsis-related survival.

Keywords: Pediatric sepsis; survival; PELOD; cortisol

The Effects of Zinc Supplementation on Immune Response of Obese Children with Family History of Atopy

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ABSTRACT

Introduction: Obesity is associated with low-grade chronic inflammation and imbalance between cytokine production of T helper1 and T helper2 cells. Zinc plays role in balancing immune response, has anti-oxidant and anti-inflammation activities. Its deficiency also common in obesity. The role of zinc supplementation in obese children with risk of atopy needs to be elucidated.

Methods: We performed double blinded randomized controlled trial to investigate the effect of 15 mg zinc supplementation daily for 6 weeks in children aged 13 to 14 years old with obese who had family history of atopy. As many as 36 subjects were divided into group of zinc supplementation and placebo, recruited from junior high schools from Semarang municipality, performed from January to December 2013. Plasma zinc concentration, leptin, immunoglobulin-E (Ig-E), interferon- γ (IFN- γ), interleukin-4 (IL-4) were measured, also body weight, height and ISAAC questionnaire to recruit subjects with family history of atopy.

Results: The concentrations of zinc serum, Ig-E, IFN- γ , and IL-4 of two groups before supplementation were not significantly different ($p > 0.05$). Zinc supplementation increased the mean level of zinc concentration on treatment group compare to placebo group (27.74 ± 11.80 vs 3.47 ± 2.55 , $p = 0.000$). The concentration of Ig-E, IFN- γ and IL-4 serum decreased at the treatment group (15.5 ± 20.46 vs 20.02 ± 38.02 , $p = 0.613$), (1.82 ± 3.59 vs 0.911 ± 3.51 , $p = 0.174$), and (4.76 ± 6.49 vs 2.44 ± 4.41 , $p = 0.085$) respectively.

Conclusion: Zinc supplementation increased the level of zinc serum concentration of obese children and decreased the risk of atopy.

Keywords: Obese children; atopy; zinc supplementation

The Effect of Addition Kinesio Taping to McKenzie Exercise for Functional Status in Chronic Mechanical Low Back Pain Patient

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ABSTRACT

Introduction: Chronic mechanical low back pain is considered a common problem and can reduce daily activities. Kinesio taping is a tape which have similar elasticity to skin. It designed to support lower back, improve postural alignment and reduce stress on the spine during activity. The purpose of this study is to investigate the effect of addition kinesio taping to McKenzie Exercise for functional status in chronic mechanical low back pain patient.

Methods: Randomized, controlled trial. Thirty patients with chronic mechanical low back pain was recruited. Participants were allocated into intervention group (n=15) received kinesio taping 7 times for 4 weeks and McKenzie Exercise 3 times a week for 4 weeks and control group (n=15) received McKenzie exercise 3 times a week for 4 weeks. Visual Analog Scale (VAS) and Roland Morris Low Back Pain and Disability Questionnaire (RMDQ) were used to evaluate functional status before and after intervention.

Results: The improvement of RMDQ score was greater in intervention group who received Kinesio Taping and McKenzie (90.44 ± 9.58) than the control group (67.99 ± 7.84). There was a significant different for RMDQ score in intervention group compared with control group (p = 0.000).

Conclusion: In this study, the functional status in patients with chronic mechanical low back pain who received kinesio taping with McKenzie exercise was better than those received McKenzie.

Keywords: Chronic mechanical low back pain; kinesio taping; McKenzie exercise; functional status

The Effects of Duration of Antiepilepsy Drugs Use on IQ of Focal Cortical Dysplasia Patients

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ABSTRACT

Introduction: Focal Cortical Dysplasia (FCD) is an important pathologic condition in epilepsy, however, due to inadequate diagnostic examination, it is often underdiagnosed. Patients may take antiepileptic drugs before definitive diagnosis of FCD. The use of antiepileptic drugs has been associated to impairment of cognitive function including Intelligence Quotient (IQ). This study is aim to investigate the effects of duration of antiepilepsy drugs use on IQ of FCD patients.

Methods: This study was observational retrospective cohort study by reviewing medical records of epilepsy patients with FCD (n=42) from 2017 until 2018. The study was conducted in Dr. Kariadi General Hospital Semarang, Indonesia. Data of duration of antiepilepsy drugs use and Wechsler Adult Intelligence Scale (WAIS) or Weschler Intellegent Score for Children Revised (WISC-R) IQ prior epilepsy surgery were collected. Regression test was used for data analysis and relative risk (RR) was used as magnitude of association.

Results: Within 42 patients, 16 patients (38.10%) had used antiepilepsy drugs \leq 10 years and 26 patients (61.90%) had, used antiepilepsy drugs $>$ 10 years. WAIS IQ score \leq 90 were found on 19 patients (45.23%) and WAIS IQ score $>$ 90 were found on 23 patients (54.76%). The spearman correlation test was significant at $p = 0.003$ and has medium grade of correlation (-0.453). The regression test was significant ($p = 0.003$). RR was 2.234 (95% CI= 1.150 to 4.343).

Conclusion: Duration of antiepilepsy drug use was effect significantly on WAIS total IQ score of epilepsy patients with FCD.

Keywords: FCD; IQ; duration of anti epilepsy drug use

Usefulness of Intraoperative Ultrasonographic For Brain Surgery

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ABSTRACT

Introduction: The use of ultrasound during surgical procedures is frequently beneficial for both demonstration and diagnosis of various pathologic conditions. Localization of subcortical brain tumours is easily accomplished with real-time imaging. The depth and size of the tumour are easily assessed, and the relationship of the lesion to adjacent normal structures ascertained. However, there are pitfalls that may result in diagnostic inaccuracies during the evaluation of abnormalities. These include artefacts, use of inappropriate equipment, and poor technique. These problems are illustrated and discussed.

Methods: Retrospective study of 70 intracranial lesion was carried out since 2011 to 2017 at Kariadi Hospital. The scan head contained two crystals, 5 MHz and 7.5 MHz 5-MHz crystals permitted visualization of deep structures. The 7.5-MHz crystal allowed improved visualization of superficial areas. Predicting diagnosis intraoperative by USG were compared to histopathological finding.

Result: 45 patients were categorized as cystic tumor, 15 were categorized as metastatic tumor and 20 as brain abscess.

Conclusion: The advantage of intraoperative ultrasonography includes precise localization of the abnormality and demonstration of the shortest path of dissection to that lesion.

Keywords: Neuronavigation; intraoperative USG; brain tumor; brain metastases; brain abscess

Association of Executive Functions and Post Stroke Depression among Stroke Survivor after Three Months Onset: Preliminary Study

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ABSTRACT

Introduction: The Post Stroke Depression (PSD) prevalence of stroke survivor after three-months onset was ranged 17 until 37 percent. The depression caused fatigue, low quality of life, severe morbidity and mortality. Executive function (EF) was influenced depression on stroke survivor. However, correlation of functional state level and depression among stroke survivor after three-month onset was not established. This study was aimed to investigate the correlation executive EF and PSD among stroke survivor after three-month onset.

Method: This study was correlation study. The participants were 44 stroke ischemic patients after three-months onset. Participants were recruited on outpatient unit. Depression measured was used the GRID-Hamilton Rating Scale for Depression 17 (GRID-HAMD 17) and Barthel Index. Reliability of GRID-HAMD 17 used alpha-Cronbach was .776. The questionnaire was conducted on backward translation in to bahasa. Data was examined using simple regression analyses. The ethic was obtained from Medical Faculty Diponegoro University and dr. Kariadi Hospital.

Results: The presence of PSD were; not-depressed (43.2%), mild (27.3%), moderate (15.9%), severe (2.3%), very severe (11.4%). HAMD-GRID-17 was (10.38±7.58), and Barthel Index was 69.56±21.69. The Barthel Index show positive correlation with HAMD-GRID-17 (B=-.41 ρ =.006). The barthel index determined HAMD-GRID-17 16.8%.

Conclusion: Moderate association was explained the correlation between functional state and depression. Nursing intervention gained two variables (EF and PSD) should be aimed.

Keywords: Executive function; post stroke depression; three-months onset

Sensitivity Evaluation of Magnetization Transfer Ratio for Diagnosing Intractable Medial Temporal Lobe Epilepsy with Normal MRI: Experience in Indonesia

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ABSTRACT

Introduction: Standardized MRI cannot show the cause of intractable mesial temporal lobe epilepsy about 20-30% cases. These normal MRI patients remains need advanced imaging to visualized the epileptogenic zone to determine lateralization for surgery. Our study was to investigate sensitivity of MTR in detecting lateralization and correlate the MTR with histopathological features of surgical resection on intractable MTLE.

Methods: Twenty-three consecutive surgical candidates with intractable focal temporal epilepsy, as determined with ictal scalp video-EEG and standarized MRI. Then all patients were examined with MTR. The magnetization transfer ratio measured in hippocampus. The data were used to compare each patient with a healthy control group. Histopathological of surgical specimens were stained with NeuN, GFAP, and Neuropeptide Y to asses neuronal loss, gliosis and axonal/Mossy Fiber sprouting.

Results: Ten of 23 patients had normal MRI. MTR patients had lower average than control. Despite MTR had no correlation with neuronal loss, gliosis and axonal fiber sprouting, its sensitivity reached approximately 81.8%, specivity 68.2% and concordance with EEG 7/10 patients.

Conclusion: MTR has fairly good sensitivity and EEG concordance, but low specificity so the result may be indicative for diagnostic accuracy of determining lateralization MTLE with normal MR.

Keywords: MTR; intractable mesial lobe epilepsy; normal MRI

Assosiation of Interleukin-10 (IL-10) Serum Levels with Clinical Outcomes Patients of Acute Ischemic Stroke

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ABSTRACT

Introduction: The pathophysiology of ischemic stroke is closely related to the inflammatory response that directly proportional to brain tissue damage. Interleukin-10 (IL-10) is an important anti-inflammatory cytokine that arises in response to brain injury. We aimed to determine the association of serum IL-10 levels with clinical outcomes of acute ischemic stroke patients.

Methods: Analytical observational studies with prospective cohort designs included 48 subjects of first acute ischemic stroke. On 3rd and 21st day of onset subjects assessed score of national institutes of health stroke scale (NIHSS), venous blood was taken, IL-10 serum levels were measured.

Results: Among 48 subjects, 32 (66.67%) subjects had high IL-10 serum level and 16 (33.3%) had normal level. The level of significant are as follows: age ($p = 1.000$), sex ($p = 0.833$), the location of ischemic ($p = 0.025$), type of lesion ($p = 0.683$), ECG ($p = 0.230$), nutritional status ($p = 0.186$), hypertension ($p = 0.215$), diabetes mellitus ($p = 0.130$) and dyslipidemia ($p = 0.383$) and smoking status ($p = 0.654$), IL-10 serum levels ($p = 0.014$). Then multivariate analysis obtained insignificant relation between hypertension ($p = 0.133$, OR = 0.218), diabetes mellitus ($p = 0.920$, OR = 3.913), and significant correlation between interleukin-10 ($p = 0.023$, OR = 5.456) location of non-dominant hemispheric lesion ($p = 0.024$, OR = 5.090) with NIHSS score changes.

Conclusion: We concluded there was significant association between IL-10 serum levels and location of non-dominant hemispheric lesion with improvement clinical outcome of acute ischemic stroke.

Keywords: Interleukin-10 serum levels; acute ischemic stroke; clinical outcome of acute ischemic stroke patients

Factors Associated with Physiological Response of Acute Ischemic Stroke Patients

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ABSTRACT

Introduction: Increasing physiological responses may cause lengthened ischemic duration, recurring risk of stroke, and worsened post Acute Ischemic Stroke complication that lead to paralysis and death. The identification of increasing physiological responses is an essential step in treating Acute Ischemic Stroke (AIS) patients in the hospital. Though several factors improving physiological responses are known, some risk factors involving interventions are still unknown. Those factors are leucocyte, blood glucose, total cholesterol, triglyceride, temperatures, onset, comorbidity, gender, and Benson relaxation responses. The purpose of this study was to analyse the factors associated with physiological response of AIS.

Methods: This research method was quantitative with conducting bivariate correlation and multivariate multiple linear regression test. The subjects were 42 AIS patients, consisting of 21 respondents in the control group and 21 others in the intervention group.

Results: The results showed in the Leucocyte $p= 0.790$; blood glucose $p= 0.565$; total cholesterol $p= 0.982$; triglyceride $p= 0.782$; temperature $p= 0.501$; onset $p= 0.028$; comorbidity $p= 0.345$; gender $p= 0.707$; and Benson relaxation responses $p= 0.019$.

Conclusion: The study concluded that factor onset and Benson's relaxation response were significantly associated with physiological responses in AIS. Furthermore, it is suggested to control the factors associated with physiological response of AIS patients as prevention of the impacts caused by complications. Further research needs to be done to identifying factors associated with physiological responses of AIS patients' with larger number of subjects.

Keywords: Outcome; physiological responses; relaxation responses; AIS

Prospective Study: Clinical Outcome of Epidurolysis and Laminectomy on Lumbar Disc Herniation Treatment in Dr. Kariadi Hospital Semarang-Indonesia

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ABSTRACT

Introduction: Ninety percents of lumbar disc herniation (LDH) patients showed improvement under conservative treatment and 5-10% still complaint of pain so obstructed daily activities. Epidurolysis aimed to expand the space between disc and anterior part of the duramater and reduce the pain. Cytokines, histamine, glycoproteins and lactic acid produced by the disc and causing of pain. Mast cell, macrofag, fibroblast, endothelial cells and chondrosite had responsible to inflamed tissues. Numerical rating scale (NRS) and Oswestry Disability Index (ODI) still as a standard for measuring the significancy of LDH treatments.

Methods: This is a prospective study aimed to compare the efficacy of epidurolysis and laminectomy in LDH patients. All 45 subjects experienced to hospitalize in Dr. Kariadi Semarang Indonesia and evaluated at 1 week, 4 weeks and 12 weeks after.

Results: Epidurolysis group showed significantly on NRS and ODI at 1, 4 and 12 weeks after ($p < 0.05$) with bulged disc neither with protruded or extruded disc, whereas in operative group ODI scores showed significant ($p = 0.0119$). In less of 50 yo subjects the NRS scores showed improvement in epidurolysis group ($p = 0.0133$) but not whom underwent surgery whereas ODI score seemed significantly in both. NRS and ODI scores did not show significancy for protruded and extruded disc in both groups.

Conclusion: Epidurolysis clinically improved to reduce the pain intensity and also enhanced daily activities but the stages of herniation and age intended the results.

Keywords: Epidurolysis, laminectomy, lumbar disc herniation

Visiting Hour's Policies in Intensive Care Unit: Exploring Families' Views

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ABSTRACT

Introduction: Admission to intensive care units is potentially stressful not only for patient but also for families. Family have an important role in improving patient's condition. Visiting time is the time given to family to interact with the patient. This research aims to explore the views of critically ill patient's families about visiting hour's policy.

Methods: This was a descriptive qualitative research with four family members of the critical patients selected based on purposive sampling technique. Data were collected using in-depth interviews and analysed using analytical techniques by Collaizi.

Results: It was found 3 themes: flexible visiting time, functions of visiting time, and family's expectations during the visiting time. Most families said that visiting time should be flexible, should adjust the patients' conditions, they should be able to visit at anytime, there should be one family member that always beside the patient, and visiting time should not disrupt the patients' rest period. During the visiting time, family can provide support to patients such as motivation, communication, touch and prayer. Being near to patient made all the family member's felt more comfortable rather than being away that would made them more anxious, and this closeness made the family was able to know the patient's condition directly. Most families expected to get accurate information about the patients during the visiting time.

Conclusion: The families needed to stay close to the patients to provide support to them and made them more comfortable. Hospitals were suggested to consider the families' needs in setting the policies on the visiting time at the ICU.

Keywords: Visiting time; family's perception; IC

Critical Care Nurses' Perception of Barriers and Supportive Behaviors in End-of-Life Care

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ABSTRACT

Introduction: Critical care nurses often care for critically ill patients who are in end of life condition. Providing quality end of life care remains a challenge for nurses and often leads to conflict. The purpose of this research was to determine the perceived barriers and supportive behaviors in providing end of life care in the intensive care unit.

Methods: This is a survey research. A 64-items questionnaire was delivered to critical care nurses (n=116). Eligible respondents were asked to rate the intensity and frequency of obstacles and supportive behaviours items. Descriptive analyses were performed.

Results: The highest perceived barriers were family fighting about whether to continue or stop life support, family not accepting poor patient prognosis, nurse having to deal with angry family members and having to deal with distraught family while still caring for patient. The highest scoring supportive behaviours were family members show appreciation to nurse for care of the patient who has died, having fellow nurses who take care of your other patient(s) while you get away and having one family member who designated as contact person for the rest of the family.

Conclusion: Patient's family are the biggest obstacle for nurses in providing end of life care in intensive care unit. Actions need to be taken to decrease the highest-rated obstacles and to increase the rating of supportive behaviours.

Keywords: End of life; critical care; intensive care unit; critical care nurse; dying

An evaluation of Code Blue System Implementation to Manage Cardiac Arrests: A qualitative Study

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ABSTRACT

Introduction: Cardiac arrest is the leading cause of death and occurs suddenly; therefore, it requires a particular strategy to solve the issue. Code Blue System (CBS) is a cardiac arrest management involving the trained personnel, medical equipment, and standardized operational procedures to save the lives of patients with cardiac arrests. This study aimed to evaluate the implementation of CBS to manage cardiac arrest from nurse's perspective.

Methods: The present study employed a qualitative design with a phenomenological approach. Data were collected through two cycles of in-depth interviews to eight nurses recruited using purposive sampling technique. The participants were nurses who had become primary and secondary code blue team.

Results: The results generated two themes. First, the initial signs of cardiac arrest were not properly understood and there was no assessment instrument to assess the early signs of cardiac arrest. Second, CBS had been implemented in accordance with the operational standards; however, some barriers were encountered.

Conclusion: Based on the findings, it is recommended that the hospital continuously conducts training and seminars which support the implementation of CBS to increase the knowledge and skills of the team, and considers the use of Early Warning Sign Score (EWSS) instrument due to its effectiveness as an assessment instrument to minimize the incidence of cardiac arrest.

Keywords: Code blue system; cardiac arrest; nurses' perceptions

eNOS Gene Polymorphism of Follicular Fluid on Patient's Endometriosis

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ABSTRACT

Introduction: The potential role of eNOS in pathogenesis of various human diseases has variant polymorphisms and genetic polymorphisms of the eNOS gene that reported as "gene susceptibility" in cardiovascular and pulmonary disease. The aim of this study was to analyze the frequency of endothelial nitric oxide synthase (eNOS) polymorphism of Glu298Asp in endometriosis. This was a cross-sectional study that detect on levels of eNOS polymorphism using the Polymerase Chain Reaction-Restriction Fragment Length Polymorphism (PCR-RFLP).

Methods: The research sampling was conducted at Permata Hati Infertility Clinic and Reproductive Health Installation of Dr. Sardjito Yogyakarta. The research subjects were taken from January 2012 - January 2015. The laboratory used was the Biochemistry Laboratory of UGM Faculty of Medicine to examine the levels of eNOS polymorphism by PCR-RFLP method. Data analysis using software program stata intercooled version 11 with the steps as follows: univariate analysis and bivariate analysis with statistical test using T test done to test whether the mean of patient sample of endometriosis differ significantly with a value or with other population mean in this case was a normal patient.

Results: The frequency distributions of eNOS genotype polymorphisms were different between endometriosis and non-endometriosis. Gym allele polymorphism distribution was higher than non-endometriosis.

Conclusion: The presence of GG polymorphism leads to higher eNOS resulting in increased NO levels resulting in decreased fertility presumed to be derived from degenerative oocytes.

Keyword: eNOS; gene polymorphism; follicular fluid; endometriosis

Comparison of The Effectiveness of Therapy Abdominal Stretching Exercise and Watermelon Against Dysmenorrhea

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ABSTRACT

Introduction: Dysmenorrhea is lower abdominal pain that is felt just before or during menstruation. This Dysmenorrhea can disrupt a person's activity and can indirectly affect the productivity and quality of life. Dysmenorrhea can be resolved with non-pharmacological therapies, one of that is with Abdominal Stretching Exercise therapy and Watermelon.

Methods: The research was a quasi-experimental non-randomized control group pre-post-test. The study was conducted in February 2016. Interventions were performed with abdominal therapy stretching exercise with watermelon for 10 to 15 minutes, pain intensity measurement using Numeric Rating Scale (NRS) instrument for three days. Analysis of data using statistical test of t-test. Respondents were 20 people studies, ten people as intervention group and ten people as control group and collected data by purposive sampling method. The study was approved by the university ethics committee.

Results: Based on test results obtained statistical p value= 0.004, which means that there are significant differences dysmenorrhea pre-test to post-test after abdominal stretching exercise therapy with watermelon.

Conclusion: It can be concluded that treatment with watermelon abdominal stretching exercise effective against Dysmenorrhea and this therapy could be an alternative for someone who has Dysmenorrhea.

Keywords: Abdominal stretching exercise; watermelon; dysmenorrhea.

The Experiences of Commercial Sex Workers in Decision Making and Walking on VCT

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ABSTRACT

Introduction: VCT is a two-way counseling or continuous dialogue between counselor and client to prevent HIV transmission, give moral support, information and other supports for people with HIV/AIDS, his family and the environment. One of the major purposes of HIV/AIDS counseling in VCT is to prevent HIV transmission by behavior changing. VCT clinic's service for Commercial Sex Workers (CSW) which includes frequent screening combined with extra information about the methods to prevent Sexual Track Disease's (STD's) transmissions has been reported to be able to increase the condom using and decrease STD's and HIV prevalence among CSWs.

Method: The total participants in this research were 7 CSWs selected by purposive sampling in the prostitution area of Sukosari Village, Berokan, Semarang. The researcher used in-depth interview to collect the data, which were analyzed by content analysis method.

Results: The research showed that the meaning of VCT for CSWs themselves could increase their vigilance about STD's risk factors and HIV/AIDS by using condom during intercourse, increase daily healthy behavior and do STD's screening frequently once a month. CSWs changed their life orientation from money oriented to health oriented after following the VCT process.

Conclusion: The research concluded that VCT was considered very useful by CSWs and could change their paradigm about health and also increased their vigilance about self-protection from risk factors. The government and the voluntary organizations which are concerned with CSWs and HIV/AIDS should facilitate the CSW's efforts to keep their health oriented after doing VCT with continuous screening.

Keyword: VCT; HIV/AIDS; Commercial Sex Workers (CSW)

The Effectiveness of Premarital Screening for Secondary Infertility in the Second Pregnancy After 5 Years at Public Health Centers in Semarang-Indonesia

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ABSTRACT

Introduction: One of the health indicators is Maternal Mortality Ratio (MMR). In Indonesia, according to SDKI 2012, the MMR was improved to 359 mother mortality per 100,000 live births. However, according to SUPAS 2015, the MMR was reduced to 305 mother mortality per 100,000 live births. The MMR in Semarang during 2017 involved secondary infertility in the second pregnancy after 5 years as the higher risk factor with 5543 mothers (25.54%).

Methods: The research was conducted in Semarang, specifically at 37 public health centers around Semarang. It was quantitative research using observation and linear regression to find out the effectiveness of premarital screening for secondary infertility in a second pregnancy after 5 years.

Results: premarital screening for secondary infertility in the second pregnancy after 5 years was represented by p-value = 52.3. It meant that p-value > 0.05 and Ho accepted. Therefore, the premarital screening was not effective for the case of secondary infertility in the second pregnancy after 5 years.

Conclusion: The promotion and prevention programs health care are needed in giving comprehensive and effective health care services for preconception women.

Keywords: Premarital screening; secondary infertility; second pregnancy after 5 years

Sperm DNA Fragmentation Index and Malondialdehyde of Diabetic Rat Treated by Aloe Vera Peel Extract

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ABSTRACT

Introduction: Chronic hyperglycemia causes oxidative stress that can stimulate sperm damage. Apoptotic biomarkers in seminal plasma can be utilized in fertility analysis. Aloe vera has antihyperglycemia and antioxidant components. This study examines the effect of Aloe vera peel on fragmentation index and free radical content of diabetic rats.

Method: The design of this study is randomized post-test only control group design. Eighteen Wistar rats induced of 65 mg/kg streptozotocin and 230 mg / kg body weight nicotinamide acid. The ethanolic extract of peel of Aloe vera at doses of 0 (C), 100 (Tr. 1) and 200 mg/kg (Tr. 2) were administrated to three groups (n = 6) for 28 days consecutively. Malondialdehyde (MDA) seminal plasma and serum, sperm deoxyribonucleic acid fragmentation index (DFI) were measured.

Results: Aloe vera peel extract significantly influenced MDA levels between groups (p <0.05). Malondialdehyde seminal plasma control group was higher (9.44 ± 0.39) than Tr. 1 (3.37 ± 0.38) and Tr. 2 (3.29 ± 0.31). While MDA serum group Tr. 2 (3.07 ± 0.34) lower than Tr.1 (6.06 ± 0.45) and control (9.07 ± 0.45). The mean value of sperm DFI in the control was significantly higher (9.92 ± 3.68) than Tr.1 (6.00 ± 1.41) and Tr.2 (4.08 ± 1.46), but no significant difference between Tr.1 and Tr.2 (p <0.05).

Conclusion: Aloe vera peel extract reduced MDA levels of seminal plasma, serum and sperm DFI.

Keywords: Aloe vera; malondialdehyde; sperm DFI

Pain Level and Interleukin-6 Using Counter-Pressure During The 1st Stage of Labor

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ABSTRACT

Introduction: Interleukin-6 (IL-6) can be found in the placenta, decidua, chorion, and amniotic fluid. It was reported on an in vitro trial that the administration of IL-6 in amniotic cell culture and human decidua will increase prostaglandin formation. This study aims to find out the pain level of labor, the level of IL-6 during 1st stage of labor by using the treatment of Regio Sacralis Counter-pressure.

Method: This research method used a quasi-experimental design with Pre-post experiment with control group design. The research provided the treatments to reduce the pain, i.e., the method of Counter-pressure with emphasizing on Regio Sacralis. 52 primigravida mothers were selected as the sample with consecutive sampling technique without randomization.

Results: Results showed that there was no an effect of treatment by using Counter-pressure ($p = 0.925$) on changes in IL-6 levels during 1st stage of labor.

Conclusion: Counter-pressure should be taught and developed in the normal delivery care curriculum. Normal birth attendants/ helpers are provided with as many techniques as possible to reduce labor pain by the method of Counter-pressure.

Keywords: Counter-pressure; IL6; pain level of labour

Exploring Javanese Women's Level of Pregnancy Knowledge: A Cross-Sectional Study

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ABSTRACT

Introduction: Maternal health is shown by behavior and lifestyle during pregnancy. The behavior of pregnant women is influenced by the habits of his ancestors. One that affects one's behavior is knowledge. Knowledge of pregnancy can be an indicator of maternal health. The objective of the study was to describe the related characteristics of java pregnant women with the rate of knowledge about pregnancy.

Methods: Cross-sectional study conducted in 2017 on trimester pregnant women, ethnic Javanese, live in Semarang. The sample was 368 respondents by purposive sampling. Data collection using a pregnancy knowledge questionnaire.

Results: The results showed that most of senior high school education (52.2%), Moslem (97.3%), and housewife (62.2%). Age of the youngest pregnant mother 17 years old, oldest 44 years old, mostly second pregnancy. Knowledge of pregnant women lowest 20 scores, maximum 40 skor, most knowledge about pregnancy is enough (62.2%). The result of linear regression shows education and gravid variables together influence knowledge ($p < 0.001$).

Conclusion: The first period of pregnancy is the perfect time to educate pregnancy. Intensive effort needs to increase the knowledge of pregnant women both about pregnancy and the post-pregnancy phase.

Keywords: Knowledge of pregnancy; gravid; education

The Association of Maternal Antenatal Oral Glucose Tolerance Test and Fetal Congenital Heart Disease

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ABSTRACT

Introduction: Increased risk of congenital heart disease (CHD) has been related with maternal hyperglycemia in gestational diabetes. The aim of this study was to evaluate the association between maternal antenatal oral glucose tolerance test (OGTT) and incidence of fetal CHD.

Method: This was a retrospective study analyzing maternal antenatal OGTT and antenatally diagnosed CHD of singleton and euploid fetuses in a tertiary maternity hospital. The maternal characteristics and neonatal characteristics were compared among fetuses with and without CHD. The incidence of CHD was compared according to OGTT results. Receiver Operating Curve (ROC) was used to determine the use of maternal antenatal OGTT in predicting the risk of fetal CHD.

Results: There were 3,116 women (age 32.3 ± 4.56 years old) carrying single fetus with normal karyotype who were indicated for OGTT during 5-40 weeks of gestation. The maternal and neonatal characteristics were similar between the CHD and non-CHD groups. The mean values of fasting (4.3 ± 0.2 vs 4.5 ± 0.6 ; $p=0.20$) and 2-hour post load (6.9 ± 1.5 vs 7.1 ± 1.8 ; $p=0.84$) glucose level were comparable. Overt diabetes was not observed. Twelve (0.38%) fetuses were diagnosed with CHD. The incidence of CHD was not significantly different between mothers with impaired and normal glucose tolerance. The ROC analysis showed 100% sensitivity when fasting glucose level (FGL) were above 4.0 mmol/l or 2-hours glucose level (2-HGL) more than 4.7 mmol/l.

Conclusion: Meaningful OGTT value above which the risk of CHD increased dramatically could not be determined. Neither fasting nor 2-hours post load glucose values of maternal antenatal OGTT appeared to be a predictor of fetal CHD.

Keywords: Antenatal; congenital heart disease; impaired glucose tolerance; oral glucose tolerance test; maternal hyperglycemia

Maternal Characteristics and Serum Zinc Levels with Birth Weight

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ABSTRACT

Background: The prevalence of low birth weight and height birth weight are increasing. Birth weight can affect health conditions in adulthood. Maternal characteristics such as maternal age during pregnancy, maternal pre-pregnancy Body Mass Index (BMI), gestational age, MUAC, and serum zinc levels may affect birth weight. Therefore, this research aimed to analyze the correlation of maternal age during pregnancy, maternal pre-pregnancy BMI, gestational age, MUAC, and serum zinc levels with birth weight.

Methods: A total of 65 mothers from 6 public health clinics in Sukoharjo Regency was involved in this observational research determined by quota-sampling method. The data of BMI, maternal age during pregnancy, gestational age, and MUAC were obtained through MCH books. The data of serum zinc levels were obtained from taking blood in the morning when the mothers were not fasting. Data analyses used r Pearson's test, rank Spearman's test, and multiple linear regression with $p < 0.05$.

Results: A total 18.5% neonatal had low birth weight with mean of neonatal birth weight was 2935.40 ± 354.66 gram. Maternal pre-pregnancy body mass index ($r = 0.271$) and maternal age during pregnancy ($r = 0.536$) were significant correlated with birthweight ($p < 0.05$). Gestational age, MUAC, and serum zinc levels did not correlate to birth weight significantly. Maternal age during pregnancy is the factor most correlate with the birth weight.

Conclusion: Body mass index and maternal age during pregnancy were correlated with birth weight. Maternal age during pregnancy is the predictor of birth weight.

Keywords: Birth weight; body mass index; maternal age; gestational age; MUAC; serum zinc levels

8-Hydroxy-2 Deoxyguanosine (8-Oh-Dg) in The Follicular Fluid in Endometriosis Patients

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ABSTRACT

One of the valid parameters for ROS examination at the cellular level is 8-hydroxy-2 deoxyguanosine. Oxidative stress (like ROS) is assumed to cause anomaly in the spindle of oocytes and oocyte chromosome, which results in making the oocytes unable to mature.

The objective of this research is to ascertain the level of 8-hydroxy-2 deoxyguanosine in the follicular fluid of endometriosis sufferers compared with that of non-endometriosis sufferers.

The cross-sectional study was done on endometriosis patients who were diagnosed according to the ASRM criteria and non-endometriosis patients who were undergoing tubectomy at the *Permata Hati* Clinic of Dr. Sardjito Hospital, Yogyakarta. All the patients and control who showed 8-OH-dG value were involved as respondents. The research was conducted from January 30, 2012 to January 30, 2015. The laboratory used was the Chemistry Laboratory of the Faculty of Medicine, GMU to examine the 8-OH-dG level. Data analysis was done by chi-square, t-Test and logistic multinomial regression test, confidence interval (CI) of 95% with $\alpha=0.05$.

The 8-OH-dG level in endometriosis is higher than that in non-endometriosis, whereas the correlation of 8-OH-dG with degradation of DNA which affects the morphology of oocytes in the process of folliculogenesis is extremely needed.

Keywords: 8-Hydroxy-2 Deoxyguanosine; Endometriosis; Follicular Fluid

Application of Monitoring Card in Fe Tablets Consumption during Pregnancy

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ABSTRACT

Introduction: Postpartum haemorrhagic is the most cause of mother mortality rate which is caused by anemia during pregnancy. It can be prevented by consuming Fe tablets. However, the number of consumption is low. This study intended to evaluate application of monitoring card in FE tablets consumption during pregnancy.

Methods: This is a cross sectional study using total sampling of 352 second trimester of pregnant women in Semarang. Data collection was conducted for three months, and evaluation of Fe tablets consumption was conducted each month using monitoring card. The number of Fe tablets consumption was counted and it was compared among first, second, and third month and between first and third month. Data analysis used paired sample test because the data was normal distribution.

Results: The result showed that Fe tablets consumption was different between first and second month (α : 0.000), between second and third month (α : 0.007), and between first and third month (α :0.000). It means that monitoring was effective in Fe tablets consumption.

Conclusion: Monitoring card can be used as one of tools to help pregnant women in consuming Fe tablets because it is effective. It is suggested for community health centre to implement monitoring card in Fe tablets consumption of pregnant women.

Keywords: Fe tablets consumption; Monitoring card; Pregnancy

Correlation between Levels of Biomarkers and Thickness of Fibrous Cap of Coronary Atherosclerotic Plaque Detected by Optical Coherence Tomography: a Meta-analysis

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ABSTRACT

Introduction: Fibrous cap thickness (FCT) is used to define the vulnerability of coronary atherosclerotic plaques. Various biomarkers have been investigated to correlate their level with the FCT of coronary plaque; however, the results remain unclear. Purpose: To provide a meta-analysis of correlation between levels of biomarkers and FCT of coronary atherosclerotic plaque detected by optical coherence tomography.

Methods: Electronic databases were searched up to July 2018. Study quality assessment was performed using Quality Assessment for Diagnostic Accuracy Studies-2. Statistical analyses were done using the Comprehensive Meta Analysis Version 3.3.070.

Results: Twelve articles including a total sample size of 1,033 patients were retrieved. Six biomarkers were analyzed; a moderate correlation was found between FCT and PTX3 ($r = -0.560$; $p = 0.015$) as well as IL-18 ($r = -0.503$; $p < 0.001$), while a weak correlation was found for biomarker HDL-C ($r = 0.196$; $p < 0.001$), triglyceride ($r = -0.141$; $p = 0.009$) and hsCRP ($r = -0.338$; $p = 0.048$). There was no significant correlation between FCT and EPA/AA ($r = 0.289$; $p = 0.131$), LDL-C ($r = -0.178$; $p = 0.113$), nor total cholesterol ($r = -0.106$; $p = 0.515$). Each of biomarkers TNF- α , CLR, Lp-PLA2, cystatin c, eGFR cystatin, CX3CR1, ApoB, HOMA-IR, PLR, elaidic acid, glycemic variability MAGE, creatinine, and TMAO was reported by one study that they had a significant correlation with FCT.

Conclusion: The levels of biomarkers hsCRP and IL-18 are correlated with the thickness of fibrous cap of coronary atherosclerosis plaque. Other biomarkers including TNF- α , CLR, Lp-PLA2, cystatin c, eGFR cystatin, CX3CR1, ApoB, HOMA-IR, PLR, elaidic acid, glycemic variability MAGE, creatinine, and TMAO should be further studied to establish their correlation with the fibrous cap thickness.

Keywords: Coronary artery disease; biomarker; fibrous cap thickness; optical coherence tomography

Nurse's Mental Model and Performance in Cardiopulmonary Resuscitation Skill for Acute and Critical Patients

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ABSTRACT

Introduction: Mental model is a habit of doing and accepting something which is internalized into the mind, and therefore forming a character. Nursing performance describes the nurses' efforts and achievements of the actions which have been previously taken. Mental model and nursing performance are needed by nurses in performing cardiopulmonary resuscitation. This study aimed to describe the nurses' mental model and performance needed to perform cardiopulmonary resuscitation.

Methods: This study employed a qualitative design with a descriptive phenomenological approach, and was conducted at a public hospital in Semarang. The participants were six nurses recruited using purposive sampling method. The data were collected through in-depth interviews with the participants based on the prepared interview guidelines. The collected data were analyzed using inductive content analysis to construct the Conclusion based on the responses given by the participants.

Results: The results showed that the mental models needed by nurses in performing cardiopulmonary resuscitation included caring, empathy and communication. The nurses' understanding of the performance, motivation, satisfaction, commitment, and consequences of cardiopulmonary resuscitation were the factors which developed the nurses' performance at work.

Conclusion: Mental model and performance of nurses in performing cardiopulmonary resuscitation required a high competence. Nurses need a supportive environment, commitment and high motivation to perform cardiopulmonary resuscitation with full responsibility, empathy and caring. Nurses should also maintain communication with the family and other health workers in performing cardiopulmonary resuscitation.

Keywords: Cardiopulmonary resuscitation; nurses' mental model; nurses' performance

Correlation between Atherogenic Index of Plasma, Serum Amyloid A, Mean Platelet Volume and Stenosis Degree in Coronary Artery Disease

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ABSTRACT

Introduction: Dyslipidemia and inflammation play an important role in stable coronary artery disease (SCAD) which are marked by atherogenic index of plasma (AIP), serum amyloid A (SAA) and mean platelet volume (MPV) on atherosclerosis formation. The stenosis degree indicates a visual evaluation of the percentage reduction of coronary diameter compare with normal coronary. The purpose of this study to determine the correlation between AIP, SAA, MPV and stenosis degree in patients with SCAD.

Method: Cross-sectional study in 31 patients with SCAD at Kariadi Hospital who were willing to sign an informed consent. Triglyceride (TG) and HDL were measured by clinical chemistry analyzer to evaluate AIP, SAA was measured by ELISA method and MPV was measured by hematology analyzer. Stenosis degree was obtained from coronary angiography by percentage. Spearman test was done for analyzing data with $p < 0.05$ was considered statistically significant.

Results: The values of AIP, SAA and MPV were 0.49 ± 0.23 ; 31.87 ± 11.41 ng/ml; 10.13 ± 1.19 fl respectively, while the median (minimum-maximum) stenosis was 80 (20-100)%. The correlation between AIP, SAA and MPV with stenosis degree were $r = 0.435$, $p = 0.014$; $r = 0.535$, $p = 0.002$; $r = 0.531$, $p = 0.002$, respectively.

Conclusion: There is significant moderate positive correlation between AIP, SAA, MPV and stenosis degree in patients with SCAD. The elevated of AIP, SAA and MPV directly proportional to the severity of coronary stenosis degree.

Keywords: AIP; SAA; MPV; stenosis degree; SCAD

IL-10 Gene Promoter Region -1082 A/G Polymorphism and IL-10 Expression in Indonesian Rheumatic Mitral Valve Patients

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ABSTRACT

Introduction: Rheumatic heart disease (RHD) is a chronic complication of recurrent acute rheumatic fever which is caused by Group a Streptococcus (GAS). Cross reactivation of GAS protein M triggers immunological response due to molecular mimicry. Interleukin-10 (IL 10) gene polymorphism in the promoter region at -1082 was hypothesized to reduce the production of IL 10 and affected particular individual's susceptibility to the development of RHD. To describe the distribution of IL 10 gene polymorphism -1082 A/G and mitral valves IL 10 expression in Indonesian rheumatic mitral valve diseases.

Methods: Peripheral blood vein DNA was extracted from RHD patients who had mitral valve replacement surgery during December 2014 – September 2016 in Dr. Kariadi General Hospital. IL 10 polymorphism was examined using high resolution melting analysis in Center for Biomedical research (CEBIOR) laboratory, and confirmed by sequencing. Mitral valve IL 10 expression was quantified using Allred scoring system.

Results: Twenty-six subjects were enrolled to this study, consisted of 26.9% males and 73.1% females. Twenty-two (84.62%) subjects had AA genotype (wild type), 3 (11.53%) AG, and 1 (3.85%) GG. The mean of IL 10 expression was 3.9 ± 1.78 . Low IL 10 expression (score ≤ 6) were observed in 84.6% patients. Low IL 10 expression were more frequent in the wild type group than the polymorphic group (90.1% vs 50%).

Conclusion: The G allele in -1082 promoter region IL 10 gene polymorphism was found in 5.4 % in RHD patients. Among polymorphic patients, the expression of IL 10 is higher than the wild type.

Keywords: IL 10 gene; rheumatic heart disease; polymorphism; promoter-1082 A/G; high resolution melting

The Correlation between Neutrophil to Lymphocyte Ratio (NLR) with TIMI and GRACE Risk Stratification Scores in Patients with Acute Myocardial Infarction with ST segment Elevation (STEMI)

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ABSTRACT

Introduction: Acute myocardial infarction with ST elevation (STEMI) is a cardiovascular disease with a high mortality rate. Mortality risk stratification score is used in patients with STEMI to determine the prognosis of patients. The neutrophils to lymphocytes ratio (NLR) is a useful marker in predicting the prognosis of patients with coronary artery diseases (CAD), as well a low cost, efficient and simple examination. This study was to investigate the correlation between NLR with TIMI and GRACE risk stratification score in patients with STEMI.

Methods: It was an observational analytic study with cross sectional design. The subjects were patients with STEMI that met the inclusion criteria from May to July 2017 in Dr. Kariadi hospital Semarang. They were selected by consecutive sampling.

Results: There were significant correlations between NLR with TIMI risk stratification ($r = 0.394$, $p = 0.023$) and GRACE risk stratification ($r = 0.58$, $p = 0.000$). There were no significant differences in NLR values between different class of TIMI risk stratification score (NLR value in low TIMI risk = 4.4 ± 3.37 , NLR value in medium TIMI risk = 5.28 ± 4.53 , and NLR value in high TIMI risk = 10.14 ± 14.06 , $p = 0.16$). There were significant differences in NLR values between different class of GRACE risk stratification scores (NLR value in low GRACE risk = 3.62 ± 3.23 , NLR value in medium GRACE risk = 7.63 ± 4.23 , and NLR value in high GRACE risk = 11.17 ± 17.16 , $p = 0.029$). The significant differences were also found between the low and medium GRACE risk stratification groups; and between the low and high GRACE risk stratification groups.

Conclusion: There was a weak positive correlation between NLR and TIMI risk scores and a moderate positive correlation between NLR and GRACE risk scores. NLR may be used to predict the prognosis of patients with STEMI.

Keywords: Neutrophil to Lymphocyte Ratio; NLR; TIMI; GRACE; risk stratification score; STEMI

Ectopia Cordis with Tricuspid Atresia as a Part of Pentalogy of Cantrell: a Case Report

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ABSTRACT

Introduction: Ectopia cordis is defined by the abnormal position of the heart outside the thorax associated with defects in the parietal pericardium, diaphragm, sternum, and, in most cases, cardiac malformations. It is occurred due to segmental defects in mesodermal development in the third week of intrauterine life and amniotic band anomalies that produce simultaneous cerebral and thoracoabdominal malformations. Ectopia cordis can be associated with pentalogy of Cantrell. The estimated prevalence of ectopia cordis is 5.5 to 7.9 per million live births. This case has low survival rate. Only several cases were reported and most of them were not survived in the neonatal periods, despite the various surgical techniques had been performed.

Methods: A case report was employed in this study

Results: We report a boy with complete ectopia cordis with atresia tricuspid as a complex intracardiac abnormality that associated with Cantrell's syndrome. This boy is survived until his aged of 2 years old now.

Conclusion: To carry out close monitoring, prevention of infection and continuously educate parents and family of ectopia cordis patient, may result in better prognosis.

Keywords: Ectopia cordis, tricuspid atresia, Cantrell's pentalogy

Study of Goat Milk Kefir with Vitamin D₃ Fortified on Blood Glucose and Insulin in Rats

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ABSTRACT

Introduction: Incidence of insulin resistance triggers the occurrence of type 2 diabetes mellitus (T2DM). The presence of insulin resistance induces the increase of blood glucose levels resulting in hyperglycemia. Vitamin D has important roles to maintain glucose tolerance through insulin secretion and sensitivity. Goat milk has higher vitamin D content than cow milk. Goat milk kefir with vitamin D₃ fortification is potentially lowering blood glucose and insulin levels in diabetic persons.

Methods: A total of 20 male Wistar rats were divided randomly into 4 groups: K- (normal rats); K+ (diabetic rats); P1 (diabetic rats with goat milk kefir treatment); P2 (diabetic rats with goat milk kefir with vitamin D₃ fortification treatment). Treatment was conducted for 28 days. This study was true experimental research with randomized pre-post control group design. Statistical analyses to analyze the difference in pre and post treatments were Paired t-test on normal data and Wilcoxon test on abnormal data. Different tests between groups were using Anova for normal data and Kruskal Wallis for abnormal data.

Results: There was a significant difference in blood glucose levels between the treatment groups ($p = 0.049$). The decrease in insulin levels ($\Delta P2$) was -85.32 pg/ml and blood glucose ($\Delta P2$) was -48.78 mg/dL in diabetic wistar rats. However, goat milk kefir with vitamin D₃ fortification had no effect of decreasing insulin levels and blood glucose levels significantly.

Conclusion: There was an effect of decreased insulin levels and blood glucose levels in diabetic wistar rats with goat milk kefir with vitamin D₃ fortification but it was not statistically significant.

Keywords: Goat milk kefir; fortification; vitamin D₃; blood glucose; insulin

Comparative Analyses of Antioxidant Activity, Aloin and Mannose Content of Aloe Vera (*Aloe vera Barbadensis*)

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ABSTRACT

Background: Aloe vera processing is able to either decrease or eliminate bioactive compounds. This study was to examine antioxidant activity, aloin and mannose content in fresh aloe vera and its products of Barbadensis Mill (BM).

Methods: antioxidant activity was assessed by DPPH and ABTS, while aloin and mannose content were assessed by HPLC.

Results: antioxidant activity in fresh BM, BM commercial, BM homemade, with DPPH method were 36.95%, 3.88%, and 4.60%, while with ABTS method were 15.9%, 1.8%, and 4.3%, respectively, while their aloin content were 27208.93 ppm, 797.28 ppm, and 42209.75 ppm. Furthermore, their mannose content was 0.18%, 18.27%, and 6.77%, respectively.

Conclusion: The highest antioxidant activity was available on fresh *aloe vera*. Food processing like washing, heating at high temperature, and sugar addition could significantly decline antioxidant activity by 90%. In general, homemade drinks had slightly higher antioxidant activity than commercial drinks. DPPH showed more sensitive to assess antioxidant activity in *aloe vera* than ABTS. *Aloin* content was directly proportional with antioxidant activity. *Mannose* content increased in aloe vera-based drinks because of reaction of sugar addition in the food processing.

Keywords: Aloe vera varieties *Barbadensis*; antioxidant activity; aloin, Mannose

The Comparative Role between Cape Gooseberry Juice and Quercetin in Increasing Antioxidant Capacity and Adiponectin in Diabetic Rat

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ABSTRACT

Introduction: *Quercetin* is reported as one of main flavonoids in Cape Gooseberry (CG) which has a role to improve diabetic condition. The study was aimed to compare the effect of CG juice and quercetin in increasing both total antioxidant capacity (TAC) and adiponectin level of diabetic rat induced by high fat diet-*streptozotocin* (HFD-STZ).

Method: Twenty-five Wistar rats were divided into 5 groups which each group consisted of 5 rats. K(+) was diabetes group served as a positive control, while K(-) was healthy group served as a negative control. X1 and X2 were diabetes groups received CG juice 5 ml/kg/d and 25 ml/kg/d respectively. X3 was diabetes group received *quercetin* 30 mg/kg/d and was used as a standard treatment. TAC and adiponectin level were measured by ABTS and ELISA method, respectively.

Results: There was significantly higher TAC in the treatment groups compared with K(+) ($p < 0.05$). X2 had (0.59(0.30-0.59)) mmol/L TAC level significantly higher than X1 (0.15(0.00-0.44); $p = 0.025$). Moreover, adiponectin level of the treatment groups improved significantly compared with K(+) ($p < 0.05$). X2 had adiponectin level (4.4±0.50 mg/L) significantly higher than X1 (-0.5±0.67; $p < 0.001$). TAC and adiponectin levels of X2 were significantly different with X3 (0.78 (0.59-0.88), $p = 0.017$; and 6.3±0.36, $p = 0.0001$, respectively).

Conclusion: CG juice in dose of 25 ml/kg/d presents a better effect than 5 ml/kg/d in improving TAC and adiponectin level of diabetic rats. CG juice differs from *quercetin* in the ability in increasing TAC and adiponectin levels.

Keywords: Cape-Gooseberry; diabetic; antioxidant; adiponectin

Study of Goat Milk Kefir Fortified with Vitamin D₃ on Malondialdehyde (MDA) Levels in Diabetes Rats.

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ABSTRACT

Introduction: The condition of hyperglycemia in patients with type-2-diabetes mellitus plays a role in the accumulation of free radicals through several pathways which can lead to oxidative stress condition. Oxidative stress leads to lipid peroxidation elevation that can be measured by Malondialdehyde (MDA) levels. Goat milk kefir has antioxidant, anti-diabetic, anti-oxidative, prebiotic and probiotic. The consumption of vitamin D₃ has the potential to decrease MDA levels. This study aimed to analyze blood glucose and malondialdehyde levels on the administration of goat milk kefir with vitamin D₃ fortification in diabetes *Rattus Norvegicus* rats.

Methods: This study was a true experimental research with pre-post test only group design. A total of 20 *Rattus Norvegicus* Rats were randomly divided into 4 groups: K- (normal rats), K+ (diabetic rats without treatment), P1 (diabetic rats given standard feed, drink and goat milk kefir without vitamin D₃ fortification) and P2 (diabetic rats given standard feed, drink and goat milk kefir with vitamin D₃ fortification). The treatment was given as much as 2ml/grBW/day for 28 days. MDA levels were measured by ELISA method. Blood glucose levels were measured by GOD-PAP method.

Results: The glucose (p=0.317) and MDA (p=0.081) levels were not significant. The decrease might be caused by hypoglycemia and antioxidant effect. The decreases of MDA levels were; K- = -29.74, K+ = -23.34, P1 = -15.07, P2 = -23.6 respectively. There were no significant differences between groups after treatment (p > 0.05)

Conclusion: The administration of goat milk kefir with vitamin D₃ fortification had higher decrease on blood glucose and MDA levels compared to the administration of goat milk kefir without vitamin D₃ fortification in diabetic rats. However, the statistic was not significantly difference.

Keywords: Goat milk kefir; vitamin D₃; fortification; diabetes mellitus

Potential of Rice Bran Extract to Body Weight, Triglyceride, and Malondialdehyde Levels in Obese Rat

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ABSTRACT

Background: obesity is a consequence of fat accumulation in adipose tissue and it increases oxidative stress. The prevalence of obesity in the worldwide increased. Rice bran extract (RBE) is reported as functional food that has high antioxidant and anti-obesity effect. This study aimed to prove the effectivity of RBE to decrease body weight, triglyceride (TG), and malondialdehyde (MDA) in obese Sprague Dawley rats.

Methods: randomized experimental pre-post-test with control group design. Obese rats were induced by high fat sucrose diet for 6 weeks and RBE used hexane solvent. Thirty rats were divided into 5 groups: healthy rats as negative control (K-); obese rats as positive control (K+); obese rats treated with 100 mg/kgBW RBE (X₁); obese rats treated with 150 mg/kgBW RBE (X₂); obese rats treated with 200 mg/kgBW RBE (X₃). Treatments were administered for 3 weeks after obesity induction. Triglyceride and MDA level were assessed by GPO and TBARS method respectively.

Results: rice bran extract with various dosage significantly decreased body weight, TG, and MDA level ($p < 0.05$). Triglyceride level between X₂ and X₃ did not show significantly different ($p > 0.05$). Beside that, MDA level of X₂ and X₃ were significantly different compared with K+ ($p < 0.05$).

Conclusion: rice bran extract was able to decrease body weight. High dosage of rice bran extract (150 mg/kgBW and 200 mg/kgBW) had the same ability to decrease TG and MDA level in obese rats.

Keywords: Body weight; malondialdehyde; obesity; rice bran extract; triglyceride

Anti-Diabetic Potential of Golden Berry Juice in Diabetic Rats

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ABSTRACT

Introduction: Diabetes Mellitus Type 2 (T2DM) is one of the non-communicable diseases that still becomes the world problem while its number keeps increasing. Quercetin is the main flavonoid component in the golden berry juice that can repair diabetes mellitus condition. The purpose of this study is to prove the potential of golden berry juice in improving blood glucose, insulin, homeostasis model of assessment-insulin resistance (HOMA-IR), *triglycerides (TG)* and high-density lipoprotein (HDL) cholesterol in the rat models of T2DM T2DM which were induced by high-fat diet and streptozotocin (STZ).

Methods: T2DM rats were divided into 4 groups; the control group of T2DM the group given 6 mg/200 g BW, the group of T2DM given the golden berry juice 1 ml/200 g BW/day, and the group of T2DM given 5 ml/200 g BW/day for 28 days. The examination of blood glucose, insulin, HOMA-IR, TG, and HDL cholesterol were conducted on day 0 and day 28 of the treatment.

Results: There were a significant decrease in the blood glucose, HOMA-IR, and TG ($p < 0.05$) and a significant difference in the insulin and HDL cholesterol levels ($p < 0.05$) compared to the group given quercetin that was not significantly different in decreasing blood glucose level.

Conclusion: Golden berry juice was proven in giving good effects to T2DM rats. Generally, the varying doses of golden berry juice 1 ml and 5 ml/200 g BW/day have a better effect in improving T2DM condition compared to quercetin.

Keywords: Type 2 diabetes mellitus; antidiabetic; golden berry juice; quercetin

Utilization of Banana Peel as Pectin Source for Antidiarrheal Drug in Castor Oil-Induced Wistar Rats

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ABSTRACT

Introduction: Banana peel has been known to contain high concentration of pectin. Pectin has been used as antidiarrheal drugs to absorb irritants and increase stool consistency. However, the utilization of banana peel extract to increase stool consistency has not been studied yet.

Method: Experimental research with post-test only control group design. The samples (n=30 male wistar rats) were given castor oil to induce diarrhea, then randomized into 5 groups. Positive control group (Group I) was given attapulgit at 124 mg/kg, negative control group (Group II) was given 0.5 ml of 1% Tween 80 which acted as vehicle. Group III, IV, and V were given BPE at different doses of 100, 200, and 400 mg/kg respectively. The stool consistency was observed every hour for 4 hours by weighing fresh and dry stool weight then the water content was calculated. Data analysis were conducted using One-way ANOVA and LSD post hoc test.

Results: There were significant differences in stool consistency between Group III, IV, and V to Group II ($p < 0.005$), between groups Group III and IV to Group I ($p < 0.005$), and no significant differences between group V to Group I ($p = 0.149$).

Conclusion: Banana peel extract which contains pectin can increase the stool consistency of rats with diarrhea. Banana peel extract at the dose of 400 mg/kg has the potency which is close to attapulgit as standard drug.

Keywords: Diarrhea; banana peel extract; pectin; stool consistency

Correlation Between Visceral Fat and Hepcidin, Hemoglobin, Iron Serum, HbA1c in Overweight and Obesity

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ABSTRACT

Introduction: Obesity is one of global epidemic health problems. Fat tissue, including visceral fat, plays important role in inflammation by secreting pro-inflammatory cytokines, resulted in inflammatory state that contribute in some obesity-related comorbidities, including iron deficiency anemia. Hepcidin contribute in iron metabolism and pathogenic of inflammation that can occur in obesity. Hemoglobin and iron serum are often used for diagnose of iron deficiency anemia, while HbA1c is part of hemoglobin used for diagnosing diabetes that can occur in obesity. High visceral fat may produce hepcidin that contribute in anemia and risk of diabetes, but the correlation between those parameters in overweight and obesity is still unclear.

Methods: Cross-sectional study of 30 overweight and obese young adults (age 18 to 23 years old), based on WHO criteria, on December 2017 – April 2018 was done. Visceral fat was measured by body composition monitor, hepcidin was measured by ELISA, HbA1c was measured by high-performance liquid chromatography, hemoglobin was measured by hematology analyzer, and serum iron was measured by clinical-chemistry analyzer. Spearman test was performed for analysing data with $p < 0.05$ was significant.

Result: Visceral fat had significant moderate positive correlation with haemoglobin, iron serum, and HbA1c, respectively ($r=0.584$, $p=0.001$; $r=0.451$, $p=0.012$; $r=0.384$, $p=0.036$), but found to be uncorrelated with hepcidin ($p = 0.351$).

Conclusion: There was significant moderate positive correlation between visceral fat and hemoglobin, iron serum, HbA1c, but there was no correlation between visceral fat and hepcidin. Higher amounts of visceral fat are associated with increased risks of health problems including iron deficiency anemia and type 2 diabetic mellitus. Future biomolecular research needs to observe the role of hepcidin secreted by fat tissue.

Keywords: Obesity; visceral fat; hepcidin; hemoglobin; iron; HbA1c

Association between Healthy Eating Index and Nutritional Status of Women across Two Seasons

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ABSTRACT

Introduction: Worldwide, prevalence of overweight and obesity is increasing, including among women in rural area. Seasonal change may impact in food utilization that associates with nutritional status. The study intended to examine the association between healthy eating index (HEI) score, as a measure of dietary quality, and nutritional status among women reproductive age across two seasons in rural area (Buol).

Methods: A longitudinal study was conducted involving 153 women in reproductive age in lean and harvest seasons. Diet quality from two seasons was assessed by HEI-2010 which consisted of adequacy component (nine-food groups) and moderation component (three-food groups). Nutritional status was measured using body mass index (BMI). Association between HEI and nutritional status across two seasons was analysed using multivariate linear regression after adjustments with confounding factor.

Results: Median age of the women was 31 (18-49) years old with 83.7% of them came from non-poor family. BMI of the women in lean vs harvest seasons were 23.77 ± 4.10 kg/m² vs 23.96 ± 4.20 kg/m² respectively. All women in lean season and 98% women in harvest season had poor diets (HEI < 50). Total HEI-score in harvest 36.6 (29.0 – 40.0) was significantly higher than in lean season 33.1 (28.5 – 37.4), $p=0.026$. Moreover, HEI score of women in both seasons ($n=306$) was positively associated with body mass index ($\beta=0.113$, $p=0.043$) after adjustment for seasons and demographic characteristics.

Conclusion: In this study, seasonal changes influence HEI score, which associated with BMI of women in reproductive age in rural area.

Keywords: Healthy eating index; nutritional status of women; two seasons

Analysis of Correlation between Self-Efficacy of Self-care and Demographic Characteristic with Attitude of Low Salt Diet among Patients with Hypertension

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ABSTRACT

Introduction: Hypertension self-care low salt diet that requires long-term care. It makes patients must be adapted with their new lifestyle. They need positive attitude for making adaptive coping mechanism while facing the obstacle. Self-efficacy can change mindset and attitude, so it can influence one's basic interests for forming a commitment to maintain self-care. This study showed that demographic characteristic had no correlation attitude, so that had contra with several previous study, exclude job. This study aimed to analyze the correlation between self-efficacy of selfcare and demographic characteristic with attitudes in low-salt dietin hypertensive patients.

Methods: Quantitative descriptive correlative with cross-sectional approach. The sampling method is consecutive sampling with 158 respondents. Data collection used questionnaires of Albert Bandura and Allport theories which created by researcher that had been tested the validity and reliability. Statistical analyses were conducted using crosstab *chi-square* analyses.

Results: It shows that 53.2% of respondents had high self-efficacy level and 56.3% of respondents had positive attitude in low salt diet. There was a significant correlation between self-efficacy level and hypertension attitudes in low salt diet ($p=0.000$) and no correlation between demographic characteristic and attitude ($p> 0.05$), meaning that person with higher self-efficacy level would have more positive attitude in low salt diet.

Conclusion: This research is expected to be a recommendation for nurse to increase hypertension patient's self-efficacy to create positive attitude in low salt diet by giving intervention self-efficacy training that involve their family based on their own demographic characteristic. It is expected to pay attention to the attitudes and self-efficacy to maintain compliance with low-salt diet.

Key words: Low salt diet; patients with hypertension; self-efficacy; self-care

Milk Protein Supplementation Improves Muscle Performance and Total Antioxidant Status in Soccer Athletes

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ABSTRACT

Introduction: High of ROS can decrease muscle performance and closely related to the athletes' achievement. Milk proteins (whey and casein) have essential and non-essential amino acids, which have some benefit to muscle performance through increased antioxidant levels. This study aimed to determine the effect of milk protein on muscle performance and total antioxidant status (TAS) on soccer athletes.

Methods: A randomized controlled supplementation trial was conducted on 20 male athletes aged 16-18 years at PPLP Central Java Soccer Club. The treatment group received 24 g/d milk protein and the control group 24 g/d maltodextrin for 28 days. Muscle performance was measured through 20 m sprint, shuttle run, illinois run, standing broad jump, sit up, push up, and 1-RM leg extension. TAS was analyzed by ABTS [azinobis (3ethylbenzothiazine-6-sulfonate)] method. Data were analysed by T-tests and GLM.

Results: there were no difference in muscle performance and TAS between the groups at baseline. After adjustment by age, selenium intake, and pre-treatment performance, there were significant improvements in shuttle run (6.06 sec vs 6.32 sec, SE=0.04), sit up (67.74 times/60sec vs 62.06 times/60sec, SE=0.82), and 1RM leg extension (133.47 kg vs 108.03 kg, SE=5.78). Otherwise, there were no improvement in 20 m sprint, illinois run, standing broad jump, and push up. TAS in the treatment was also higher than the control group (1.29 mmol/L vs 0.88 mmol/L, SE=0.10) at the end of the study.

Conclusion: Milk proteins supplementation for 28 days increased muscle performance and TAS.

Keywords: Milk protein; muscle performance; TAS

Nutritional Status and Hemoglobin Levels among HIV/AIDS Patients Receiving High Energy and High Protein Diet

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ABSTRACT

Introduction: Underweight and anemia are clinical manifestation that occur in HIV/AIDS patients. Nutrition therapy is required to reduce that clinical manifestation by giving High Energy and High Protein (HEHP) Diet with high Fe and vitamin B12. This study aimed to investigate the nutritional status and haemoglobin levels among hiv/aids patients receiving high energy, protein, Fe, and vitamin B12 diet.

Method: The study design was quasi-experimental. Thirty-two patients with HIV / AIDS in dr. Saiful Anwar Malang, Indonesia hospital received High-Energy High, protein, Fe, and vitamin B12 diet during 30 days. Nutritional status and haemoglobin levels were measured before and after administration of that diet using mid-upper arm circumference (MUAC) and collecting from medical record respectively. The differences of MUAC score and haemoglobin levels were analyzed using paired t-test.

Results: The average \pm SD of MUAC score before and after receiving diet were 24 ± 2.49 and 27.24 ± 2.37 respectively. The level of haemoglobin before and after receiving diet were 9.73 ± 0.95 mg/dl and 15.33 ± 1.66 mg/dl was respectively. Statistical analysis showed that there were significant differences between MUAC score and haemoglobin levels before and after receiving diet ($p = 0.001$ and $p = 0.001$ respectively) with confidence interval 95%.

Conclusion: This study concluded that high energy, protein, Fe, and vitamin B12 diet increased nutritional status and haemoglobin levels among HIV/ADIS patients.

Keywords: Hemoglobin; high energy and protein diet; HIV/AIDS, nutritional status

Patient's Perception of Food Correlates with the Amount of Patient's Plate Waste

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ABSTRACT

Introduction: Patient's satisfaction about hospital food services can be influenced by patient's food perception on flavor. The amount of patient's plate waste is a quality indicator of hospital food services which affect hospital quality. This research aimed to analyse the correlation between the patient's perception on food taste and food smell with the amount of patient's plate waste.

Method: This was a cross-sectional study using digital imaging method for analysing the amount of plate waste during lunchtime including rice, animal protein, vegetable protein, vegetable, and fruit as well as using a questionnaire for collecting patient's perception of the food taste and food smell. This research used 146 samples which were selected through purposive sampling technique.

Results: The result of this research showed that vegetable is the most food type uneaten by patients. Most patients said animal protein has good taste and smell. There was a correlation between patient's perception of vegetable protein's taste with the amount of vegetable protein's waste ($p = 0.004$). Otherwise, this study also found out the correlation between patient's perception of fruit's taste with the amount of fruit's waste ($p = 0.040$). Yet, patient's perception of food smell had no correlation with the amount of patient's plate waste.

Conclusion: It can be concluded that patient's food perception on taste correlate with the amount of plate waste of vegetable protein and fruits.

Keywords: Food smell; food taste; plate waste; perception

The Optimal Efforts in The Prevention of Muscle Fatigue by Palm date and Cashew Nut Intervention

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ABSTRACT

Introduction: A sprinter required great energy in a short time so the risk of muscle fatigue was higher than ordinary people. However, it was lacks of serious preventive efforts in fatigue management especially anaerobic muscle fatigue. This study aimed to analyse the effect of palm date and cashew nut which high nutrients content to prevent muscle fatigue.

Methods: It was one group pre-post test study design. The subjects were measured by RAST (Running-based Anaerobic Sprint Test) prior before any intervention as a pre-test to know the Fatigue Index (FI). After one day rest, subjects received 100 grams of palm date intervention since one hour before RAST as a post-test 1. Then, after one day rest, subjects received 100 grams of cashew nut intervention since one hour before RAST as a post-test 2. Data were analysed by Repeated Anova-test followed by Pairwise Comparisons test.

Results: The result of the study showed that at least there was two different FI among pre-test, post-test 1, and post-test 2 ($p < 0.05$). Meanwhile, the Pairwise comparisons showed that there was FI significantly different between pre-test and post-test 1 ($p < 0.05$) however there was not FI significantly different between pre-test and post-test 2 as well as between post-test 1 and post-test 2 ($p > 0.05$).

Conclusion: Palm date intervention was significantly prevented anaerobic muscle fatigue indicated by the decrease of Fatigue Index (FI). In addition, cashew nut intervention tends to reduce FI although statistically insignificant. It still needs more comprehensive study with larger sample size and lactic acid measurement.

Keywords: Muscle fatigue; palm date; cashew nut; fatigue index; RAST; sprint

Adequacy of Energy Protein Intake and Hand Grip Strength (HGS) in HIV patients

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ABSTRACT

Introduction: Most patients with HIV suffering from weight loss due to various causes, e.g. nausea, anorexia, and inadequate dietary intake that leading to malnutrition risk. Malnutrition risk is associated with lower functional capacity and muscle strength. HGS is a valid method to evaluate voluntary muscle strength. Unfortunately, there is not enough evidence whether nutrition intake could affect muscle strength in HIV patients. This study conducted to determine the correlation between adequacy of energy and protein intake with HGS in HIV patients.

Methods: This research was performed using correlation analysis method. Sixty-six patients aged >18y, normal BMI, not diagnosed tuberculosis nor consuming any tuberculosis medications, not suffering from diarrhea, muscle atrophy, wound nor amputation in the hands, were recruited from VCT Clinic in dr. Kariadi General Hospital Semarang. Nutritional intake was determined using FFQ and Nutrisurvey® software. Energy requirement calculated using TEE formula and protein requirement was set for 0.8 g/kgBW/day plus 10%. Adequacy energy and protein intake were presented as percentage of their energy and protein intakes compare to their requirements. HGS was evaluated using Jamar dynamometer. Pearson tests were performed to investigate those correlations.

Results: The adequacy of energy and protein intake was $85 \pm 19.7\%$ and $145.7 \pm 51.5\%$, respectively. The average HGS was 32.6 ± 8.2 kg (men 36.3 ± 6.7 kg; women 25.4 ± 5.6 kg). There was no correlation between energy intake and HGS ($p = 0.720$) and between protein intake and HGS ($p = 0.754$).

Conclusion: Adequacy of energy and protein intake was not significantly correlated to HGS in HIV patients.

Keywords: Muscle fatigue; palm date; cashew nut; fatigue index; RAST; sprint

Effect of Zinc on Milkfish Nastar-Cookies to Albumin and Hemoglobin Levels in HIV/AIDS Patients

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ABSTRACT

Background: Human Immunodeficiency Virus (HIV) destroys the antibody system which causes faster protein breakdown resulting in lower albumin concentration. Zinc supplementation when added to protein in milkfish flour may increase albumin and zinc levels that associated with activity of the aminolevulinic acid dehydrate (ALAD) that synthesizes heme. This study aimed to prove the effect of zinc and milkfish flour addition to increase albumin and haemoglobin levels in HIV/AIDS patients.

Methods: An experimental study with randomized pre-post test with control group design, using control subjects (n = 17) and treatment (n = 21). The administration of milkfish nastar with zinc to treatment group was 100 g/day for 60 days, while the control group was given milkfish nastar without zinc 100 g/day for 60 days. The measurement of albumin level used auto photometric with enzymatic colour test methods and reticulated method for haemoglobin level measurement that conducted before and after treatments. Data were analysed using Shapiro-Wilk, paired t-test, and independent t-test with significance value at $p < 0.05$.

Results: Means of albumin level in treatment group increased by 7.03%, while the control group increased 4.33% ($p > 0.05$). Means of haemoglobin level in treatment group increased 12.0%, while control group increased 7.9% ($p < 0.05$).

Conclusion: Albumin and haemoglobin levels increased after milkfish nastar administration with zinc addition in HIV/AIDS patients.

Keywords: Albumin; HIV-AIDS; haemoglobin; milkfish nastar cookies; zinc supplementation

Intake of Sugar Sweetened Beverages as a Risk Factor for Central Obesity among Women in Reproductive Age

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ABSTRACT

Introduction: Several risk factors for central obesity include high sugar sweetened beverages (SSBs) intake, lack of physical activity, and lack of sleep duration. This study aimed to analyze the intake of SSBs, physical activity and sleep duration as the risk factors for central obesity among women in reproductive age

Methods: This study used a case-control design consisting of 38 women in case and control groups. All women were in childbearing age (20-29 years) who were selected using simple random sampling technique. The data taken were weight, height, waist circumference, and hip circumference. Food intake and SSB intake were obtained by using Semi Quantitative Food Frequency (SQ-FFQ) questionnaire. Physical activity data were obtained using the International Physical Activity Questionnaire (IPAQ) questionnaire. Sleep duration data were obtained using the Pittsburgh Sleep Quality Index (PSQI). Chi Square test and logistic regression were used to analyze the data.

Results: There was a significant relationship between SSBs intake ($p=0.002$, OR =5.926), energy intake of SSBs ($p=0.035$, OR=2.979) physical activity ($p=0.035$, OR=0.3111), duration of morning/afternoon sleep ($p=0.000$; OR=9.44) and sleep duration ($p=0.028$, OR=4.42) with central obesity. However, there was no significant relationship between energy intake ($p=0.375$), carbohydrates ($p=0.1$), protein ($p=0.3$), fat ($p=0.1$) and fibers with central obesity.

Conclusion: The more risk factors of increasing the incidence of central obesity among women in reproductive age where the high intake of SSBs, the short duration of night's sleep and of more than 2 hours's day sleep.

Keywords: Sugar sweetened beverages; physical activity; sleep duration; central obesity; reproductive age

Inter-Professional Education (IPE) in Developing Countries: Challenges and Lesson Learnt from its Implementation in United Kingdom: A Systematic Review.

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ABSTRACT

Introduction: Evidence of effectiveness of IPE in improving collaboration practice, patient and family satisfaction, and patient outcomes had been widely published. Most of developed countries, including United Kingdom, have implemented IPE in their healthcare curriculum, whereas some developing countries are starting the IPE initiative program. This study aims to examine the challenges in implementing IPE.

Method: Primary studies to be included in this systematic review were searched from electronic databases such as MEDLINE (OVID) 1996, CINAHL, and ERIC (EBSCO). Hand-searching through Journal of Inter-professional care was also conducted. The included studies were critically appraised using JBI QARI appraisal tool. The findings of the included studies were extracted using JBI finding extraction form and appraised based on the JBI level of credibility. The analysis of the study was presented in narrative form.

Results: This review produced five qualitative studies using focus groups and interview methods. A total of 5 out of 88 papers are met the inclusion criteria included in this systematic review. Three synthesis findings of the challenges in implementing IPE and possible solutions were identified in the literature: inter-professional relationship, IPE curriculum, and administration and resources.

Conclusion: The evidence of implementing IPE in developing countries is limited. However, the challenges in implementing IPE in developing countries are remain similar with those faced by developed countries. This can be a guidance for developing countries to plan, initiate and implement IPE. A future study about implementation of IPE in developing countries is highly recommended.

Keywords: Inter-professional education; challenges; developing countries

The Competency of Clinical Educators in Guiding The Students

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ABSTRACT

Introduction: Clinical educators are important component of nursing education. Clinical educators provide latest idea and knowledge about clinical learning for students, where students are encouraged to think critically in rapidly changing clinical situations. Clinical educators are supposed to embed the professionalism as nurses. The main competencies of clinical educators consist of eight; including facilitating learning, self-development and student socialization, using assessment and evaluation strategies, developing curriculum design and evaluation programs, taking role as change agents and leaders, improving the sustainably quality of their role as clinical educators, and practically engaged in the educational environment. Students will be able to be developed as a nurse if they have the right certain clinical experience. This research aims to know the competency of clinical educators in guiding the students.

Method: The research was a descriptive research with survey technique to 171 respondents using questionnaire. The data is displayed in the form of frequency distribution.

Result: The results showed that the highest competency of clinical educator was in the development of curriculum and evaluation program; 58.5% while the lowest competence was the involvement of clinical educators in the educational environment; 36.8%. Whereas other competencies were actively involved in the development of science was 55.6%; self-development and student socialization were 50.9%; as a change agent and leader was 45%; facilitating learning was 45%; using assessment and evaluation was 38.6%; and the improvement of role quality as clinic educators was 38.6%. The results showed that the most clinical educators hd not applied the competence as clinical educators.

Conclusion: The clinical educators are able to apply three competencies optimally, including self-development competencies and student socialization, curriculum development and evaluation and the involvement in scientific development. Other competencies still need improvement.

Keywords: Competency; clinical educators; nursing

Effect of Team Build Training on Perception towards Communication & Teamwork for Students of FMPHN-UGM

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ABSTRACT

Introduction: Interprofessional education (IPE) occurs when students from two or more professions learn about, from, and with each other, to improve health outcome. Two core values of IPE are communication and teamwork. Communication among students from different study program is important thing to build solid team. First year students who come from three study programs and rarely interact with each other are need a constructive event to build good interprofessional practice. Therefore, training on team building is needed to improve teamwork and communication. The aim of this study is to measure the student's self perception toward the importance of communication and team building.

Method: This was a descriptive cross-sectional study using pre and post test. 303 of first year students from medical, nursing and dietician participated in the study by filling the questionnaire. The questionnaire consisted of five questions related to team buiding and communication.

Result: There was a trend of improvement on self-perception associated with the importance of communication and team building before and after the training ($p\text{-value} < 0.05$). The highest improvement was related to the need of understanding each other among team members. However, students have had a good understanding related to importance of non-verbal and verbal communication as well as the importance of teamwork before and after the training ($p\text{-value} > 0.05$).

Conclusion: Training on team buiding was able to improve the students understanding on importance of communication and teamwork in IPE among first year students of FMPHN UGM.

Keywords: Training on team building; communication; teamwork; first year student

Roles and Responsibilities among Nurse, Medical and Nutrition Student

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ABSTRACT

Introduction: Inter-professional education should set up started from education process in order to create health professionals who qualified in health services. Faculty of Medicine Public Health and Nursing, Universitas Gadjah Mada had initiated CFHC-IPE (Community and Family Health Care, Inter-professional Education) program since 2013. This program is compulsory for three disciplines, which is Medical, nursing and nutrition students. This program has specific objectives and themes from first year to fourth year. This study aims to analyze the implementation of inter-professional collaboration among three disciplines (medical, nursing and nutrition) during the activities of CFHC-IPE in year two.

Methods: We performed the program summary of CFHC-IPE program in year two in 2016-2017. The objective of CFHC-IPE in year two is students should identify risk factors of health of the family in community.

Result: The implementation in year two of CFHC-IPE program involved 466 students from three disciplines divided into 94 small groups. The small groups supervised by 23 field lecturers from faculty and field instructors from PHC, each lecturer and field instructor supervise three until four groups. A group of students working together to explore the risk factors in three family. There were 282 families involved by the year 2017. Students also give simple health education while exploring the risk factors in family based on their skills and disciplines. The collaboration practices between three disciplines are still need to be improved although they were already working together but missed the spirit of collaboration among different disciplines.

Conclusion: The CFHC-IPE program in year two has been showed the satisfactory result of its objectives, however this program is still need improvement for assessment tools and evaluation, especially the tools to evaluate the collaboration practice among students from three disciplines. Thus, this program should create a good tool to assess and evaluate the collaboration practice to be more objectively measured.

Keywords: Community and family health care; risk factor; implementation; inter-professional education; inter-professional collaboration

Students Perception about Work Team Ability after Implementation of Ipe Program in the Community

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ABSTRACT

Introduction: In order to decrease adverse effect in health outcome, work collaboration is needed to conduct health services both in primary, secondary or tertiary care. Inter-professional Education (IPE) has been implemented widely to acquire the competencies of work team collaboration. This study intended to evaluate these competencies when IPE was implemented in the community setting.

Methods: This is a cross sectional study using total sampling of 6thsemester health professions students in the Faculty of Medicine Diponegoro University. 201 medical, 106 nursing, and 89 nutrition students were involved in this program. Each small group of students was attached to 1 family and should work together to identify health problems, implemented intervention and eventually evaluated the result of their intervention. Modification of Dundee Ready Educational Environment Measure (DREEM) and Attitudes Toward Inter-professional Health Care Teams (ATHCT) questionnaire was used to acquire students perception in the end of this program.

Results: This program resulted positive perception about IPE implementation among students, it is around 78.8% which has enough perception. Most students also perceived that their team work ability in all aspect were enough, it is about 54.8% of participants. Spearman correlation between students' perception about program with collaboration ability was 0.67 (p value= 0.01).

Conclusion: IPE program that implemented in the community was valued by health profession students. There was positive correlation between student's perception about the program with ability of teamwork collaboration.

Keywords: IPE; community; teamwork; collaboration

Chief Nurses' Self-Management during the Application of 'Relactor' Nursing Delegation Model at Roemani Hospital of Semarang

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ABSTRACT

Introduction: 'Relactor' Nursing Delegation Model was proven to be effective in nursing delegation quality. The aim of this research was to find out more about chief nurses' self-management during the application of 'Relactor' Nursing Delegation Model at Roemani Hospital of Semarang.

Methods: It was a qualitative research with descriptive phenomenology approach. The instruments involved during the data collection were an interview guideline and the researcher itself. The participants of the research were three chief nurses. The research was conducted at Roemani Hospital of Semarang, specifically at pediatric care unit, chronic diseases care unit, and intensive care unit.

Results: The research created the main research theme, which was chief nurses' self-management in applying 'Relactor' Nursing Delegation Model.

Conclusion: It is concluded that the nurses did not have adequate self-management during application of 'Relactor' Nursing Delegation Model, so that it was rarely applied.

Keywords: Chief nurse; Relactor' Nursing Delegation Model; self-management

Factors Analysis Related Towards Behavior of Nosocomial Infection Control on Family Waiting Patient

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ABSTRACT

Introduction: World Health Organization predicted 1.4 million people infected Health Associated Infection (HAIs). One of risk factor caused is behavior of nosocomial infection control on patient watcher. The purpose is to know relation behavior of nosocomial infection control on patient watcher patient in Semarang hospital and the number of participants were 61 people.

Methods: Research method was observation with cross sectional approach. Sampling technique was purposive sampling. Data analysis used univariate and bivariate analysis with pearson correlation test and chi-square test.

Results: Result showed a half of them, mean of age participant was 45.56. Minimum-maximum values was 20-62 with standard deviation 11.114, gender in the research most of them was female (83.6%), last education was junior high school (34.4%), most of them worked as maids (45.9%). Category of behavior of nosocomial infection control: less (44.3%), moderate (34.4%), and good (21.3%). There is meaningful relation between behavior of nosocomial infection control behavior with age (ρ value = 0.000), education (ρ value = 0.000), and occupation (ρ value = 0.000). There was not meaningful relation between behavior of nosocomial infection control with gender (ρ value=0.186).

Conclusion: there is meaningful relation between behavior of nosocomial infection control on patient watcher with age, education, and job, while gender doesnot have meaningful relation with behavior of nosocomial infection control. Based on this research, it is recommended to be done as intervention which able to increase behavior of nosocomial infection control on patient watcher by nursing improving service.

Keywords: Infection control behavior; Family Waiting Patient

The Effect of Ten Carative Factors Application on the Improvement of Nurses Caring Skills and Patient Satisfaction at Regional Public Hospital Jombang

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ABSTRACT

Introduction: Caring is a nurse's professional actions in nursing care and fostering relationships with patients who need self-awareness, selecting processes, knowledge and skills in particular and considering time. was built on ten carative factors including humanistic-altruistic, hope, sensitivity, caring, feeling expression, problem solving, learning, environment, fulfilment of basic human and spiritual needs. This study aims to determine the effect of the ten carative factors application on the improvement of nurses caring skills and patient satisfaction.

Method: This type of research is quantitative using experimental research design of pre-experiment and post design with control group. This research was conducted at installation of regional public hospital Jombang, to 24 nurses and 40 patients in each group with proportionate random sampling and consecutive sampling technique. The method used in this research is pre-experiment pre-post with control group. Measurements with observation sheets modified caring nurse patient interactions scale and questionnaire sheet modified servqual method.

Results: The result of statistical test shows that there is difference of mean value of nurses caring skills and patient satisfaction between before and after caring carative training. The mean value of nurse caring skills before the intervention was 9.12 and after intervention increased 16.25 and the mean value of patient satisfaction before intervention 58.38 and after intervention increased 80.45 with p value $0.001 < 0.005$.

Conclusion: Thus, it is concluded that there is influence of application of ten carative factors to the improvement of nurses caring skills and patient satisfaction. Based on the results of this study, Jombang public hospitals are recommended to conduct carative caring training programmed and make it as a guide in applying nursing care that can be able to become a work culture.

Keywords: Carative factors; caring; patient satisfaction; training

Oxidative Stress After Long-Distance Cycling (Indonesian North Coast & Tour De Borobudur 2017 Study)

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ABSTRACT

Introduction: Oxidative stress occurs after exercise includes cycling. Purpose of this study was to investigate (1) the level of malondialdehyde (MDA) after long-distance cycling, and (2) factors that related to MDA elevation.

Methods: A total of 88 cyclists of the either 2017 Indonesian North Coast (NC) or Tour de Borobudur (TdB) participants were enrolled. Blood samples were taken to determine baseline of plasma MDA, haemoglobin and lipid profile. Demographic and medical history data were obtained as well. Heart Rate (HR) was measured continuously during cycling touring by heart rate monitor. Shortly after cycling related measurement was done again. Paired Student *t* test was conducted to compare baseline and post-cycling level of MDA, while independent *t* test, *Mann-Whitney* and *Chi-Square* test was conducted depends on the characteristic of data to compare parameters in the group with MDA elevation. Binary logistic was conducted to determine factors that related to MDA elevation.

Results: The levels of MDA in NC240K group pre- and post-cycling were 214±78.1 to 231±105.5 µmol/mL, respectively ($p < 0.0001$), TdB140K: 182±75.1 to 210±119.3 µmol/mL ($p = 0.012$), TdB100K: 176±72.9 to 193±68.5 µmol/mL ($p = 0.06$), total group: 190±76.3 to 210±98.9 µmol/mL ($p = 0.026$). The elevation of MDA was related to %HRR of peak HR (OR 1.95, 95% CI: 1.912 – 2.995); $p = 0.030$) and experienced in long-distance cycling touring (OR 0.243, 95% CI: 0.066–0.896); $p = 0.034$).

Conclusion: Oxidative stress marker i.e. MDA was increased after long-distance cycling. The increased of MDA is parallel with the increase of percentage HRR of peak HR and experienced in long-distance cycling touring.

Keywords: Oxidative stress; physical exercise; aerobic exercise

Effects of Beta-Glucan on IFN γ and IL-12 Production in PBMCs Induced by *M. Tuberculosis* DNA

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ABSTRACT

Introduction: Beta-glucan is known as one of the potential immunomodulatory polysaccharides. It stimulates immune cells to enhance innate immunity reaction, and stimulates the production of oxidative burst and cytokines, as well as exhibiting antimicrobial properties. The primary cytokines in the process of *Mycobacterium tuberculosis* (*M. Tuberculosis*) bacterial infection are interferon gamma (IFN γ) and interleukin 12 (IL-12). This study aims to determine the effects of beta-glucan on the production of IFN γ and IL-12 in peripheral blood mononuclear cells (PBMCs) induced by *M. tuberculosis* DNA.

Method: In this study, PBMCs were isolated from 11 healthy respondents and were cultured in complete RPMI media containing beta-glucan (5 μ g/ml). They were also induced with mutant or wild-type (WT) *M. Tuberculosis* DNA (10 μ g/ml) for six days in an incubator of 5% CO₂. The production of cytokines IFN γ and IL-12 in the supernatant was performed using ELISA technique with an OD of 450 nm.

Results: The results of this study identified more significant increases in the production of IFN γ in groups of PBMCs receiving beta-glucan than in those receiving no beta-glucan ($p < 0.01$), either in the cells induced by mutant and wild-type (WT) *M. Tuberculosis* DNA, or in non-induced cells. There were no significant differences in the mean of IF γ production among the mutant and WT-induced PBMCs, and non-induced PBMCs ($p > 0.05$). On the other hand, in the production of IL-12 by PBMCs receiving beta-glucan, there were significant differences in the mean values between the cells induced by mutant and WT *M. tuberculosis* DNA, and the non-induced cells, with a $p < 0.05$. Furthermore, there were significant mean differences in the production of IF γ in PBMCs induced by mutant and WT *M. tuberculosis* DNA and the non-induced ones ($p < 0.05$). Similarly, in the production of IL-12 by PBMCs receiving no beta-glucan, there were significant mean differences among the cells induced by mutant and WT *M. tuberculosis* DNA, as well as among the non-induced cells ($p < 0.05$).

Conclusion: The provision of beta-glucan could improve the performance of immune cells in producing cytokines, either in the cells induced by bacterial DNA or in the ones receiving no induction.

Keywords: Beta-glucan, interferon-gamma, interleukin 12, *M. Tuberculosis* DNA

Prevalence and Risk Factors for Low Back Pain in Food Processing Factory Workers in Semarang Indonesia

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ABSTRACT

Introduction: Low back pain (LBP) is a common clinical syndrome of musculoskeletal disorders on the lumbar vertebra area. Low Back Pain is the main symptom on the report to health practitioners associated with decreased work productivity. LBP mostly occurred on a heavy work involving physical and heavy machine or vehicle. The aim of the present study was to determine the prevalence and related risk factors of LBP in food processing factory workers in Semarang.

Methods: It was a cross sectional analytical study involved 392 industrial workers of a food processing industrial company. The workers were given questionnaires. Prevalence of LBP, general characteristics and working condition were investigated. The present of LBP was investigated by the existence of symptom at the previous 12 months using Nordic Musculoskeletal Symptom Survey. Chi-square was used as analysis tools

Results: LBP was found in 21.2% of workers. The prevalence of LBP was significantly associated with age ($p=0.003$, OR=2.732 CI 1.384-5.393), lifting of loads ($p = 0.000$, OR=2.501, CI 1.513-4.133), pushing or pulling heavy loads ($p=0.000$, OR=2.765, CI 1.672-4.575), sitting more than 4 hours/day ($p=0.01$, OR= 1.924, CI 1.178-3.143), standing more than 4 hours/day ($p=0.033$ OR=1.865 CI 1.077-3.230) and extreme trunk flexion/bending ($p=0.003$, OR = 2.230, CI 1.347-3.690). While gender ($p=0.516$) and exposure to whole body vibration ($p=0.632$) had not associated with the prevalence of LBP.

Conclusion: Mechanical exposure such as lifting of loads, pushing or pulling heavy loads and extreme trunk flexion were associated with the occurrence of low back pain. These results suggest that health promotion should focus on working conditions and positions to reduce LBP in workers.

Keywords: LBP; workers; food processing

Effects of Progressive Muscle Relaxation on Sleep Quality and Fatigue in Cancer Patients undergoing Chemotherapy: A Systematic Review

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ABSTRACT

Introduction: Chemotherapy is the most frequent management of cancer patients. Cancer patients undergoing chemotherapy often experience several different side effects such as decrease of sleep quality and fatigue. These side effects could be reduced by Progressive Muscle Relaxation (PMR). However, there is limited evidence related to the effect of PMR to reduce these side effects. Thus, this review aims to assess the effect of PMR on sleep quality and fatigue in cancer patients undergoing chemotherapy.

Methods: This study reviewed previous studies about the effect of PMR on cancer patients. Article search was done systematically through some databases and search engines, such as Science Direct, EBSCO, garuda portal, and google scholar. Inclusion criteria of the article include cancer patients undergoing chemotherapy, using PMR intervention, RCT or quasi-experiment research design. Whereas the exclusion criteria include research with respondents of advanced cancer patients or metastasis and research with psychiatric disorders patients. After the selection process, five articles were included in this review.

Results: PMR is an effective nursing intervention to decrease fatigue in cancer patients undergoing chemotherapy, however, PMR's effect to reduce the sleep quality is still limited.

Conclusion: This systematic review can be used as the basis for the decision to use PMR to reduce fatigue in cancer patients undergoing chemotherapy.

Keywords: Progressive muscle relaxation; relaxation training; cancer patient; chemotherapy; sleep quality; fatigue.

A Study on Body Temperature Variation on Basic Organ Stretching Posture of *Mompyeogi* Movement Exercise

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ABSTRACT

Introduction: Spine stretching and flexibility exercise is introduced by the group of *Mompyeogi* movement exercise ('*mom*' as body and '*pyeogi*' as stretching) that is growing in the Republic of Korea. Although it does not move as fast as an aerobic exercise, the benefit of body organ stretching movement position on this movement exercise can be perceived by *Mompyeogi* participants. Assuming that stretching exercise gives impact on muscle contraction and increases blood flow, we conducted a study to evaluate the effectiveness impact of the stretching exercise by measurement of body skin temperature, part of the vital signs of the human body.

Methods: This study was followed by 20 participants, by measuring body skin temperature variation in different times before and after stretching organ *Mompyeogi* movement exercise with thermal infrared cameras, as a technique of non-invasive and risk-free to detect thermal radiation naturally emitted by human skin.

Results: *Mompyeogi* movement exercise on organ stretching position, by abdominal respiration methods, increases body skin temperature by human body thermoregulation function. Those participants showed increasing of body skin temperature (group low temperature < 33°C, underweight and normal level body mass index). While participants who routinely doing exercise, showed stable body skin temperature result during exercise (group with chest respiration from ages group 60 -74 years).

Conclusion: Stretching organ as a part of basic *Mompyeogi* movement exercise by deep abdominal inhalation shows the variation of body skin temperature according to the homeostasis of thermoregulation human body. Further, the study of *Mompyeogi* movement exercise needs to explore a self-healing effort, as a prevention program for public health contribution.

Keywords: Body skin temperature; inhalation; *Mompyeogi* exercise; thermoregulation infrared

The Overview of Physical Activity in Patients with Hypertension at Kedungmundu Health Center Semarang

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ABSTRACT

Introduction: Activity intolerance is a major nursing problem in patients with hypertension. Activity intolerance affects the quality of life of patients with hypertension, such as discomfort in activity, fatigue, and immobilization. Adjustment of physical activity needs to be done to prevent adverse events. The main purpose of this study is to measure the physical activity in patients with hypertension at Kedungmundu Public Health Center Semarang.

Method: Quantitative descriptive with cross sectional approach was used in this study. 143 respondents were recruited using consecutive sampling method. Global Physical Activity Questionnaire (GPAQ) was utilized to measure the physical activity with $r_{count} > 0,361$ and Alpha Cronbach coefficient value 0,823. The data were analyzed using univariate analysis and presented in frequency distribution table.

Results: Most respondents aged 41-60 years old, as housewives, had first degree hypertension, and had suffered from hypertension for 1-5 years. Most respondents had moderate physical activity level (43.3%) with a value of 600-3000 MET/minutes. Respondents with a light activity level were mostly early adult, had other occupations, had second grade hypertension, and had suffered from hypertension for more than 10 years. Respondents with a moderate activity level were mostly middle adult, worked as civil servants, had prehypertension, and had suffered from hypertension for 6-10 years. Respondents with a vigorous activity level were mostly late adult, worked as labors, had first degree hypertension, and had suffered from hypertension for 1-5 years. More than half of respondents had moderate work activities (53.1%) with a quartile of 17-125 minutes/day, nearly half of respondents had light transportation activities (43.4%) with a quartile of 0 minutes/day, and most respondents had medium recreational activities (42%) with a quartile of 0-20 minutes/day.

Conclusion: Patients with hypertension can assess and choose the right physical activity according to the conditions of hypertension they are suffering from. This research is expected to be a recommendation for nurses to improve motivation of patients with hypertension with low level of activity to join in PROLANIS program. Nurses are also expected to monitor the physical activity of patients with hypertension in the past week and provide education about how the importance of physical activity in order to motivate patients to maintain physical activity. Physical activity helps control blood pressure so that patients can obtain optimal health status.

Keywords: Hypertension; activity intolerance; physical activity

Factors that Influence the Length of Hospitalization after Appendectomy in Acute Appendicitis Patients in dr. Kariadi Hospital

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ABSTRACT

Introduction: The incidence of acute appendicitis in Indonesia is still high. Length of hospitalization after appendectomy is one of the most important indicators in assessing hospital performance and operative management. The aim of this study is to identify the factors that influence the length of hospitalization after appendectomy in surgery department of RS Dr. Kariadi Semarang.

Method: This research used cross sectional design. The data were collected from medical record of acute appendicitis patients in Dr. Kariadi Semarang from 2015-2018 using purposive sampling. There were 81 subjects aged between 15-50 years old with complete medical record. The exclusion criteria were pregnant women, patient with complicated illnesses such as anemia, cancer, haemodynamic disorders, cirrhosis, diabetes mellitus, immune system disorders and coagulation disorder, patient with history of abdominal surgery. Mann Whitney test was used for statistical analysis.

Results: The mean of length of hospitalization after appendectomy was 4.19 ± 2.29 days. The type of surgical action with laparoscopic appendectomy shortened the length of hospitalization (p-value <0.05), the incidence of surgical site infection prolonged the length of hospitalization (p-value <0.05), the first-stage resident operators prolonged the length of hospitalization (p-value <0.05), the appendectomy with complicated appendicitis prolonged the length of hospitalization (p-value <0.05).

Conclusion: The factors that influence the length of hospitalization are the type of surgery, the incidence of surgical site infection, the level of operator, and the type of appendicitis.

Keywords: Acute appendicitis; appendectomy; length of hospitalization

Carbohydrate Restriction Alleviate Inflammatory Responses

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ABSTRACT

Introduction: Diet pattern commonly used comprised of 60-70% carbohydrate/CH: 20% protein/P: 10-20% fat/F. Overconsumption of carbohydrate leads to oxidative stress, inflammation, obesity, and various degenerative diseases. While in some population, adopt moderate calorie restriction, 30% reduction from all components, leads to fragility. Carbohydrate restriction diet, consist of 40%CH: 30%P: 30%F proposed as the best diet against inflammation, a key mechanism in degenerative diseases. This study investigated the superiority of carbohydrate restriction in inflammation markers.

Method: Post test only control group design was applied to this study. Using 20 Sprague Dawley rats, aged 12 weeks, divided into 4 groups: CH70 (70%C:20%P,10%F), CH60 (60%C:20%P,20%F), CH40 (40%C:30%P,30%F), and CRall (30% reduction from CH70). Diet was given ad libitum for 30 days. Blood serum was tested for IL-6, CRP, and TNF- α . Data was analysed using ANOVA for each variable, with level of significance $p < 0.05$.

Results: Carbohydrate restriction showed the best level of IL-6, CRP and TNF- α among all groups. The lowest level of CRP found on CH40 (1.038mg/dL), followed by CRall (1.19mg/dL), CH60 (1.482mg/dL), and the highest level on CH70 group (1.74mg/dL). IL-6 level was also found the lowest point at CH40 (378.51 mg/dL), followed by CH70 (391.02 mg/dL), CRall (420.87 mg/dL), the highest point at CH60 (490.95 mg/dL). TNF- α was found the lowest level on CRall (2.522 pg/mL), followed by CH40 (3pg/mL), CH60 (3.498pg/mL), and the highest level on CH70 (4.09 pg/mL).

Conclusion: Carbohydrate restriction, using only 40% carbohydrate alleviate inflammatory process in rats. Further studies in human are required to investigate the adherence to this diet.

Keywords: Macronutrients; diet; carbohydrate; inflammation; calorie restriction

The Effect of *Hibiscus rosa-sinensis* L. Extract on Improvement of Macrophage Phagocytosis Activity

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ABSTRACT

Introduction: Diabetes mellitus (DM) is a risk factor of tuberculosis, that hyperglycemia conditions causing impaired immune responses including phagocyte function so that it can facilitate *M. tuberculosis* infection. Therefore, it takes therapy to improve the immune system, one of them by using *Hibiscus rosa-sinensis* L. extract as immunostimulant. To analyze the effect of extract *H. rosa-sinensis* L. on macrophage phagocytosis activity in animal TB-DM model.

Method: The research was an experimental used 9 male Wistar rats, 8 weeks-old, weight 200-230grams, divided into 3 treatment groups *i.e.* K (control), P1 (positive TB-DM), P2 (positive TB-DM treated with *H. rosa-sinensis* L. extract), and treated for 21 days. Animal TB-DM model was prepared with the administration of 100mg/kg nicotinamide (NA) and 65mg/kg streptozotocin (STZ), and injected with 1.5×10^5 CFU *M. tuberculosis*. Macrophage activity test was performed using intraperitoneal fluid that staining with Giemsa. Phagocytosis activity was determined based on the number of macrophage cells in 100 cells. Data were obtained from that test, then analyzed using *Kruskal Wallis*.

Results: The macrophage activity test showed that the mean macrophage activity in group K was 57 ± 2.082 cells, P1 group was $46 \pm 2,517$ cells, and P2 group was $82.33 \pm 2,404$ cells. The result of statistics analysis showed that *H. rosa-sinensis* L. extract was able to increase macrophage activity significantly ($P = 0.027$).

Conclusion: *H. rosa-sinensis* L. extract increases the activity of peritoneal macrophages phagocytosis activity in animal TB-DM model.

Keywords: *Hibiscus rosa-sinensis* L.; macrophage; TB-DM

***Annona Muricata* Increase IL-27, CXCL12 Levels and Spleen-White-Pulp-Diameter in Severe Malaria**

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ABSTRACT

Introduction: *Plasmodium* may cause fatal cerebral malaria (CM). Immunoprotection of experimental (E)-CM is provided by interleukin (IL)-10, and its supporting cytokines (IL-27, IL-33, and CXCL12), while ECM/CM-immunopathology involves apoptotic-splenocyte and low splenocyte-IL-10-production. *Annona muricata* leaf extracted by using ethanol (AME)-treatment associated with increase splenocyte-IL-10-production in severe-*P. berghei* ANKA (PbA)-infection. Whether AME influences ECM-immunoprotection need further elucidated. Aims of this study were to determine the effect of AME on cytokines and chemokine influencing IL-10-production, on apoptotic-cytokines, and on white-pulp-spleen-diameter of severely-PbA-infected-Swiss-mice. Correlation IFN- γ and its inhibitor (IL-27 and IL-33 was also determined.

Method: Study-design was post test only control group. Thirty Swiss-mice were randomly divided in 6 groups. Positive-control-(C+)-group was inoculated with PbA, and negative-control-(C-)-group was healthy. Healthy-X1 and X2-groups were treated with AME dose 100 and 150 mg/Kg BW/day, respectively. PbA-inoculated-X3 and X4-groups were received AME-doses mentioned above. Elisa was used to measure cytokines and chemokine. Light-microscop was used to measure spleen-white-pulp-diameter. Statistical-analyzes used was One-way-ANOVA followed by PostHoc-Tests for white-pulp-diameter and spleen-CXCL12-production. Krukal-Wallis followed by Mann-Whitney-U-tests was used for others. Any correlation was determined by Spearman-test.

Results: IL-27 levels of X3 and X4-groups were higher than (C+)-group ($p < 0.05$). CXCL12 level of X4-group was higher than (C+) or X3-groups ($p < 0.05$). Spleen-white-pulp of X3-group was wider than (C+)-group ($p < 0.05$). CXCL12 and IL-27 levels had negative correlation with IFN- γ in all mice. IL-7, IL-15, IL-33 were not different among six-groups.

Conclusion: The conclusion is AME increases spleen-white-pulp-diameter and splenic-IL-27-CXCL12-production which suppress IFN- γ -production during severely-PbA-infected-Swiss-mice.

Keywords: *Annona muricata*, *Plasmodium*, CXCL12, IL-27

The Effects of *Phaleria macrocarpa* Extract on Mitotic Index and Tumor Mass Progression on Epidermoid Carcinoma of Swiss Mice
In vivo experimental study in Swiss mice which treated neoadjuvant paclitaxel and cisplatin

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ABSTRACT

Introduction: Polyphenols in *Phaleria macrocarpa* (Mahkota Dewa) can inhibit and block growth factor receptor, and inhibit mitogen activated protein kinase (MAPK) in receptor tyrosine kinase (RTKs) pathway; which can be recognized from the decrease of mitotic index as a response to malignant cells and resistance of clinically tumor development which can be measured from tumor growth diameter.

Methods: A randomized pre and post test only control group design on 18 Swiss mice were divided into 4 groups. The first group is control group, group-2 was treated 0,0715 mg (0,36 ml) *Phaleria macrocarpa*/day, group-3 was treated paclitaxel 175 mg/m² and cisplatin 50 mg/m², and group 4 was treated 0,0715 mg (0,36 ml) *Phaleria macrocarpa*/day combined with paclitaxel 175 mg/m² and cisplatin 50 mg/m². All mice were induced for epidermoid carcinoma with 9, 12-dimethyl-1,2-benzanthracene (DMBA) and 12-o-tetradecanoylphorbol-13-acetate (TPA) topically. Tumor size diameter were measured before and after treatment for 9 weeks. Mitotic index were measured at the end of treatment.

Results: There was significant difference in mitotic index and diameter alteration of tumor growth among groups with control. There was significant inhibition of tumor growth and decrease of mitotic index in group-4 compared with control group, group-2, and group-3. There was significant positive correlation between tumor mitotic index and diameter alteration of tumor size (r=0.813).

Conclusion: *Phaleria macrocarpa* is able to decrease the mitotic index of tumor cells and inhibit tumor mass of epidermoid carcinoma progression in Swiss mice.

Key words: *Phaleria macrocarpa*; mitotic index; tumor diameter; epidermoid carcinoma

The Use of *Datura metel*'s Extract as Medical Balm to Cure Irritant Contact Dermatitis on Fishermen

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ABSTRACT

Introduction: Irritant Contact Dermatitis (ICD) is a kind of inflammation that happens on skin which is caused by direct damage that occurs on skin due to hazardous agent. ICD causes a high morbidity that can reduce the quality of life. During this time, the treatment of ICD is done by steroid, but steroids can cause side effects if used in a long period of time. So, it takes natural ingredients to minimize these side effects, one of them with kecubung (*Datura metel*) extract. Based on previous studies on animal experiments, kecubung extracts contain anti-inflammation that can treat ICD. It is hoped by utilizing *Datura metel* as herb, it initiates the empowerment of natural potential that is owned by people.

Methods: This research is true experiment. The study period is April to July 2018. Samples are 15 people divided into three groups (1: mometasone furoate 0.1 %, 2: mometasone furoate 0.1 % + kecubung extract 0.1%, and 3: mometasone furoate 0.1 % + 2%). Treatment is given topically, once daily. The reduction scaling score, roughness, redness, cracks fissures (SRRC), and the recovery time of ICD become primary data. SRRC is measured by visual assessment for scaling, redness and cracks fissure, while roughness assessment is tactile. The determination of score is determined based on the SRRC table. Data is processed by using SPSS.

Results: The results of the One-way Anova test showed no significant difference from SRRC reduction of the three groups ($p = 0.944$) and there was a difference of recovery time with the Survival Kaplan Meier test between the first and third groups (0.019) and the second and third groups ($p = 0.019$).

Conclusion: The addition of 0.1% and 2% kecubung extracts in mometasone furoate 0,1 % may help decrease SRRC where the addition of kecubung extract 2% fasten the recovery time compared to 0.1%.

Keywords: ICD; *Datura metel*; SRRC

Effectiveness of Eugenol Ointment to Reduce Cutaneous Candidiasis Lesion

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ABSTRACT

Introduction: *Candida albicans* is opportunistic microorganism involved in the most fungal infection in human, known as Candidiasis. One of candidiasis presentation is cutaneous or dermal candidiasis involving the skin. Resistance to antifungals has been recently reported in the literature. Eugenol as a therapeutic agent widely used in Dentistry, also presenting antifungal, antimicrobial, antiseptic, analgesic, and antiinflammatory properties. Therefore, the aim of this study is to evaluate the effectiveness of eugenol ointment to reduce cutaneous candidiasis lesions.

Method: This experimental laboratory (in vivo) studies used BALB/c mice with a total of sample 15, were divided into 3 groups: positive control with ketoconazole treatment, 5% eugenol ointment treatment, and 10% eugenol treatment. BALB/c mice (five per group) were inoculated with 5×10^6 *Candida albicans* pseudohyphae intradermally into the deep dermis and superficial fat of the shaved dorsal region. Skin lesions were calculated seven days after injection and 5 days after treatment.

Results: There is a decrease in the number of skin lesion by 1.00 ± 1.87 on the mice group that given a treatment of eugenol ointment 5% ($p=0.298$). In mice group that given ointment eugenol with 10% concentration, there is a decrease in the number of skin lesion by 1.00 ± 1.00 ($p=0.102$). Meanwhile, there is a decrease in the number of skin lesion by 0.25 ± 3.10 on the mice group which are used as control with ketoconazole treatment 2% ($p=1.00$). Based on that result, there is no significance difference between eugenol ointment treatment and ketoconazole treatment as positive control to reduce cutaneous candidiasis skin lesion but the eugenol ointment treatment has a potential to reduce cutaneous candidiasis skin lesion because of eugenol ointment treatment reduce the skin lesion faster than ketoconazole.

Conclusion: Eugenol ointment treatment can be effective to reduce cutaneous candidiasis skin lesions.

Keywords: *Candida albicans*; cutaneous candidiasis; eugenol

Comparison of Bee Products and Burn Ointment to Healing Speed of Second Degree Burns

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ABSTRACT

Introduction: Burn therapy is generally done using burn ointment. However, bee products can also be used as an alternative treatment of burns. This study aims to see the comparison of bee products and burn ointment to the healing speed of second degree burns in male white rats.

Methods: This study used a post test only controlled group design of 42 randomly selected rats and divided into 7 groups. Rats were given second degree burns with an area of 4 cm² and were treated 2 times a day for 14 days. In skin burns, groups P1 to P6 were given honey, bee pollen, royal jelly, bee venom, propolis, bioplacenta, and K were not treated at all. The speed of healing is measured by calculating the area of burn wound healing on 7th day and 14th day. Microscopic calculations of epithelial cells, collagen, and inflammatory cells are also performed.

Result: The quickest healing of the burn area is by applying of bioplacenta with an average healing area on 7th day is 2.86 cm² and at 14th day is 3.74 cm². The fastest bee product in burn healing is propolis with an average healing area on the 7th day is 2.70 cm² and on the 14th day is 3.68 cm². Microscopic measurements found that the best bee product in the healing of burns was propolis. But the bioplacenta group remains the best when compared to the group of bee products.

Conclusion: Result of ANOVA *post hoc* LSD statistic test on 14th day and microscopic epithelial & inflammatory cell, giving of bee product (except royal jelly) to burn resulted in increasing the healing speed of the second degree burns in male white rat.

Keywords: Bee products; burn wound healing; burn therapy; second degree burns

Influence of *Actinidia Deliciosa* Extract on Toxicity of Acetaminophen in Wistar Rats

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ABSTRACT

Background Acetaminophen is a commonly used analgesic and antipyretic drug, high doses of which cause hepatic and renal injury. *Actinidia deliciosa* (Kiwi fruit) has several compounds with antioxidant properties, such as polyphenols, flavonoids and vitamins. Antioxidants are known to neutralize free radicals which may cause cells injury. Lipid peroxidation is a well-established mechanism of cellular injury in living cells. MDA (Malondialdehyde) is a highly reactive three carbon dialdehyde produced as a byproduct of polyunsaturated fatty acid peroxidation and arachidonic acid metabolism. Aim is to identify the effect of ADE (*Actinidia deliciosa* Extract) on MDA, liver enzyme (ALT-Alanine transaminase, AST-Aspartate transaminase), ureum and creatinine levels in wistar rats induced with acetaminophen.

Method: This research was an experimental study using the post test only with control group design. This study used five groups; negative control was given standard feeding (K1), positive control was given standard feeding and acetaminophen induction (K2), and treatments were given standard feeding, acetaminophen induction, and ADE 100mg/kgBW (P1), 200 mg/kgBW (P2), and 400 mg/kgBW (P3).

Result: There are significant differences in the level of ALT ($p = 0.04$) and AST between groups ($p = 0.03$). At MDA level, there was a significant difference ($p = 0.004$). However, there was no significant difference at ureum level ($p=0,187$) and at creatinine levels ($p=0.091$).

Conclusion: There are effects of AED toward ALT, AST, and MDA level in wistar rats induced with acetaminophen. AED did not reduce levels of ureum and creatinine of the rats significantly. Further studies on cellular, gene and DNA level are recommended.

Keywords: MDA; urea; creatinine; AST; ALT

The Effect of Green Tea Leaf Extract on Caspase-3 Protein Level in D-Galactose Induced Balb/C Mice

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ABSTRACT

Introduction: Aging and dementia has become a serious problem in the global health. Caspase-3 is the main executor caspase in the mechanism of apoptosis which plays a role in the pathogenesis of brain aging and neurodegenerative diseases. D-galactose is known to cause aging-related changes including dementia. Green tea is known to have antioxidant, anti-inflammatory, anti-apoptotic, and neuroprotective effects. To prove the effect of green tea leaf extract on the hippocampal caspase-3 protein level in D-galactose induced Balb/C mice.

Method: An experimental study using "post test only control group design". The samples were 20 male Balb/c mices, aged 6-8 weeks, divided into 4 groups. Negative control group (NC) was induced by subcutaneous injection of D-galactose (150 mg/kg) once daily for 6 weeks. GT-90, GT-270, GT-540 was induced by D-galactose and orally administered by 90, 270, and 540 mg/kg green tea leaf extract once daily for 6 weeks respectively. The indicator of examination was caspase-3 level using ELISA. One-way Anova, post hoc LSD, and Pearson were used for statistical analysis.

Result: There was a significant different between all groups ($p < 0.001$). Hippocampal caspase-3 level in the N-C group (12,37 (SD=1.65) ng/ml) was significantly higher than GT-90 group (7.69 (SD=1.76) ng/ml; $p = 0.001$), GT-270 group (7.32 (SD=1.73) ng/ml; $p = 0.001$), and GT-540 group (3.99 (SD=2.30) ng/ml); $p < 0.001$).

Conclusion: Green tea leaf extract may reduce the level of hippocampal caspase-3 protein level in mice induced dementia.

Keyword: Green tea leaf extract, Caspase-3, D-galactose, Dementia

Activation of IL-6 and MIP-2 by Non-toxic Methylmercury and Its Suppression by N-acetyl-L-cysteine

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ABSTRACT

Introduction: Methylmercury (MeHg) is a well-known neurotoxicant in central nervous system (CNS). While a high dose of MeHg cause neurotoxicity, the effect of low toxic dose is not well understood. The neuroinflammation is one of main predictive pathway of MeHg-induced CNS impairment. This study's aim is to investigate the effect of non-toxic dose of MeHg in IL-6 and MIP-2 (human homologue of IL-8) expressions and the suppressive effect of N-acetyl-L-cysteine in Balb-C mice.

Method: This is an experimental study with post test only control group design. The samples were 16 male Balb/c mice, aged 8-9 weeks, divided into 4 groups. Control group (G1) was orally induced by saline and MeHg group (G2) by 0.05mg/kgbw/day. Combination of MeHg and NAC treatment was done in 2 group; G3 was treated by 0.05mg/kgbw/day MeHg and 10mg/kgbw/day NAC; G4 by 0.05mg/kgbw/day MeHg and 20mg/kgbw/day NAC. Treatment was done in 4 weeks. The blood from peri-orbita were collected in day 28th, and analyzed of IL-6 and MIP-2 expression using ELISA method. The data was statistically analyzed using Mann-Whitney test.

Results: Non-toxic dose of MeHg significantly induced IL-6 and MIP-2 expressions ($p < 0.05$) compared with control, with means value were 102.525 vs 5.914 and 24.777 vs 6.469 mg/dL, respectively. NAC in both doses significantly suppressed MeHg-induced IL-6 and MIP-2 activation ($p < 0.05$), with means value of 10 and 20 mg/kgbw/day were 14.885 and 12.671; 16.972 and 3.624 mg/dL, respectively.

Conclusion: MeHg at non-toxic dose significantly induce IL-6 and MIP-2 expressions, and NAC effectively suppressed its activations.

Keywords: Methylmercury; IL-6; MIP-2; N-acetyl-L-cysteine

Screening of *Spongejaspis* Sp-Associated Bacteria Producing Protease Inhibitor

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ABSTRACT

Introduction: Protease inhibitors are important in medicine, particularly in disabling proteases in the pathogenic processes of human diseases such as arthritis, cancer, HIV/AIDS and other infections. Sponges are excellent sources for bioactive compounds such as enzyme inhibitors, antiviral, antimicrobial. This study aimed to explore sponge-associated bacteria as sources of protease inhibitors.

Method: This was an explorative descriptive study. Bacteria isolated from sponge *Jaspis* sp were screened using sea water complete and skim-milk double-layer plate. When the screening test positive, the activity of protease inhibitors was assessed using three substrates i.e proteinase-K, crude extract of protease (CEP) from *Staphylococcus aureus*, *Pseudomonas aeruginosa*, *Enteropathogenic Escherichiacoli* (EPEC) K11, and subtilisin. Optimum incubation time, temperature, and pH were determined to measure the activity of the protease inhibitors. Phenotypical characterization was performed using Gram and Microbact-kit. 16S-rRNA sequencing was done for identification.

Results: Out of 136 isolates screened, three were positive for their potency as protease inhibitor producers, including one Gram-negative coccus and two Gram-positive cocci. The isolates showed protease inhibitor activity up to 90% toward the three substrates. The optimum time incubation toward three substrates ranged 12-24 hours. The optimum temperatures for the three isolates were 30°C-60°C, 20°-30°C, and 30°C respectively. The optimum pH ranged widely from pH 4 to 7. 16S-rRNA analysis identified the isolates-producing proteinase inhibitors, as *Bacillus pumilus* strain 210_50, *Bacillus subtilis* strain DURCK11, and *Paracoccus* sp.Jx9.

Conclusion: *B.pumilus* strain 210_50, *B.subtilis* strain DURCK11, *Paracoccus* sp.Jx9 were potential sources of protease inhibitors.

Keywords: Protease inhibitor; sponge-associated bacteria; *Bacillus pumilus* strain 210_50, *Bacillus subtilis* strain DURCK11; *Paracoccus* sp.Jx9

Aflibercept and Bevacizumab Injection Effects on Visual Acuity Post Vitrectomy Diabetic Retinopathy

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ABSTRACT

Introduction: Diabetes Mellitus is a systemic disease that can lead to diabetic retinopathy. One of diabetic retinopathy management is vitrectomy. Intravitreal anti-VEGF perioperative injections could reduce both during and post vitrectomy complications and improve visual acuity. Aflibercept is a recombinant fusion protein consisting VEGFR1 and VEGFR2 receptors that binds all of VEGF-A and VEGF-B isoforms which have a higher affinity than Bevacizumab and Ranibizumab. The aim of this study was to compare the effect between pre-vitrectomy aflibercept and bevacizumab intravitreal injection on post vitrectomy proliferative diabetic retinopathy patients' visual acuity.

Method: This study used randomized controlled trial design. Total 24 subjects were divided into two groups pre-vitrectomy aflibercept injection and bevacizumab injection as a control group. Each subject was injected 4-7 days before vitrectomy then visual acuity (logMAR) was evaluated one week and one month after vitrectomy.

Results: One-month post vitrectomy visual acuity (1.63 ± 1.56) on aflibercept group and (1.54 ± 1.99) on bevacizumab group. There was visual acuity improvement one-month post vitrectomy in both groups but had no significant difference ($p=0.771$). Vitreous haemorrhage during and post vitrectomy occurred less often on aflibercept group. Iatrogenic retinal tear occurred 17% on both groups. Neovascular glaucoma occurred on severe ischemic cases.

Conclusion: Both aflibercept and bevacizumab intravitreal injection had the same effectiveness for improving post vitrectomy visual acuity and there was no significant difference between these groups.

Keywords: aflibercept, bevacizumab, vitrectomy, visual acuity

The Effect of Ranitidine Administration Time to Axon Degeneration due to Optic Nerve Neuropathy

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ABSTRACT

Introduction: Formic acid produced from methanol metabolism can damage the axons of the optic nerve. The previous study has shown that ranitidine, H₂ receptor antagonist can decrease the formic acid level in the body. The precise ranitidine administration time after methanol intoxication is not yet known. The study aims to determine the effect of ranitidine administration time to degeneration of axon optic nerve in the incidence of acute methanol intoxication.

Method: The study used 4 groups with 6 rats in each group. Two treatment groups and the positive control group were given methanol 14 g/kg BW, the first treatment group was given ranitidine 30 mg/kgBW right after administration of methanol and second group 30 minutes after methanol administration. Meanwhile, the negative control group was given oral aquadest. Rats were terminated after 8 hours, and then optic nerve was taken for histopathology in 4 fields of view.

Results: In the first treatment group (right after), it may inhibit the degeneration of the optic nerve axis under acute methanol intoxication conditions significantly (mean 13.67, $p < 0.05$). Meanwhile, the second treatment group (30 minutes after) had not been able to inhibit the degeneration of axons significantly (mean 16.83, $p < 0.05$).

Conclusion: Ranitidine administration right after acute methanol intoxication can prevent optic nerve degeneration significantly. Further research is needed to investigate the effect of ranitidine dose on the degeneration rate of the axons of the optic nerve.

Keywords: Axon degeneration; methanol; neuropathy; optic nerve; ranitidine

***Correlation between Blood Cotinine, Colour Vision, And Contrast Sensitivity:
Study in Tobacco Farmer***

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ABSTRACT

Introduction: Tobacco is one of substance that can caused toxic optic neuropathy which is characterized with decreasing contrast sensitivity and impairment in colour vision. Cotinine is derivate of nicotine, a substance that contained in tobacco. Pathophysiology of toxic optic neuropathy caused by tobacco was still unclear. The aim of this study was analyzde the correlation between blood cotinine, colour vision, and contrast sensitivity in tobacco farmer that often exposed with tobacco.

Method: This was an observational analytic study with cross sectional method. Forty-nine tobacco farmers were selected and this study was done in harvest time which is time tobacco exposure at most. All samples were undergone ophthalmologic examination including visual acuity, funduscopy, tonometry, colour vision testing with Farnsworth Munsell 15-D, and contrast sensitivity testing. Blood cotinine level was measured with ELISA method using Calbiotech reagen. The statistical analysis used Spearman's rho correlation test.

Results: The average contrast sensitivity was 1.42 ± 0.21 . The total error score of Farnsworth Munsell 15-D showed 40 subjects have good colour vision (score 0-16) and 8 subjects medium colour vision score (score 17-100), 1 subject could not be assessed because congenital colour blindness. The average blood cotinine level was 77.93 ± 26.98 ng/ml. There was no significant correlation between blood cotinine and colour vision ($p=0.63$, $\rho = -0.07$), either with contrast sensitivity ($p=0.25$, $\rho = -0.16$). However, this study showed that the higher blood cotinine level, the lower contrast sensitivity.

Conclusion: There was no significant correlation between blood cotinine with colour vision as well as contrast sensitivity.

Keywords: Blood cotinine; colour vision; contrast sensitivity

Effects of Modified Ninja Hijab Inner Usage on Hearing Acuity and Sound Localization

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ABSTRACT

Introduction: The use of head cover has been reported to attenuate hearing acuity and sound localization ability. Modified ninja hijab inner was designed for preventing the attenuation. Objective: To determine the effects of modified ninja hijab inner usage on hearing acuity and sound localization ability.

Method: Twenty-five participants (age 18-21) were divided into two groups. Group 1 (n=13) were examined using hijab plus modified ninja inner and group 2 (n=12) using hijab plus regular ninja inner. Hearing acuity were tested using whisper test and tuning fork test. Sound localization were examined using 8 circular arranged audio devices with a distance of 45 degrees. Measurements were conducted when using hijab only (pretest) and using hijab plus ninja inner (posttest). Hypothesis were tested using Mann Whitney and Wilcoxon test.

Results: The results of hearing acuity test on both groups are entirely within normal limits. The mean percentage of correct answers on sound localization test (group 1 vs group 2) when wearing hijab only are 94.2 ± 10.96 vs 96.9 ± 7.77 ($p = 0.6$), while when wearing hijab plus ninja inner are 94.2 ± 10.96 vs. 75.0 ± 19.94 (0.01). Comparative-test result of correct answers percentage (pre-test vs post-test) in group 1 $p = 1.0$, in group 2 $p = 0.007$.

Conclusion: The use of ninja inner and modified ninja inner does not lead to decreased hearing acuity. The use of regular ninja inner decreases the sound localization ability while the use of modified ninja inner does not cause a decrease.

Keywords: Hijab; ninja hijab inner; hearing acuity; sound localization

The Effect of Various Topical Concentration of DLBS1425 Towards cPLA2 Expression in Wistar Mouse Cornea After Alkali Burn

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ABSTRACT

Introduction: Alkali burn can induce corneal inflammation and may result in cornea opacification. Phospholipases plays an important role in the inflammation pathway. Steroid is a potent antiinflammatory drug that can inhibit phospholipase but it has many side effects. *Phaleria macrocarpa*, one of Indonesian native plant that has antiinflammatory activities. DLBS1425, a standardized extract of *Phaleria macrocarpa*, has anti-inflammatory effect by inhibiting cPLA2 expression in mRNA level in breast cancer cells. Researchers want to find out DLBS1425 anti-inflammatory effect in ophthalmological field, measured from cPLA2 expression in Wistar mouse cornea after alkali injury. The objective of this study is to verify topical DLBS1425 with various concentrations which have an effect on cPLA2 expression in Wistar mouse cornea after alkali injury.

Method: It is a true experimental post-test only design study. 24 Wistar mouse cornea received NaOH 1M exposure, divided into 4 groups. Group K was given Hyalub drops, while P1, P2, P3 were given drops of DLBS1425 concentration 1×10^1 mg/ml, 1×10^0 mg/ml, and 1×10^{-1} mg/ml. After 7 days, cPLA2 cornea expression is measured using immunohistochemistry modality. Statistical analysis using Kruskal Wallis and Mann Whitney test.

Result: Mean expression of cPLA2 on group K = 5.9, P1 = 4.03, P2 = 4.96, and P3 = 4.9. The cPLA2 expression of the treatment group shown statistically significant differences compared to the control group ($p = 0.002$).

Conclusion: DLBS1425 topical concentrations of 1×10^{-1} , 1×10^0 and 1×10^1 have an effect on cPLA2 expression in Wistar mouse cornea after alkali injury, where the highest concentration has the greatest effect.

Key Words: *Phaleria macrocarpa*; DLBS1425; cPLA2; corneal inflammation

Effect of Noni (*Morinda citrifolia*) Juice to Decreases Blood Uric Acid Level and Carrageenan Paw Edema Model Rats (*Rattus norvegicus*)

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ABSTRACT

Introduction: Gout is a chronic inflammation caused by elevated blood uric acid level which deposits in peripheral joints. Non-Steroid Anti-inflammatory Drugs (NSAID) and allopurinol are used to reduce inflammation and blood uric acid level. Chronic medication of NSAID induced a gastric ulcer. *Morinda citrifolia* juice was a selective COX-2 inhibitor. Noni fruit contains phenolic components and quercetin that can reduce inflammation and blood uric acid level.

Method: This was pre and post test only control group study. 25 rats were divided into 5 groups. Group 3, 4, and 5 were given 37.8 mg/body weight caffeine for 12 days to induce hyperuricemia. Then, given 1 cc 100% and 90% noni juice 9 days and compared with allopurinol. Subplantar carrageenan injection induced paw edema in group 2, 3, and 4. Noni juice is administrated and compared with Na diclofenac. Paw edema was measured for 0, 15, 30, and 60 minutes.

Results: Noni juice reduced blood uric acid level with no significant difference with allopurinol group ($p = 0.241$). Paw edema reduction showed no significant differences between noni juice and Na diclofenac administration ($p = 0.410$).

Conclusion: Noni juice had a potent effect to decrease blood uric acid level and paw edema compared with allopurinol and Na diclofenac.

Keywords: Gout, *Morinda citrifolia*, uric acid, edema

The Effects of Alkaline Ionized Water Administration to the Fasting Blood Glucose Levels in Patients with Type 2 Diabetes Mellitus

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ABSTRACT

Introduction Alkaline ionized water is an electrolized water with pH>7. Previous study showed that alkaline ionized water showed an antioxidant and an antidiabetic benefit, but the results still vary. One of the antidiabetic indicators was the improved fasting blood glucose. This study was to investigate the effect of alkaline ionized water to the fasting blood glucose levels in patients with type-2 diabetes mellitus (T2DM).

Method It was a pre-experimental study with one group, pre- and post-test design, performed in September - October 2017. The subjects were 14 patients with T2DM in Diponegoro National hospital Semarang that met the inclusion criteria using purposive sampling technique. Patients still regularly receive their oral antidiabetic agents. Fasting blood glucose was measured using point-of-care testing (POCT) for glucose before and after treatment with alkaline ionized water for 12 days. Statistical analysis was using paired-t test.

Results Nine of 14 subjects showed a decreased in fasting blood glucose. Overall, there was a decreased in fasting blood glucose levels as much as 32.79 ± 78.76 mg/dL from 213.40 ± 114.06 mg/dL to 180.57 ± 75.37 mg/dL, although it was not statistically significant ($p=0.143$).

Conclusion Alkaline ionized water could decrease fasting blood glucose levels in patients with T2DM.

Keywords: Alkaline ionized water, fasting blood glucose levels, type-2 diabetes mellitus, T2DM

Keywords: Alkaline ionized water; fasting blood glucose levels; type-2 diabetes mellitus; T2DM

Turmeric as a Preventive Agent of Oxidative Stress and Diabetic Nephropathy in Alloxan Induced Wistar Rats

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ABSTRACT

Introduction: Hyperglycemia, a common effect of uncontrolled diabetes, causes auto-oxidation which may lead to oxidative and organ damage such as diabetic nephropathy. Curcumin in turmeric has anti-oxidative, anti-inflammatory, and anti-hyperglycemic effect. Objective: to compare the effects of turmeric powder and extract on the prevention of oxidative stress and diabetic nephropathy in alloxan induced Wistar rats.

Method: research design is an experimental study using post test only control group design. Twenty male Wistar rats aged 8-12 weeks were randomly divided into four groups: C1 is the normal control group; C2 (diabetic) group was induced by single intra-peritoneal injection of alloxan (160 mg/kg); TP and TE group was induced by alloxan and orally administered by 200 mg/kg turmeric powder and 200 mg/kg turmeric extract for 21 days. The indicator of examination were glucose level, the percentage of renal injury from histopathological assessment, plasma malondialdehyde (MDA) and renal supernatant MDA level using modification of conventional TBARS spectrophotometry. One-way ANOVA and Kruskal-Wallis were used for statistical analysis.

Results: Plasma MDA level in the C2 group (28.5 ± 4.49 nmol/ml) was significantly higher than C1 (14.5 ± 2.62 nmol/ml; $p=0.008$), TE (6.5 ± 3.56 nmol/ml; $p=0.008$) and TP group (5.9 ± 5.15 nmol/ml; $p=0.008$). Histopathological assessment showed that the percentage of renal glomerular injury in the C2 group ($56 \pm 18.17\%$) was significantly higher than C1 ($14 \pm 10.11\%$, $p=0.001$), TE ($35.3 \pm 13.87\%$; $p=0.05$) and TP group ($26.7 \pm 18.85\%$; $p=0.009$). There is no difference of glucose level, plasma MDA level, renal supernatant MDA level, and percentage of glomerular damage between TE and TP group.

Conclusion: Turmeric powder and extract may prevent oxidative stress and diabetic nephropathy in alloxan induced Wistar rats. Turmeric powder has the same effectiveness with turmeric extract.

Keywords: Curcumin; turmeric; oxidative stress; diabetic nephropathy

The Lived Experience of Patients with Chronic Kidney Disease of Stadium V Undergoing Peritoneal Dialysis

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ABSTRACT

Introduction: Continuous ambulatory peritoneal dialysis (CAPD) is a dialysis technique which uses peritoneal as a dialysis membrane that separates the dialysate in the peritoneal cavity and blood plasma in the blood peritoneum vessels. Patients with chronic kidney disease or undergoing CAPD therapy may experience changes in physical, psychological, and social conditions. The purpose of this study was to describe the lived experience of patients with chronic kidney disease undergoing CAPD therapy.

Methods: This study used a qualitative research method with a phenomenological approach. Data were collected through in-depth interviews with six participants, consisting of four males and two females. The participants were aged 24 to 60 years old and had been undergoing CAPD for 1 to 3 years. The collected data were analyzed using Colaizzi method.

Result: The results revealed five themes: the course of the disease to undergoing CAPD therapy, physiological changes during CAPD, psychological changes during CAPD, social relationships while undergoing CAPD, and self-care management while undergoing CAPD. The results revealed that the participants experienced problems of physiological, psychological, and social relationships. The CAPD therapy trained the patients to evaluate, monitor, manage, and take responsibility for them.

Conclusion: This study recommends a need for further evaluation and provision of structured information related to improving self-care management so that the physiological, psychological, and social changes experienced by the patients can be overcome.

Keyword: Chronic Kidney Disease, CAPD, Lived experience

The Effect of Chewing Gum to the Level of Concentration in Student with Anxiety

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ABSTRACT

Introduction: Anxiety is often experienced by students, especially medical students in the first year of college and last year of college. Students experiencing anxiety will experience a decrease in concentration. Chewing gum is one way to lower anxiety levels and increase the level of concentration. This research is being conducted on know the effect of chewing gum to the level of concentration in students with anxiety.

Method: This study was experimental with quasi-experimental pre-post test control group design. The sampling method was using a purposive sampling method on 70 students. The subjects were divided into two groups, consist of the treatment group and the control group. Sample collecting method was using the Depression Anxiety Stress Scale 21 (DASS 21) questionnaire and concentration measurement using Digit Symbol Substitution Test (DSST). The data analysis test used was paired t-test.

Results: There was an increase on concentration level after chewing gum in treatment group. The difference of control group values obtained an average of 6.43 ± 4.47 and for the treatment group obtained an average value of 10.89 ± 4.98 with a significance value of $p = 0.001$ ($p < 0.05$), thus showed a significant difference between treatment and control group.

Conclusion: There was a significant effect between chewing gum and the concentration level. The concentration level was increased after chewing gum. Further research is needed on the effect of chewing gum to the level of concentration in students with anxiety by classifying the level of anxiety

Keywords: Concentration; chewing gum; DSST; DASS 21

Effect of Green Tea (*Camellia sinensis*) on Erythrocytes Stability in Exercise-Induced Oxidative Stress Condition

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ABSTRACT

Background: Intense physical exercise is often associated with oxidative stress conditions. During physical exercise, oxygen consumption is increased and results in the production of free radicals and reactive oxygen species (ROS). The imbalance between ROS and antioxidants could damage the erythrocyte membrane and eventually leads to erythrocyte instability and hemolysis. Green tea has high polyphenols content and therefore is a potent antioxidant that can protect cells from oxidative damage. The objective of this study is to analyse the effects of green tea supplementation on the erythrocytes stability and on the level of Malondialdehyde (MDA) of trained men that performed intense physical exercises.

Method: The population of this study consist of 25 healthy and physically activemale students (age 19 - 20 year). A washed-out period of 7 days was performed prior to the first blood sampling and was followed by green tea supplementation (GTS; n=13; 3gr /d green tea powder) or by amyllum (placebo) supplementation (P; n=12) for 7 consecutive days. Prior to the second blood sampling, participants were asked to perform a single session of an intense physical exercise of a multi-stage fitness test (MFT). Collected blood samples from pre- and post-intervention were analysed to determine the osmotic stability of erythrocyte and the level of MDA.

Results: Erythrocyte osmotic stability of GTS group as assayed by Osmotic Fragility Test (OFT) showed a significant increase at 0.3% - 0.5% of NaCl ($p < 0.05$). Furthermore, the GTS group showed a decrease in MDA level compare to the control group (significance at $p < 0.05$).

Conclusion: Green tea supplementation can improve the stability of erythrocyte and lower the MDA level. Green tea acts as an exogenous antioxidant that lessens the oxidative stress induced by intense physical exercises.

Keywords: Exercise; erythrocyte stability; green tea; oxidative stress

Effect of Cinnamon Powder to Oxidative Stress: A Study with Mice Exposed to Reheated Cooking Oil

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ABSTRACT

Introduction: The reheated cooking oil resulted in the production of the destructive compounds, namely ROS (Reactive Oxygen Species). ROS, free radical group, can bind to the lipid membrane, producing more free radicals that will damage other cells. Increased free radical activity is characterized by elevated MDA levels. The elevated MDA levels were reported in cardiovascular, neurologic, and other diseases. Cell damage can be protected by antioxidants. Cinnamon powders are exogenous antioxidants, which contains flavonoid. They can protect the body from ROS. This study aims to determine the effect of cinnamon powder to oxidative stress of mice exposed to fried oil by street vendors.

Method: Post-test only controls group design is an experimental study used. Fifteen male micewere randomly divided into three groups: group C(-) was only given standard diet; group C(+) fed a standard diet and reheated cooking oil 0.5 ml/100gram/day; group I was given a standard diet, reheated cooking oil 0.5 ml/100gram/day and cinnamon powder 5.2 mg/20gram/day; Study was conducted for 14 days. The indicatorof examination was plasma Malondialdehyde (MDA) level using TBARS spectrophotometry. One-way ANOVA was used for statistical analysis.

Results: There are significant differences between the groups I and C(+) ($p= 0.000$). There are significant different between group C(+) with group C(-) and group I. Between I and C(-) group with MDA levels did not differ significantly ($p> 0.05$) means cinnamon powder can make the equivalent normal mice MDA.

Conclusion: Cinnamon powder may reduce oxidative stress as evidenced by MDA-exposed mice reheated cooking oil.

Keywords: Flavonoid; cinnamon; oxidative stress; Malondialdehyde (MDA); reheated cooking oil

Differences of Beck Depression Inventory-II Score before and after Probiotics Administration

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ABSTRACT

Introduction: Depression is related to the dysregulation of neuroendocrine, neuroimmune, metabolic and neurotransmitter system. Gut microbiota is suspected affecting those pathway's dysregulation. Probiotic can improve depression symptoms through microbiota-gut-brain axis. This study aimsto analyze differences in Beck Depression Inventory (BDI)-II score before and after probiotic administration.

Methods: This study was a quasi-experimental study, single-blind, pre-post-test with control group. Sample were students of Faculty of Medicine, Diponegoro University years of 2016 (n=90) randomized and divided into two groups, probiotic group (*Lactobacillus rhomnosus* and *Lactobacillus helventicus*) (n=50) and placebo group (n=40). A capsule of probiotic or placebo per day was administered for 28 days. BDI-II score described depression symptoms that individual tends to have. BDI-II scores were measured before (BDI-II₀) and after (BDI-II₁) intervention.

Results: Mean of BDI-II score before intervention was 8.29 (SD ± 8.53). Mean of BDI-II score after 28 days of probiotic administration was 2.97 (SD ± 4.10). There were significant differences on BDI-II score after 28 days intervention in the probiotic group (5 (0-27) vs 2 (0-19), p = 0.001).

Conclusion: There were significant differences on BDI-II score before and after probiotic's administration (*Lactobacillus rhomnosus* and *Lactobacillus helventicus*).

Keywords: Depression; BDI-II; probiotics

Kidney Transplantation in Indonesia: A Multicentre Study

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ABSTRACT

Introduction: Indonesia has overcome several barriers to the growth of kidney transplantation within the past decade. Currently, the procedure is increasingly performed in several centers across the country. However, there are limited publications on kidney transplantation from Indonesia, especially from centers outside Jakarta. This study aims to give a brief overview on transplantation performed, discuss current efforts and progresses of transplantation in Indonesia and chiefly Semarang.

Methods: Retrospective analysis of twenty transplant cases in Semarang within 2014 – 2017 was performed. Information from other transplant centers was acquired through formal correspondences with 11 central teaching hospitals in Jakarta, Surabaya, Yogyakarta, Malang, Bali, Solo, Palembang, Aceh, Medan, Bandung, and Padang.

Results: There were 623 recorded kidney transplantations performed in 12 centers, we report on 239 cases with viable data. The average age of kidney recipients was younger (33.2 years old) compared to the donors (45.2 years old). Approximately half of the kidneys were obtained from related donors (48.5%) and there was only 1 case of cadaveric donor. The three leading etiologies of ESRD were hypertension (36.0%), diabetes mellitus (26.9%), and autoimmune disease (11.2%). There is only one center that has performed more than 100 kidney transplants in Indonesia.

Conclusion: Indonesia has successfully overcome several major hurdles that had previously hindered the growth of transplantation. Further improvement should concentrate on the development of integrated organ transplant infrastructure, decentralization of transplant professionals, and changing the Nation's paradigm on cadaveric organ donor through public education.

Keywords: Kidney transplantation; Indonesia; Semarang; update

Combination Cognitive Behavior Therapy (CBT) and Self-Help Group (SHG): Case Series in Adolescence with Anxiety

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ABSTRACT

Introduction: The development of information technology such as internet enables someone to access information efficiently. The negative impact of this is the increase on the access to porn sites. Approximately 80% of teenagers in Indonesia are internet users and most of them are familiar with pornography since the age of 12 years old. The impact of pornography on adolescence leads to the compulsive, addictive and violent behavior. Pornography addiction causes teenagers to experience the mental problems. The most common mental problem experienced by the teenagers is anxiety. This study aims to describe the cases on anxiety management of the 3 teenagers suffering from pornography addiction.

Method: The method used in this study is case series method by describing the provision of cognitive behavior therapy and self-help group therapy to overcome the anxiety of teenagers suffering from pornography addiction. The anxiety measurement uses Hamilton Anxiety Rating Scale.

Results: The result shows a decreased level of adolescence anxiety from moderate and severe anxiety to mild anxiety. The positive behaviors shown by the three patients include the increase of social interaction, time management in the use of porn media, assertive behavior and increase of productivity. Self-help group therapy in all three patients helps them share information and support each other to maintain their positive thoughts and behaviors.

Conclusion: This result suggests that the cognitive behavior therapy and self-help group therapy are able to be an alternative of the anxiety treatment for the teenagers suffering from pornography addiction.

Keywords: Anxiety, Cognitive Behavior Therapy, Pornography Addiction, Self Help Group

Association between Geriatric Hospitalized Patients' Frailty Status and Outcomes in Dr. Kariadi Hospital Semarang

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ABSTRACT

Introduction: Frailty is a biological syndrome marked by the declines in endurance and strength towards stressors resulting in cumulative deteriorations in physiological system. This study aims at demonstrating the correlation between geriatric hospitalized patients' frailty status and outcomes in Dr. Kariadi Hospital Semarang

Methods: This was a cross sectional study to evaluate the frailty and followed by a prospective cohort to measure geriatric hospitalized patients' outcomes. Subjects were 72 geriatric patients (≥ 60 years) who were hospitalized during September-November 2017 in Dr. Kariadi Hospital Semarang. Patients with communication difficulty, severe cognitive impairment, severe deficit in consciousness and physical performance were excluded. Frailty status was measured using Frailty Index-40 items (F I- 40). Other instruments used were Geriatric Depression Scale 15 and 30, Mini-Mental State Examination, Barthel Index and Mini Nutritional Assessment Questionnaire.

The statistical tests employed were bivariate analyses: Chi square, Fisher-exact, and Spearman correlation. Logistic regression test was used for the multivariate analysis.

Results: Subjects were 37.3% male and 62.7% female. The average age was 70.5 ± 7.69 years old. Frail event was 45.3%, prefrail 26.7% and fit/robust category 28.0%. Length of stay in frail subjects 16.7 ± 10.06 , fit/robust 15.5 ± 13.64 , prefrail 10.6 ± 5.64 days ($p=0.06$). Subjects with frail (79.4%) and prefrail (90.0%) were discharged from the hospital alive, the fit/robust category were all alive/improved and 20.6% subjects with frail were discharged due to death ($p=0.1$). Correlation test showed a significant negative correlation with moderate degree between FI categories and the length of stay ($r=-0.43$; $p<0.001$). This showed that the more severe the FI category, the longer the hospital stay.

Conclusion: There is a correlation between geriatric hospitalized patients' frailty status and outcomes in Dr. Kariadi Hospital Semarang.

Keywords: Frailty; geriatric; hospitalize

Effects of Circuit Training on Balance in Elderly

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ABSTRACT

Introduction: The number and proportion of elderly population in the world has increased lately. One of the health problems in the elderly population is the incidence of falls. One of the risk factors falls on the elderly of a disturbance of balance that disrupts physical activity. Balance is a basic component in conducting activity daily living (ADL). The decreasing balance function is inevitable with increasing age. This will disrupt the elderly population in conducting the ADL. Circuit training is an exercise that combines aerobic and strengthening which can improve physical ability and health level in the elderly. To investigate effect of circuit training on balance in elderly.

Methods: Thirteen people aged 65-75 years at the Social Rehabilitation Center Wira Adhi Karya Ungaran, Social Rehabilitation Unit Wening Ward Central Java had participated in these pre and post experimental study. Functional Reach Test (FRT) is performed to measure balance before and after intervention. The data obtained was analyzed using a statistical analysis computer programme. Participants performed 12 times circuit trainings, 3 times a week for 4 weeks.

Results: After intervention, Distance Functional Reach Test was significantly increased with a mean difference of 28.00 ± 5.37 with $p < 0.001$

Conclusion: Circuit training can improve dynamic balance in elderly.

Keywords: Circuit Training; balance; elderly

Formal Caregiver Burden of Elderly with Dementia in Nursing Home

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ABSTRACT

Introduction: Dementia is the main reason for elderly being in the nursing home. Dementia is a cognitive function disturbance that affects memory, communication and behaviour that resulted in the requirement of the particular attention of the elderly by the caregiver. Dementia does not only directly affect the elderly but also the life of the caregiver precisely in increasing the level of the caregiver burden. This research aims to assess the level of caregiver burden, to identify the caregiver's characteristic and its linkage to the level of caregiver burden in treating the elderly with dementia in a nursing home.

Methods: A Cross-Sectional study is conducted with the formal caregiver that treats the elderly with dementia in a nursing home. The sample consists of 30 caregivers who are selected using purposive sampling technique with inclusion and exclusion criteria. The data collection includes the characteristic of the caregiver and its level of burden in April 2018. The level of caregiver burden is assessed using Zarit Burden Interview (ZBI) with the 22-item tool. Lastly, the data is analyzed with chi-square statistic test.

Results: The majority levels of caregiver burden are classified moderate (43.3%). Gender, age, education, and duration of treating the elderly is correlated to the level of formal caregiver burden ($p < 0.05$).

Conclusion: The findings of this research are expected to provide a better understanding of how the caregiver of the elderly with dementia is a vital group of risk to obtain support. Professional help and supportive psychotherapy could be given to this group to decrease their level of burden.

Keywords: Caregiver burden, elderly, dementia, nursing home

The Relationship of Marital Status, Physical Activity and Gender with Depression Level in Elderly

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ABSTRACT

Introduction: Elderly have many health problems faced in the elderly and degenerative processes cause changes in physical and psychological conditions. One of the effects of psychological changes in the elderly results in depression. Decreased activity and in the lives of a loved one become the trigger for depression. Elderly who are depressed will experience difficulties in daily activities and more often experienced divorced or single individuals compared to someone who is married. The purpose of this study to know the relationship of marital status, physical activity and sex with depression level in elderly in Karangasem Sub-District Laweyan District Surakarta

Method: This type of research is quantitative with *descriptive correlative research design*. The study population of 414 elderlies who actively participated in Elderly Posyandu activities in Karangasem Sub-District Laweyan District. Research samples of 80 elderly were obtained by *proportional random sampling technique*. Measuring tool with questionnaires and analysis of research data analysis of marital status and gender toward depression using Kendall's tau correlation and data analysis of Physical Activity toward depression obtained by using Rank Spearman correlation.

Results: The result of correlation test of rank spearman correlation of marital status with depression was obtained r-count value equal to -0.585 and sig 0.000, the result of spearman rank correlation test of physical activity relationship with depression obtained value r-count 0.304 and sig 0.006, correlation test of rank spearman relation of gender with depression obtained r-count value .048 and sig 0.652.

Conclusion: The relationship between marital status and physical activity with the elderly depression level whereas the better the marriage status and physical activity of the elderly, the higher the elderly depression level is better, unlike the sex result that there is no sex relationship with depression level hence the incidence of rate depression male and female there is no difference.

Keywords: depression; elderly; gender; marital status; physical activity

Nasal Irrigation Effects towards Nasal Mucociliary Transport Time in Active Smokers

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ABSTRACT

Introduction: Nasal irrigation is often recommended as an adjuvative therapy for treating many sinonasal conditions. It provides mechanical cleansing of mucus, crust, cell debris and various air contaminants. The study was done to analyze the effect of nasal irrigation on change of nasal mucociliary transport time, in active smokers.

Method: This study was experimental using pre and post-test-controlled group design. Samples were divided into two groups; treatment and control group. The mucociliary transport time were tested with saccharin method for two times; before and fourteen days after treatment.

Results: On the day fourteen after nasal irrigation there was a significant decreased of the mucociliary transport time than before ($p=0.000$). In the control group on second measurement was significantly longer compared to the first measurement ($p=0.003$).

Conclusion: In the comparison of mucociliary transport time change between treatment group and control group was found significant differences ($p=0.000$).

Keywords: Nasal irrigation, nasal mucociliary clearance, active smoker

The Effects of TB Survivors Empowerment as Indicators of Tuberculosis Program Achievement

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ABSTRACT

Introduction: TB is a serious problem faced by Indonesia and the rest of the world. The countermeasure program using DOTS strategy has proven small improvements but not preventing the contagion of tuberculosis completely. The empowerment of TB survivor in Tarakan has begun since early 2017 as latest innovation in overcoming TB within the area. The objective of the study is to identify the effect of TB survivors' empowerment on indicator achievements of TB program as its external network.

Method: This study is an evaluation study which determined as applied research using cross sectional approach. This study uses former TB patients (TB survivors) who had fully restored as its subject found in the area of Karang Rejo and Sebengkok healthcare centers. 25 subjects from healthcare centers from mentioned area have been trained as PMO cadres. The data found from these subjects are classified as primary and secondary which will be analyzed using Wilcoxon test.

Result: This test shows progressive improvement on CNR and CDR indicators as TB survivors' empowerment. Statistical test shows $p=0,000$. There is no significant improvement on conversion indicators rate, cure rate, and complete treatment rate; the TB survivor's role has not been identified in this indicator.

Conclusion: Empowerment of TB survivors has proven to be effective as a leverage of successful tuberculosis countermeasure

Keywords: TB Survivors; Empowerment; Tuberculosis

Potency of *Nephrolepis exaltata* Herbal Mask to IgA Levels of Textile Factory Workers

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ABSTRACT

Introduction: Chronic exposure of formaldehyde and BTX (benzene, toluene, and xylene) in textile industry workers may lower the levels of IgA produced to protect the mucous in the nose. *Nephrolepis exaltata* is an herbal plant that is able to absorb and neutralize formaldehyde, xylene, and carbon monoxide from the air, so it herbal mask can protect the respiratory tract better. **Objective:** To prove the effect of *Nephrolepis exaltata* herbal mask protection on changes in IgA levels in textile factory workers. **Method:** The Quasi-Experimental design of Pre-test and Post-test Randomized Control Trial. Research is conducted at PT. Apac Inti Corpora, Bawen, Semarang. The samples are the employees in the dyeing section (n = 30), divided into 2 groups: treatment (n = 15) using herbal mask for 8 weeks and control group (n = 15) using regular cloth mask. IgA levels were collected from the subjects by nasal wash method and counted using ELISA. Statistical analysis using paired t-test, Wilcoxon test, odds ratio calculation, and Fisher's exact test. **Result:** IgA levels of treatment group before and after were 3838.4 ± 172.3 and 4935.88 ± 608.01 (significantly different, $p < 0.001$). The control group's IgA levels before and after were 3691.5 ± 325.01 and 4656.9 ± 1345.66 (significantly different, $p = 0.031$). Odds ratio yielded 5.09 in which the control group had lower than normal IgA levels compared to the treatment group.

Conclusion: The use of herbal mask is better in the protection of the VOC irritant compound and can normalize the level of IgA.

Keyword: dyeing, BTX; formaldehyde; IgA; cloth mask; *Nephrolepis exaltata* herbal mask

GPAP (Gel Pengharum Anti Polutan): Utilization of Snake Plant (*Sansevieria trifasciata*) Extract to Neutralize CO, NO₂, and SO₂ Indoor Pollutant

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ABSTRACT

Introduction: Gas pollutants that accumulate in the room with restricted air circulation can cause respiratory system disorders. The most common gas pollutants are CO_x, NO_x, and SO_x. A pregnane glycoside compound from *Sansevieria* can reduce the pollutants. This study aims to make gel from *Sansevieria* extract to neutralize indoor gas pollutants.

Method: *Sansevieria* extract is produced by maceration process with 4 different samples. Identification of pregnane glycoside is done by ultraviolet spectrophotometers with Liebermann-Burchard method. The gel is applied to rats (*Rattus norvegicus*) Wistar strain divided into 3 groups of positive control and 3 treatment groups for 8 days. Gross examination and histopathology of lungs and liver is observed quantitatively. MDA level is observed with TBARS method. Data are analyzed by Independent Sample T test and Mann-Whitney test with p value considered significant if <0.05.

Results: The highest pregnane glycoside is 318,26 mg/dl produced by sample C. Gross examination shows better condition of liver and lungs in treatment group with significance difference of lungs between KPSD and P2 (p=0.031), KPND and p3 (p=0.006) and significance difference of liver in KPKM and P1 (p=0.040). Histopathology of lungs shows significance difference in P3 and KPND (p=0.032) and no significance difference in histopathology of liver. MDA level shows significant difference in KPSD and P2 (p=0.020) and KPND and P3 (p=0.000).

Conclusion: GPAP can reduce MDA level and damage of pollutants to the lungs and liver of rats. Further research should be conducted in order to know the effect of GPAP to the human.

Keywords: GPAP, *Sansevieria*, Pollutants, MDA, Lungs, and Liver

Effects of Beta-Glucan on IFN γ and IL-12 Production in PBMCs Induced by M. Tuberculosis DNA

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Introduction: Beta-glucan is known as one of the potential immunomodulatory polysaccharides. Beta-glucan stimulates immune cells to enhance innate immunity reaction, and stimulates the production of respiratory burst and cytokines, as well as exhibits antimicrobial properties. The primary cytokines in the process of Mycobacterium tuberculosis (M. Tuberculosis) bacterial infection are Interferon gamma (IFN γ) and Interleukin 12 (IL-12). This study aimed to determine the effects of beta-glucan on the production of IFN γ and IL-12 in Peripheral Blood Mononuclear Cells (PBMCs) induced by M. tuberculosis DNA. Method: In this study, PBMCs were isolated from 11 healthy respondents and cultured in complete RPMI media containing beta-glucan (5 μ g/ml). They were also induced with mutant or wild-type M. Tuberculosis DNA (10 μ g/ml) for six days in an incubator of 5% CO₂. The production of cytokines IFN γ and IL-12 in the supernatant was performed using ELISA technique with an OD of 450 nm. Results: The results identified more significant increases in the production of IFN γ in groups of PBMCs receiving beta-glucan than those receiving no beta-glucan ($p < 0.01$), either in the cells induced by mutant and wild-type M. Tuberculosis DNA or in non-induced-cells. There were no significant differences in the mean of IF γ production among the mutant and wild-type-induced PBMCs, and non-induced PBMCs ($p > 0.05$). On the other hand, in the production of IL-12 by PBMCs receiving beta-glucan, there were significant differences in the mean values between the cells induced by mutant and wild-type M. tuberculosis DNA and the non-induced cells with a $p < 0.05$. Furthermore, there were significant mean differences in the production of IF γ in PBMCs induced by mutant and wild-type M. tuberculosis DNA and the non-induced ones ($p < 0.05$). Similarly, in the production of IL-12 by PBMCs receiving no beta glucan, there were significant mean differences among the cells induced by mutant and wild-type M. tuberculosis DNA, as well as the non-induced cells ($p < 0.05$). Conclusion: These results indicated that the provision of beta-glucan could improve the performance of immune cells in producing cytokines, either in the cells induced by bacterial DNA or in the ones receiving no induction.

Keywords : Beta-glucan; interferon-gamma; Interleukin 12; M. Tuberculosis DNA

POSTER PRESENTATION - Cardiovascular – Paediatrics - Infection

The Association between Serum Malondyaldehyde and Nitric Oxide Level of Children Living In Area of Chronic Pesticide Exposure

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ABSTRACT

Introduction: Chronic exposure of organophosphate pesticides is an oxidative stress that causes liver and aortic damage. Malondialdehyde (MDA) is a biological marker of oxidative damage to cell lipids membrane. The liver produces insulin growth factor-1 (IGF-1) which stimulates the enzyme nitric oxide synthase (eNOS) to produce vascular nitric oxide (NO). Children who are living in those area may be exposed to pesticide chronically. The aim of this study are to determine the relationship between serum MDA and NO level of children living in an area of chronic pesticide exposure.

Methods: Cross sectional study was conducted to 50 children aged between 8 – 10 years in agriculture areas of Brebes. Serum MDA and NO level was measured at the same time using ELISA method, data were shown on numerical scale. Statistical analysis by Pearson correlation.

Results: Fifty children met the criterias, consisting of 30 males (60%) and 20 females (40%). The mean of serum MDA level in males, females, and total subjects were normal 6.03 (3.86) µg/ mL, 5.18 (2.11) µg/ mL, and 5.69 (2.60) µg/ mL, respectively. The mean of serum NO level in males, females, and total subjects were increased 79.42 (50.78) µmol/ L, 68.11 (50.81) µmol/ L, and 74.90 (50.58) µmol/ L, respectively. There was no association between serum MDA and NO level found.

Conclusion: Serum NO level of children living in an area of chronic pesticide exposure was higher than normal value. However, there was no association between serum MDA and NO level found.

Keywords: Pesticides; oxidative stress; malondialdehyde; nitric oxide

Relating Factors of Adherence in Following PROLANIS on Hypertension Patients

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ABSTRACT

Background: PROLANIS is a chronic disease management program that aims to optimize the quality of life, adherence to follow PROLANIS needed for hypertension patients can control blood pressure, and achieve optimal quality of life and can perform self-care independently.

Objective: To know the factors related to adherence of following PROLANIS in hypertension patient.

Methods: This research uses quantitative method that is descriptive correlative with cross-sectional approach. Sampling method is total sampling with sample size 53 respondents. Place of study at Puskesmas Bulu Lor Semarang in June 2018.

Results: Most respondents were age late elderly (56-65 years) (45.3%), the majority of respondents were female gender (66%), majority of the respondents were graduated from senior high school (34%), knowledgeable (43.3%), majority have good quality of interaction (62.3%), majority have good support of family (67.9%), majority of respondents have good adherence to follow PROLANIS (67,9%). There was a correlation between gender ($p = 0.021$), knowledge ($p = 0.001$), quality of interaction ($p = 0.000$), support of family ($p = 0.000$) with adherence of following PROLANIS. There was no correlation between age with adherence of following PROLANIS ($p = 0.552$). There is no correlation between education and adherence following PROLANIS ($p = 0.055$).

Conclusion: Factors related to adherence of follow PROLANIS including gender, knowledge, quality of interaction and support of family. The research is expected to be input for nurse to increase knowledge, quality of interaction to hypertension patient and also improve education to his family.

Keywords: Adherence; PROLANIS; hypertension

Atypical Mononuclear Cell in Immune Thrombocytopenia Purpura (ITP) with Massive Bleeding

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ABSTRACT

Introduction: Immune thrombocytopenic purpura (ITP) is a disorder that can lead to easy or excessive bruising and bleeding. The bleeding results from unusually low levels of platelets, the cells that help blood clot. ITP can occur after viral infection and usually fully recover without treatment.

Methods: A 38-years-old women who referred for investigation of melena and cutaneus bleeding (haemoglobin level 4.1-5.5 g/dl) for about 2-3 days. Thrombocyte count showed thrombocytopenia ($2 - 6 \times 10^3/\mu\text{l}$) and she had normal leucocyte count. Her peripheral blood film was anemia normocytic normochromic, thrombocytopenia, and normal leukocyte count with atypical mononuclear cell. We evaluated the patient with another laboratory parameter, antibody antiplatelet.

Results: There was positive, showed that there was autoantibody against thrombocyte in her circulation and we could exclude haematology cancer. AMC showed that the activity of mononuclear fagocyte was active.

Conclusion: The results of this study indicated that antibody anti-platelet plays important role for unexplained thrombocytopenia with or without anemia and this parameter can exclude haematology cancer for diagnosing.

Keywords: Atypical mononuclear cell; ITP; bleeding

Correlation between HbA1c Level and Monocyte Percentage in Obesity

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ABSTRACT

Introduction: HbA1c is one of the parameters that can be useful for diagnosing diabetes mellitus that can occur in obesity. Monocyte as inflammatory cell is widely studied in relation with diabetes mellitus and obesity. The purpose of this study was to analyze the correlation between HbA1c levels and monocyte percentage in obesity.

Methods: The method of this study was cross-sectional study of 30 medical students at private laboratory in Semarang on March – April 2017 was done. The monocyte percentage included in complete blood count was examined with *Sysmex XS-800i* hematology analyzer, while HbA1c level was examined with Hemocue HbA1c 501 System. Spearman test was done for analyzing data with $p < 0.05$ was considered statistically significant.

Results: The results of this study showed that there was median HbA1c level was $5.8 \pm 0.23\%$. The results of leukocyte examination of respondents were median of leukocyte count $8.600 \pm 339.77 /\mu\text{l}$, lymphocyte percentage $33 \pm 1.19\%$, neutrophil percentage $56 \pm 1.35\%$, and monocyte percentage of $9.0 \pm 0.26\%$. Spearman test showed that correlation value (r) = 0.131; $p = 0.489$.

Conclusion: There was no correlation between HbA1c levels and monocyte percentage in obesity. The increased of monocyte percentage can be used as monitoring and evaluation parameter in obesity that can lead to diabetes mellitus. Further study can be done in obese population with older age as well as other parameters related to obesity and diabetes mellitus.

Keywords: HbA1c level; monocyte percentage; obesity

Impact of GANCHI (Green Tea and Chia Seed) on the Pathology of Atherosclerosis

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ABSTRACT

Introduction: Atherosclerosis is a disease that affects blood vessel through the formation of plaque in endothelial causing arteries to be clogged up by cholesterol and which become the predisposition factor of coronary heart disease. Dyslipidemia refers to an elevation of lipid fraction which are cholesterol, LDL, and triglyceride. Green tea (*Camellia sinensis*) contains flavonoid which mostly contains catechin and Chia seed (*Salvia hispanica*) which contains linolenic acid and phenolic. Both of them are known for reducing blood cholesterol level and other lipid fraction. The aim of this study is to combine both green tea and chia seed to reduce blood cholesterol and delay the formation of plaque in atherosclerosis disease.

Methods: This experimental laboratories (in vivo) studies used male wistar rats with a total of sample 15, were divided into 3 groups: Negative Control (NC), Positive Control (PC) and Green tea-Chia seed treatment (GC). Both PC and GC were given lard oil to induce hyper cholesterol for 2 weeks. GC treatment was then administered with a dosage of 0.2 gr/rat for 2 weeks. On the 4th week, rats were terminated and their heart is collected. Histological preparations were made and colored using Haematoxylin-Eosin (HE).

Results: On the GC treatment, the mean total blood cholesterol is between 130-170 mg/dl, which is slightly lower than NC and PC. Histopathological examination showed that the number of foam cell and inflammation decreased. On SPSS, the combination of green tea and chia seed showed no significant differences $P = 0.414$ On the other hand, the histopathological exam on aorta showed significant differences $P = 0.005$ in the number of foam cell.

Conclusion: The combination of green tea and chia seed potentially effective to reduce blood cholesterol and plaque formation in atherosclerosis.

Keywords: Atherosclerosis; green tea; chia seed

The Effectiveness between Diphenhydramine and Clonidine Reduce Post-Sevofluran Agitation in Pediatric

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ABSTRACT

Introduction: Labioplasty is one of the most plastic surgery procedure in pediatric. The choice of anesthesia technique in labioplasty is general anesthesia using sevoflurane. Agitation is the most side effect by using sevoflurane. Several drugs are being used to reduce the agitation, like diphenhydramine and clonidine. To compare the effectiveness between the clonidine dan diphenhydramine single dose before extubation to reduce post sevoflurane agitation during emergence anesthesia in pediatric labioplasty procedure.

Methods: This double blind, controlled trial randomized experimental design was done in this study. A total of 50 pediatric patients were eligible in inclusion criteria as our subject. Fifty patients were randomized into two groups in labioplasty procedure using sevoflurane in general anesthesia. Group I received diphenhydramine 0,5mg/kg 15 minutes before turning off the sevoflurane. Group II received clonidine 2mcg/kg 15 minutes before turning off the sevoflurane. The evaluation of agitation was done with PAEDS score pre and post operative, 1 minute post extubation, during emergence anesthesia, 15 minutes post extubation.

Result: This study shows that clonidine is more effective than diphenhydramine to decrease the agitation post sevoflurane in pediatric population but no significant difference between the two groups ($p \leq 0.05$).

Conclusion: Using clonidine intravena single dose to reduce the agitation post sevoflurane and emergence delirium was more effective than diphenhydramine in labioplasty procedure in pediatric population but there is no significant difference between the two groups.

Keywords: Sevoflurane; agitation; PAEDS Score; clonidine; diphenhydramine

Effect of Supportive Group Therapy on Stress Elderly with Hypertension in Pudukpayung Public Health Center

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ABSTRACT

Introduction: Stress experienced by the elderly who suffer from hypertension will have a negative impact on health. Stress will increase blood pressure uncontrollably, increasing the risk of heart failure, stroke, kidney failure, ruptured blood vessels, and even death. To prevent the negative impact of stress requires an intervention and supportive group therapy is one of the recommended therapy for people with stress. Supportive group therapy is a therapy given in the form of a group that serves to support each other using their supporting resources to form adaptive coping when faced with stressors. The purpose of this study was to determine the effect of supportive group therapy on stress experienced by elderly with hypertension.

Methods: The design of this study was a quasi-experiment in the form of pre-post without control group. The sampling technique in this research was simple random sampling and the number of research samples that amounted to 30 elderly with hypertension who experience stress based on Depression, anxiety, stress scale (DASS).

Results: The level of stress in the elderly before the intervention was mostly at a moderate level and after intervention was at a mild level. The result of statistical test shows that there is difference of mean value of stress after given supportive group therapy with a p-value of 0.00, $p > \alpha$.

Conclusion: There was a decrease in stress level before and after supportive group therapy given, so it can be concluded that supportive group therapy has a significant effect on stress reduction in elderly hypertension.

Keywords: Elderly with hypertension; stress; supportive group therapy

A Comparison between Emla and Cold Compress Used on School Aged Children's Level of Pain during Venipuncture Procedure in Dahlia Room, Regional Public Hospital H Soewondo, Kendal

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ABSTRACT

Introduction: A child takes a series of procedures in a Hospital as a therapy. The first procedure often used on a child as he/she enters a hospital will be an intravenous therapy procedure and blood collection venipuncture. A topical anesthesia is often used in pediatric care. EMLA cream and cold compress are an option to reduce pain during a venipuncture procedure on children. The research aims at comparing the effectiveness of EMLA and cold compress used on school aged child's level of pain during venipuncture in Dahlia room, Regional Public Hospital (RSUD) H Soewondo, Kendal.

Methods: A quasi-experiment with post-test only design was used in this research. The samples were collected using a non-probability sampling method consecutively from 50 respondents.

Results: There was no difference in pain between the EMLA group and the cold compress group (P=0.894).

Conclusion: There was no difference in pain between the EMLA group and the cold compress group in Dahlia room, RSUD H Soewondo, Kendal.

Keywords: Cold compress; EMLA; pain; venipuncture

Head Circumference and Seizure, Leucocyte Count, Phymosis can Help Doctors Make Etiological Diagnosis in Pediatric Patients with Prolonged Fever

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ABSTRACT

Introduction: Defining the etiology of prolonged fever can be challenging as many tests are required. This study aimed to describe the pattern of etiology of prolonged fever in pediatric patients hospitalized in Dr. Kariadi Hospital and to find simple indicators which associate with specific etiology, therefore, may simplify making the etiological diagnosis.

Methods: This was a retrospective study on children with prolonged fever hospitalized in Dr. Kariadi Hospital during 2017. Patients with haematology/ oncology problems were excluded. Data were obtained from medical records, including demography, clinical presentation, laboratory tests (routine haematology test, C-reactive protein, blood and urine cultures, cytomegalovirus (CMV) serology and radiology. Chi-square or Fischer exact was used for statistical analysis where appropriate.

Results: A total of 136 patients with prolonged fever were enrolled, 40 patients were excluded due to incomplete medical record. Girls (56.6%), age group of 0-1 year-old (34.4%) and 5-10 year-old (24.0%) were dominant. Forty-nine children (43.4%) had developed fever for 8-15 days, 42 (37.2%) for 16-30 days, 8 (7.1%) for 30-60 days and 14 (12.4%) for more than 60 days. Final diagnosis was established in 73.9% patients. The most common etiology of prolonged fever were urinary tract infection/ UTI (23.6%), bacteremia (22.8%), CMV infection (16.6%), bronchopneumonia (6.1%), and tuberculosis (4.3%). Leukocytosis significantly associated with bacteremia ($P=0.09$). Microcephaly and seizure associated with CMV infection ($P=0.000$ and 0.001 respectively). Phymosis associated with UTI ($P=0.004$), but leukocyte count in urine did not ($P=0.66$).

Conclusion: The most common cause of prolonged fever in our hospital was UTI, bacteremia, and CMV infection. The presence of leukocytosis, microcephaly, seizure, and phymosis may help doctor to more efficiently plan a diagnostic work up.

Keywords: Prolong fever; leucocytosis; microcephaly; seizure; phymosis

The Effect of Circuit Relationship Germs Cause Health Care - Associated With Germs Endogenous Nasal Infections in Children with Leukemia

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ABSTRACT

Introduction: Pediatric patients with malignant disease are more likely to experience nosocomial infections. Various mechanisms can be the background of lost or damaged mucosal barrier of the body, especially the nasal mucosa in children with malignancy can provide opportunities for endogenous opportunistic germs to cause Healthcare -Associated Infections.

Methods: This research is an analytic observational with cross sectional design with the subject of children ages 1-18 years old diagnosed with leukemia and bacteremia (Hais) in dr. Kariadi Semarang. The study was conducted in August 2015-August 2016. The subject of research conducted by consecutive sampling. Bivariate test conducted with chi-square test using SPSS v.15. 95% confidence intervals (95% confidence interval = CI). The p-value was considered significant when $p < 0.05$.

Results: The subjects 22 children. Bivariate analysis performed by the Kolmogorov - Smirnov test, because the requirements are not met, chi-square test on a 3x2 table. Based on the Kolmogorov - Smirnov test between the results from the growth of germs and nasal blood culture showed that there was no significant difference ($p = 0.979$).

Conclusion: No association was found between the results of blood culture bacteria with a nasal swab culture results.

Keywords: HAIs; nasal endogenous germ; leukemia

The Effective Comprehensive Management Service Model of Transdiscipline Team Child with Down's Syndrome

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ABSTRACT

Introduction: Chronic exposure of organophosphate pesticides is an oxidative stress that causes liver and aortic damage. Malondialdehyde (MDA) is a biological marker of oxidative damage to cell lipids membrane. The liver produces insulin growth factor-1 (IGF-1) which stimulates the enzyme nitric oxide synthase (eNOS) to produce vascular nitric oxide (NO). Children who are living in those area may be exposed to pesticide chronically. The aim of this study are to determine the relationship between serum MDA and NO level of children living in an area of chronic pesticide exposure.

Method: Cross sectional study was conducted to 50 children aged between 8 – 10 years in agriculture areas of Brebes. Serum MDA and NO level was measured at the same time using ELISA method, data were shown on numerical scale. Statistical analysis by Pearson correlation.

Result: Fifty children met the criterias, consisting of 30 males (60%) and 20 females (40%). The mean of serum MDA level in males, females, and total subjects were normal 6.03 (3.86) µg/ mL, 5.18 (2.11) µg/ mL, and 5.69 (2.60) µg/ mL, respectively. The mean of serum NO level in males, females, and total subjects were increased 79.42 (50.78) µmol/ L, 68.11 (50.81) µmol/ L, and 74.90 (50.58) µmol/ L, respectively. There was no association between serum MDA and NO level found.

Conclusion: Serum NO level of children living in an area of chronic pesticide exposure was higher than normal value. However, there was no association between serum MDA and NO level found.

Keywords: pesticides, oxidative stress, malondialdehyde, nitric oxide

The Effect of Circuit Training on Peak Expiratory Flow of Elderly

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ABSTRACT

Introduction: Aging is a maturation process that is often followed by some reduction in the function of various organ systems, one of them is respiratory system. Decreased of respiratory system has impact on the decreased of arterial oxygen pressure so that it interferes with tissue oxygenation. The function of respiratory system can be known by measuring Peak Expiratory Flow (PEF). It is well known that endurance and resistance exercise can substantially improve physical ability and health of the elderly. Circuit training is one of the interval exercise that combine aerobic exercise and resistance exercise in a short time. The purpose of this study is to determine the effect of circuit training on elderly respiratory function as measured by peak expiratory flow.

Methods: This study is one group pretest - post test design with a sample of 13 elderly who fulfill the inclusion and exclusion criterias. The subjects received circuit training 3 times a week for 4 weeks respectively. The subjects was measured their PEF using a spirometry before and after 4 weeks of intervention.

Result: Data analyzed by Wilcoxon Sign Rank Test. There was a significant improvement of PEF in elderly after doing circuit training for 4 weeks compared with before intervention. The PEF before intervention was $62,08 \pm 20,49$ and at the end of intervention became $84,23 \pm 16,52$ ($p=0.001$).

Conclusion: Circuit training improves PEF in elderly.

Keywords: Elderly, Circuit training, PEF.

Streptococcus pneumoniae: From Growth Characteristics to the Occurrence of Meningitis

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Introduction Streptococcus pneumoniae asymptotically colonizes the upper respiratory tract or becomes invasive and cause life-threatening diseases such as meningitis. Pneumococcal meningitis has high morbidity and mortality but the role of bacterial factors on it is scarcely explored. We hypothesized that there are differences in growth characteristics of pneumococcus cultured in the rich medium; these differences contribute to disease manifestation of meningitis. **Method** 378 strains of S. pneumoniae were retrieved from the Pneumococcal Bacteraemia Collection Nijmegen cohort. Strains were inoculated on blood agar and incubated overnight (37°C-5% CO₂). Subsequently, colonies were subcultured in liquid medium (50% glucose-supplemented M17 broth; 50% CAT) to mid-log OD₆₂₀ of 0.3 and aliquots were made in 15% glycerol then were stored at -80°C. Second bacterial subculture was done in rich medium (50% GM17; 50% CAT; 10% FCS) supplemented with catalase, and bacterial growth was measured every 10 minutes using microplate reader (15 hours).

Results Growth curves and derived values (maximum OD, growth rate, and lag phase) showed clear differences between isolates. Growth characteristics analysis revealed there was no association between derived values and the occurrence of meningitis (t-test, $p > 0.05$). There were significant associations between derived values with the capsular serotypes of pneumococcus (one way ANOVA, $p < 0.05$). Meningitis-causing strains from serotype 1, 6B, and 7F exhibited a distinguished growth pattern compared to the pneumonia-causing counterpart. **Conclusion** Clear differences were measured in growth characteristics of pneumococcus cultured in the rich medium. No association was found between the growth characteristics of pneumococcus with the occurrence of meningitis. Further research is needed preferably using a different method to quantify bacterial growth (eg. qPCR).

Keyword : Streptococcus pneumoniae; growth characteristics; meningitis

Secret Culture Check as Supporting Diagnosis of VAP on Posted Surgery in ICU dr. Kariadi hospital

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ABSTRACT

Introduction: Associated Ventilator Pneumonia (VAP) is pneumonia that occurs 48 hours or more after endotracheal intubation and is characterized by progressive or recent infiltrates, systemic infection, sputum changes, and the cause is found. VAP incidence is half the cases of pneumonia acquired in the hospital. But in the ICU room of Dr. Kariadi Semarang VAP incidence rate is very low even reach 0% causing the appearance of a question mark. Delay in diagnosis and management, adversely affect the length of stay in the ICU, duration of ventilator use, and hospitalization costs. In several studies conducted abroad, examination of secret culture is a gold standard for the diagnosis of VAP. Objective Looking for VAP events in postoperative patients in ICU RSUP Dr. Kariadi Semarang with examination of secret culture as supporting diagnosis.

Methods: This was a descriptive observational study using 16 samples of patients who performed a secretive culture examination at the beginning of postoperative care using a mechanical ventilator in ICU and secretive culture at 48 hours of ventilator use.

Results: It was found that 4 patients (25%) were concluded by VAP diagnosed investigators. Enforcement of the diagnosis based on the growth of germs present in examination of first and second secret culture.

Conclusion: The examination of the secret culture is an accurate diagnostic investigation of the diagnosis of VAP, and to identify the type of germ that develops, so that proper treatment can be done.

Keywords: Ventilator Associated Pneumonia; mechanical ventilator; secret culture

Survey Risk Factors of Non-Communicable Disease in Rembang Regency (Stepwise WHO Analysis)

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ABSTRACT

Introduction: Non-communicable disease (NCD) is known as a disease with chronic medical condition. The prevention of NCD needs to be done on its risk factors. In 2010, research about NCD has been conducted in Rembang regency, and the result was the proportion of NCD risk factors in Rembang regency was quite high, don't reached WHO target. This study aims to determine the proportion of NCD risk factors in Rembang regency 2014.

Methods: Contain design, population, measurements and how the study was performed. The study used cross-sectional approach conducted in June-July 2014 involved 384 head of household aged 25-64 years old using multistage sampling technique. Data were collected using WHO Stepwise Approach to Surveillance (STEPS) questionnaire.

Results: Respondents in this study were 384 HH, consist of 320 HH in non-coastal areas, 64 HH in coastal areas. Most of respondents were 35-44 years old (43.49%), 72.40% were smoker, 18.75% were overweight, 1.56% were obese, and 15.36% were hypertension. The study also showed that 20.31% were hyperglycemia and 77.86% were not sufficient for fruits and vegetables consumption.

Conclusion: Since non-communicable disease can be prevented by controlling its risk factors, the community was advised to continuously prevent the risk factors of NCD by implementing healthy lifestyle and did regular check-up.

Keywords: Non-communicable disease; risk factors; stepwise

SASA (Surgical Apgar Score&ASA) for morbidity and mortality post craniotomy at dr. Kariadi hospital

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ABSTRACT

Introduction: Craniotomy surgery has a significant high risk of morbidity and mortality in RSUP dr. Kariadi-Semarang. Prognostic studies will provide an accurate and useful predictions. SASA is one of the method that combines ASA and SAS. ASA is preoperative status of the patient, meanwhile Surgical Apgar score (SAS) is one of a scoring based on three physiological parameters: lowest estimated total blood loss, heart rate, and lowest Mean arterial pressure during the intraoperative period. SASA has also been useful in prediction of postoperative morbidity and mortality. Objective to determine the association between SASA (Surgical Apgar Score & ASA) and the incidence of postoperative morbidity and mortality post craniotomy in RSUP dr. Kariadi-Semarang.

Methods: This study was an observational analytic study with prospective cohort design. A total of 37 patients met the inclusion criteria. We divided based on age and sex group, then we rated the score of SASA, morbidity and mortality post operative and during post operative admission. The association of SASA with morbidity and mortality is being calculated with Pearson chi square test.

Results: After SASA stratification, 18 (48.6%) patients were categorized as moderate risk with mean SAS 12.56 (\pm 1.65), 12 (32.4%) low-risk patients with mean SAS 15.67 (\pm 0.99) and 7 (18.9%) patients were at high risk patient with mean SAS 7.29 (\pm 0.76). Of the 15 patients that had morbidity and mortalit, 7 of them had mortality postoperative procedure. The majority of patients who had morbidity and mortality were in the high-risk patient (SASA 2-8) with p=0.000.

Conclusion: The SASA score has a significant correlation with the incidence of morbidity and mortality. In the high-risk group (score 2-8) all experienced morbidity and mortality, meanwhile on low risk group (score 15-20) no morbidity and mortality were found.

Keywords: SASA; craniotomy; morbidity; mortality

The Effect of Cognitive and Physical Therapy in Critically Ill Patients

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ABSTRACT

Background: Many critically ill patients have cognitive and physical impairment. An effective intervention needed to improve cognitive function of critically ill patients. Cognitive and physical therapy is one of recommended interventions in the prevention of cognitive and physical impairment. The aim of this study is to review the effect of cognitive and physical therapy to improving cognitive function in critically ill patients.

Methods: This study is a systematic review. We search the articles from Ebscohost, Google Scholar, Pubmed, and Science Direct database which published from 2008 till 2018. Study design which included in this review are RCTs.

Results: Three RCTs included in this study. There were two kind different protocols, two articles using cognitive and physical therapy guided by RASS assesment, and the other using Three-Pronged RETURN Rehabilitation Protocol. Two articles show that cognitive and physical therapy are effective for improving cognitive function, while one article show that there is no different cognitive function improvement between treatment and control group.

Conclusion: Cognitive and physical therapy is useful for improving cognitive function. Future research to explore the effect of cognitive and physical therapy in critically ill patients is needed to confirm the evidence.

Keywords: Cognitive and physical therapy; cognitive function; critically ill

Emergency and disaster curriculum for undergraduate health students in UGM

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ABSTRACT

Background: How difficult to integrate disaster health curriculum into medical or health faculty, not only in Indonesia but also in others countries. Generally, disaster curriculum has been developed as informal course, elective block, or formal program in small credits. In addition, the topic guidelines largely relies on consensus based. Based on these and realized that Indonesia as the most vulnerable country to disaster and health crisis in ASEAN, Faculty of Medicine, Public Health and Nursing (FKKMK) UGM since 2010 has been initiated disaster health management block for each undergraduate medical and nursing students. However, it was very limited for time, topics, media, and practice. Then, the Community and Family Health Care with Inter-professional (CFHC-IPE) program, FKKMK UGM has also involved emergency and disaster topic as one topic at fourth year for 3 program studies. Rather than to be overlapping learning between block and CFHC-IPE, it was better to be an opportunity to expand disaster material and practice based on competency and collaboration. The aim was evaluate disaster health curriculum for health students theoretically and practically in the family and community during one semester.

Methods: Separated learning objective between block and CFHC-IPE. Concept of disaster health management and each health professional competency were developed in Block during 6 week in September-October. And concept of collaboration, IPE, practice of family disaster preparedness were developed in CFHC IPE at August to December. In CFHC IPE, students from three program studies worked together in the small group (about 5-7 students) for some families in the sub-village, Yogyakarta. First, they collected health data, population, and hazard from family and community to make disaster preparedness program. Second, they submitted proposal program to faculty. Third, implemented the program.

Results: Integration program begin at 2016, improved at 2017. No longer overlapping material and limited time to teach disaster health. The course was well received by students because they felt more understood about disaster block material with practiced it in the CFHC IPE. Disaster knowledge had changed significantly 2016 (6.7 to 8.7, $p < 0.001$) and 2017 (8 to 9, $p = 0.00$). Although, they have a good understanding of role and function of health profession in disaster management but they still had a communication problem among health profession.

Conclusion: This was one of many ways to integrated disaster health program into strict curriculum and limited time in the health faculty. Disaster health management curriculum was the most important ways to prepared healthcare workers to be to cope disaster in the future. So, needed a disaster health curriculum based on competency and inter-professional approach.

Keywords: Inter-professional education; curriculum; disaster health and emergency; competency; health students

Critical Care Nurses' Attitudes towards the Importance of Families in Intensive Care Unit

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Introduction : Family is an important aspect that needs to be involved in patient care to optimize the patient's needs. Nurses' attitudes can influence family involvement in patient care. Aims: The purpose of this study was to determine the nurse's attitude about the importance of family involvement in care of critical ill patients in intensive care room.

Methods: This is a descriptive quantitative research with survey method. The research instrument using FINC-NA questionnaire. One hundred and twenty-one critical care nurses were recruited in this study consecutively.

Results: The results showed that 52.1% of nurses had a positive attitude about the importance of families' involvement in critical care. Fam-OR is the dimension with the highest support attitude (62,8%) followed by Fam-CP (62%), Fam-RNC (52.1%) and Fam-B (46.3%).

Conclusion: Overall, nurses had a positive attitude to families' involvement in critical care. Their positive attitudes can be taken account for developing more family-centered care program.

Keyword : nurse; family importance; critical care

Assessing Mortality Rate in Sepsis Patient at Neutrophil Lymphocyte Ratio and SOFA Score in dr. Kariadi Hospital

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ABSTRACT

Introduction: Sepsis is the main cause of death from infection cases, especially if cannot be identified at the beginning or the therapy is delayed. Morbidity and mortality in ICU are determined by the incident of organ failure. Damage and failure of organ function can be monitored by using Sequential Organ Failure Assessment (SOFA) Score. SOFA mean score at first 48 hours is a good prognosis indicator for patient output. The study aims to find out if there is any difference of sepsis patient mortality rate according to the Neutrophil Lymphocyte Ratio as a simple sepsis biomarker and Sequential Organ Failure Assessment (SOFA) as mortality predictor in dr. Kariadi Central Hospital's ICU.

Method: This is an observational research with cross-sectional design. Total sample were 32 patients. The blood from patients that went to the ICU were drawn at 0, 24th, and 48th hours. Parameters observed including routine blood assessment, blood smear, liver function, renal function, and blood gas analysis. Data were analyzed using Anova test and interclass correlation coefficient test to assess two ways reliability.

Results: Neutrophile Lymphocyte Ratio can be linked with severity level of critical patients. In the patients with sepsis, there was no significant correlation statistically between Neutrophile Lymphocyte Ratio and mortality.

Conclusion: RNL can be a predictor of outcome mortality rate in septic patients treated in ICU. RNL assessment may indicate the severity of organ failure in septic patients treated in ICU. The RNL assessment had a correlation with mortality rate based on SOFA score in septic patients treated in the ICU room.

Keywords: Neutrophile Lymphocyte Ratio, sepsis, Sequential Organ Failure Assessment

Nitric Oxide (NO) Level of The Follicular Fluid in Endometriosis Patients

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ABSTRACT

Immune system factor is believed to be involved in the progressiveness of endometriosis. Women with endometriosis tend to have their immune system decline, thereby causing the change in the levels of prostanoid, cytokine, growth factor, and interleukins in their peritoneal fluid. At the same time activation of the macrophage will increase the level and production of nitric oxide (NO) and prostaglandin. Nitric Oxide affects ovarian activity. Follicular fluid was taken from 64 women, but only 54 were continue with further laboratory. Women with endometriosis had their follicular fluid taken during laparoscopy, while non-endometriosis women follicular fluid were taken during tubectomy. Nitric Oxide level were analyzed using PCR-REFLP method. Data were analyzed using software STATA Intercooled Version 11. NO level in endometriosis is higher than that in non-endometriosis, and has a significant relation with all the variables (age, parity, dysmenorrhea, dyspareunia, types of endometriosis, and grade of endometriosis).

Keywords: Nitric oxide; endometriosis; follicular fluid

Clinicopathological Features of Epithelial Ovarian Cancer with Recurrent Disease in Kariadi General Hospital, Semarang, Indonesia

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ABSTRACT

Background: Epithelial ovarian cancer (EOC) is the leading cause of cancer death in gynaecology, which accounts for 90% of all ovarian malignancies. About 70% EOC patients will develop recurrent disease. The objective of this study is to characterize clinicopathological features of EOC patient with and without recurrent disease.

Methods: We collected 66 patients diagnosed as EOC in Kariadi General Hospital, Indonesia, and divided into 2 groups: 33 patients with recurrent disease and 33 patients without recurrent disease after one year follow up. We analysed difference of Clinicopathological features of each group including age of diagnosis, location of tumour, histological subtype, present of metastasis and infiltration outside ovarium.

Results: Patients with recurrent disease had a significantly higher proportion of bilateral ovarian tumour mass (54.54% vs 75.75% respectively; $p < 0.005$) and infiltration to omentum, (84.84% vs 66.67% respectively; $p < 0.005$), than those in patients with recurrent disease. The patients with recurrent disease also un-significantly tend to be diagnosed in older age (57.57% vs 36.37% respectively; $p > 0.005$), have histological subtype serous carcinoma (36.36% vs 27.27% respectively; $p > 0.005$) and have metastasis in peritoneal fluid (75.75% vs 60.6% respectively; $p > 0.005$) other than non-recurrent disease group.

Conclusion: Patient with recurrent EOC have different characteristic with non-recurrent group in term of age, location of tumour, histological subtype, metastasis and infiltration outside ovarium.

Keywords: Clinicopathological; ovarian cancer; recurrent disease

The Increase of Breast Milk Production in Post-Partum Mothers through Breast Care

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ABSTRACT

Background: The decrease of breast milk production is probably caused by a lack of stimulation of the oxytocin and prolactin hormones which play a key role in the production of breast milk. Hence, it causes low-flowing breast milk even after delivery, the difficulties for the baby in sucking, and the unsustainable nipple's condition. Techniques that can be carried out to enhance or increase the production of breast milk include the treatment performed on the breast or breast care, breast massage and oxytocin massage. The purpose of this study was to understand the difference between breast care technique and oxytocin massage towards breast milk production in post-partum mothers.

Methods: The method of this study was quasi-experimental research with repeated measure approach based on time series, to understand the increase of breast milk production of the spontaneous post-partum mother after breast care. The Repeated average test is conducted by the non-parametric Friedman test due to the abnormal data distribution.

Results: The results of this study showed that there was significant repeated mean differences between the breast milk production after the first, second and third breast care treatment (p-value = 0.000). Breast milk production after the first treatment had an average rating of 1.37 cc. It is lower than the average rating after the second treatment of 1.77 cc. Meanwhile, the average rating after the third treatment was 2.87 cc.

Conclusion: The results of this study indicated that breast care can increase the milk production in post-partum mothers.

Keywords: Breast Milk; breast care; spontaneous post-partum

The Effect of Obesity Classification on Preeclampsia

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ABSTRACT

Introduction : Preeclampsia is a systemic syndrome in pregnancy that occurred after 20 weeks of gestation. This condition is indicated by high blood pressure (systolic blood pressure level ≥ 140 mmHg, Diastolic blood pressure level ≥ 90 mmHg) and proteinuria. This study was aimed to identify the effect of obesity classification on primigravida women during the year of 2013 - 2015 period in Islamic Hospital of Sultan Agung Semarang.

Method : A Hospital based cross sectional study was conducted on 70 obese pregnant woman which met the inclusion and exclusion criteria. The data were obtained from medical record. The data were analyzed using chi square test.

Result : The number of primigravida women with preeclampsia in overweight, obese class 1, obese class 2 were (0%), (38,46%), (71,11%) respectively. While chi square test showed P value = 0,000 ($P < 0,05$). It determined that obesity classification in primigravida effected the preeclampsia condition in primigravida.

Conclusion : we can conclude that obesity classification had effect on preeclampsia in primigravida women.

Keywords : Preeclampsia; Obesity classification; Pregnancy

**Effect of Peer Education on Improving Self-Efficacy of
Pregnant Women in Breastfeeding the Baby**

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ABSTRACT

Introduction : Self efficacy breastfeeding mothers is the belief and ability of mothers to be able to provide adequate milk in infants. Peer education is one method that can be used in giving self-effectiveness. Peer education is education conducted by friends of their own who have the same status. Educational methods conducted by friends themselves are done by way of discussion so that participants do not feel bored and the material can be easy to accept. The purpose of this study was to determine the effect of peer education on self efficacy of pregnant women in breastfeeding babies.

Method : Sampling with cluster sampling. The sample in this study were 40 respondents of pregnant women in the intervention group and 40 respondents of pregnant women in the control group. Instrument used in this research is breastfeeding instrument self efficacy scale / BSES which amounts to 14 questions in the form likert scale. Analysis of unpaired data using Independent t-test. It is recommended for health services to be able to provide health education with peer education method in improving breastfeeding in infants

Results : P value $0,000 < 0,005$ means that there is significant difference in the intervention group after the peer education intervention to increase the self efficacy of pregnant mother in breastfeeding.

Conclusion : There is influence of peer education on improving self efficacy of pregnant mother in breastfeeding in infant.

Keywords: peer education, self efficacy, pregnant women, breast milk

The Effect of Successful Package Breastfeed to Self Efficacy and Motivation of Breastfeeding Mother

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ABSTRACT

Introduction: The success of breastfeeding is influenced by several factors, including self efficacy and mother's motivation in breastfeeding. The low motivation and self-efficacy of breastfeeding mothers is due to a lack of knowledge of mothers about breastfeeding, mothers experiencing obstacles in breastfeeding, and lack of information on breastfeeding. Efforts to improve self efficacy and mother motivation can be done with the provision of a successful breastfeeding package that is a verbal persuasive education about lactation management and positive self-talk exercises. Such interventions can increase mother's knowledge and self-confidence so that self-efficacy and mother's motivation also increases. The purpose of this study is to improve the mother's self efficacy and motivation in breastfeeding.

Method: This research design was quasi experiment with short pre and post with control group. The samples in this study were 70 respondents taken by stratified random sampling. Instruments used were questionnaire respondent characteristics, BSES-SF questionnaire and BMIMS questionnaire. Data analysis used Wilcoxon test, Paired T-Test, Independent T-test.

Results: Wilcoxon test results obtained results p value value in the control group 0.850 and the intervention group obtained results p value 0.000. Paired T-test result obtained p value value in control group 0.594 and intervention group got result p value 0.000. Independent test results obtained T-test p value 0.000 <0.05 means there is influence of self efficacy and mother's motivation in breastfeeding before and after the provision of successful breastfeeding package between the intervention group and the control group.

Conclusion: There is a significant effect of successful breastfeeding package on mother's motivation and self efficacy in breastfeeding. Healthcare workers can use a successful breastfeeding package as a solution to improve the self-efficacy and motivation of breastfeeding mothers

Keywords: Breastfeeding; nursing mothers; motivation; self efficacy

Self-Disclosure to Family on Women in Mates with HIV

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ABSTRACT

Introduction: The self-disclosure to the family is a condition that is considered negative because the stigma of Human Immunodeficiency Virus (HIV) as a contagious disease that can not be cured and must be borne for life. The self-disclosure to family for women prisoner with HIV is still limited in contrast to People Living with HIV/AIDS (PLWHA) in general. The purpose of this pilot study is to look at the structure of the women prisoner with HIV self-disclosure to the family.

Method: This study used qualitative methods with a phenomenological approach. The data were collected through in-depth interviews and analyzed by the Colaizzi method. Participants in this study were 3 women prisoner with HIV who had self-disclosure to the family.

Result: The study resulted in 2 themes of the openness status to others and the ease of self-disclosure to the family.

Keywords: Self-disclosure; HIV status; women inmates

The Effect of Antenatal Health Education on Family Attitudes in Facing Dangers of Pregnancy

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ABSTRACT

Introduction: The high maternal mortality rate is caused by the delay in the family level in treating and making the decision to immediately seek appropriate help when facing the dangerous sign of pregnancy. One way to increase the knowledge and attitude of the family in dealing with the alarm of pregnancy is to provide antenatal health education. This study aimed to determine the effects of antenatal health education on family attitudes in decision making in facing the dangerous sign of pregnancy at Watumalang Public Health Center Wonosobo regency.

Methods: This research used quasi experiment with pre-test post-test with control group. Sample were 72 respondents from high risk pregnant women was selected by purposive sampling technique wich divided intervention group and control group. Antenatal health education was given through home visits 6 times for 30 minutes.

Results: The result of statistical test of wilcoxon result showed differences in family attitude in effective decision-making in the intervention and control group with p value = 0.000 were in wich p value <0.05, so it could be concluded there was a significant effect of yhe provision of antenatal health education to the family attitude in decision making in face the alm of pregnancy.

Conclusion: Family antenatal health education through home visits with the Family Centered Care (FCC) approach could improve family attitudes in making effective decisions in dealing with dangerous sign and pregnancy as to reduce the risk of complications and reduce maternal and infant mortality. Antenatal health education can be one of independent interventions in providing family nursing care to high risk pregnant women.

Keywords: Antenatal health education; family attitudes; decision making; pregnancy signs

Comparison Effects of Ginger and Mefenamic Acid for Women with Dysmenorrhea: Systematic Review

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ABSTRACT

Introduction: Primary dysmenorrhea is a common gynecological condition. It often weakens and affects between 45 to 95% of menstrual women and causes discomfort in daily physical activities. This discomfort condition is associated with repeated absence at school or at work, which may interfere with productivity. Primary dysmenorrhea can be treated using pharmacological and non-pharmacological treatments, such as mefenamic acid and ginger. The main purpose of this study is to review the effects of ginger and mefenamic acid as treatments in women with primary dysmenorrhea

Method: Data sources were obtained from PubMed, sciencedirect, Ebsco, and Google Scholar. Inclusion criteria: 1) study on the finding of primary dysmenorrhea cases, 2) giving intervention in the form of ginger and mefenamic acid, 3) Full text, RCTs Articles of the year 2008-2018, International journals. Appraisal study used Critical Appraisal Skills Program (CASP), and synthesis method used PICO modification.

Results: Initial searches yielded 29 articles. Of these original results, five met specific selection criteria. Ginger was as effective as mefenamic acid in relieving pain in women with primary dysmenorrhea.

Conclusion: Ginger is as effective as mefenamic acid to relieve pain in primary dysmenorrhea. Ginger does not have adverse effects and is an alternative treatment for primary dysmenorrhea.

Keywords: Ginger; mefenamic acid; primary dysmenorrhea; randomized clinical trials; systematic review

Characteristic and Sex Behavior among Men Who Sex With Men

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ABSTRACT

Introduction: Men who have sex with men - often abbreviated as MSM-in Indonesia is considered as a taboo and a stigma. Studies on MSM are still limited. MSM is a risk group for STIs in Semarang.

Method: This study was conducted with observational approach and cross sectional study design. The population was MSM in Semarang who consented as respondents. Sampling technique was purposively collected. The data was garnered by interviews and questionnaire instruments, Research variables include age, education, occupation, income, time period as MSM, health service access, self esteem, stigma, knowledge, sexual behavior, Sexually Transmitted Infection history. This study Compared means Safe sex behavior (SSBQ) score using Mann Whitney test and Kruskal Wallis test.

Result: 27 MSM completed the questionnaire on July 2018 (mean age 22 years, 22.2 % with at least high school education, 51.8% full-time employed, 81.5 % below UMR, mean time period as MSM 7.5 years, 100% with access to health care, 63 % good self esteem, 11.1 % low Stigma, 11.1% sexual risk, 14.8 % low knowledge, 18.5 % has Sexually Transmitted Infections. The results of different test mean rank SSBQ with alpha 5% in the variable Age (p = 0.9), Education (p = 0.1), Occupation (p = 0.98), Income (p = 0.63), Self esteem (p = 0.1), Knowledge (p = 0.2), Stigma is (p = 0.04).

Conclusion: The significant difference in rank Safe sex behavior score was found in the stigma variable. There needs to be an increase in social support for STI prevention.

Keywords: Characteristic; sex behaviour; MSM

POSTER PRESENTATION – Metabolic - Nutrition

The Effect of Self Help Group (SHG) on Self-Management and Blood Sugar Levels in Elderly with Type 2 Diabetes Mellitus

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ABSTRACT

Background: Elderly group is susceptible to a chronic illness or other illness. The time of affected by DM disease causes the decreasing of self-management and uncontrolled blood sugar levels. The role of nurses to solving the diabetes mellitus problem is used support group or community empowerment. One of the types of support group is Self Help Group (SHG). SHG is an intervention strategy consisting of 2 or more people to solving the problems encountered in the group. This study was to investigate the effect of self-help group (SHG) on self-management and blood sugar levels in elderly with type 2 DM.

Methods: The research method was used quasi experiment with pre-post test design with control group design. Sample technique used purposive sampling technique. Respondents were 90 subjects. The SHG intervention technique was implemented with 5 meetings for 5 weeks. The meetings discussed about type 2 diabetes mellitus which includes nutrition, oral treatment and physical activity. The data analysis used Wilcoxon Test due to abnormal data distribution.

Results: There was significant improvement of self-management in SHG intervention group before and after intervention with mean value 5.37 to 6.58 ($p < 0.05$). The significant different between SHG and control group was observed with mean value 5.84 ± 3.09 ((-1)-13) and 0.16 ± 0.90 ((-2)-2) ($p < 0.05$), respectively. The blood glucose levels significantly decreased in SHG intervention group before and after intervention from 198.36 to 169.18 mg/dl ($p < 0.05$).

Conclusion: SHG is effectively improving self-management and decreasing blood sugar levels in elderly with type 2 DM. This intervention may be recommended as one of nursing intervention to improve self-management in elderly type 2 DM.

Keywords: Self-help group (SHG); self-management; elderly; type 2 diabetes mellitus

Relationship between Serum Zinc Levels and Atopy in Obesity

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ABSTRACT

Background: Zinc deficiency affects the balance of immune response towards the dominance of atopy. There were no studies investigate the association between zinc deficiency and atopy in obesity. The purpose of this study was to analyze the association between zinc deficiency and atopy in obesity and other related factors affect atopy in obesity.

Methods: The method of this study was case control study was performed from 46 obese, aged 13-14 years, divided into the case group (n=23) with atopy and the control group (n=23) without atopy. We measured the anthropometry, serum zinc levels, serum IgE levels, and clinical atopy. All results were analysis using χ^2 test.

Results: In the case group, asthma was found in 7 (30.4%), rhinitis in 9 (39.3%), and atopic dermatitis in 7 (30.4%) among 23 subjects. The mean levels of total serum IgE in the case group was higher than control (129.12±120.73 IU/l vs 67.01±68.97 IU/l; p=0.145). The mean levels of serum zinc in the case group was significantly lower than control (70.53±4.89 pg/dl vs 96.32±13.01 pg/dl; p=0.000). Zinc deficiency (<70 pg/dl) was found to be a risk factor for atopy in obesity (OR : 13.6; CI 95% 2.57-72.39; p = 0.000). Only the presence of dog or cat in the household was shown to increase the risk of atopy in obesity (OR : 9.63; CI 95% 1.075-86.175; p = 0.047), while traffic-related air pollution, cigarette smoke and food allergy did not increase the risk of atopy in obesity.

Conclusion: The results of this study indicated that zinc deficiency and presence of dog or cat in the household were found to be a risk factor for atopy in obesity.

Keywords: Obesity; zinc deficiency; atopy in obesity; zinc level

Effect of 10,000 Steps Goal Program on Waist Circumference in Obese Adolescent

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ABSTRACT

Introduction: The prevalence of overweight and obesity has increased in most parts of the world during the last decades, among children, adolescents and adults. With the increased occurrence adolescence obesity, health problems that were previously considered to be associated mainly with adult obesity are now observed more frequently also in adolescents. Genetic predisposition, physical inactivity, poor dietary choices are primary contributors to the problem of obese. Patterns of physical activity as well as sedentary lifestyle play an important role in long term weight regulation. Walking is recognized as an easily accessible mode of physical activity and is therefore supported as a strategy to promote health and well-being. To complement walking, pedometers have been identified as a useful tool for monitoring ambulatory physical activity, typically measuring total steps/day. The objective of this study was to investigate the effectiveness of a pedometer based walking intervention on waist circumference in obese adolescent.

Method: This study was a randomized controlled pre and post experimental. Twenty-four participants who met the criteria was divided into intervention group and control group. The intervention group was given 10,000 steps goal program using pedometer with frequency 5 days a week for 6 weeks, and control group was given pedometer without goal program, waist circumference was measured before the intervention and after the six-weeks intervention.

Results: There was no significant difference in waist circumference (WC) score at baseline in the experimental group and control group ($p = 0.578$). There was significant difference in WC score after experimental in the experimental group and control group ($p = 0.034$). There was a significant difference in WC score before and after experimental in the experimental group ($p = 0.000$). There was no significant difference in the control group at the start and end of the study. ($P = 0.136$).

Conclusion: 10,000 steps goal program can decrease waist circumference in obese adolescent.

Keywords: 10,000 steps; obesity; waist circumference

**Consumption Pattern of Rural Agricultural-Based Javanese:
A Study in Gintungan-Bandungan, Semarang**

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ABSTRACT

Introduction: Globalization tends to change one's lifestyle including food consumption patterns. This can also be one leading cause of the arising metabolic syndrome incidence in our country. Java is one of the islands that has considerable potential to be affected by modernization. This descriptive study aimed to describe the consumption pattern in agricultural-based Javanese rural community.

Methods: This Cross-Sectional research conducted on respondents of age 50 or older using Semi Quantitative-Food Frequency Questionnaire (SQ-FFQ) with total respondents of 136 people (Male: 74, Female: 62).

Results: The average food consumption between male and female respondents was not varied. Rice is the main staple food, consumed 78 times/month and 230 gr/day. Animal side dishes mainly come from eggs, meat and fish. Eggs and chicken consumed 9 times/month, 16.78 gr/day and 9.51/day respectively. Tofu and tempeh as sources of protein are consumed 68 times/month amounting to 164.68 gr/day and 136.08 gr/day respectively. Chili and tomatoes are highly consumed vegetables, both averaging 13 times/month with total sum of 14.53 gr/day and 10.3 gr/day. Orange and Salak are main fruits consumed (7 times/month only). Tea is the daily main beverage with the frequency of 16 times/month and 116.72 gr/day. Staple food showed as the highest source of energy (34.77%) followed by vegetables side dishes (22.83%) and beverages (24.51%). Vegetable side dishes provided 38.85% of protein, mainly from tofu and tempeh, while animal side dishes only 11.88%.

Conclusion: Consumption patterns of Gintungan community, regarding energy and protein intake comes mainly from rice, tofu, tempeh and tea. Fruit consumption rate is low though it is readily available. Based on these findings, continuous consumption of various energy and protein sources foods, along with increasing fruit consumption are highly recommended.

Keywords: Consumption pattern; Java; rural; agriculture

Consumption Patterns of Javanese Society at the Age of ≥ 50 in Junggul Hamlet, Semarang District

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ABSTRACT

Introduction: This study aimed to describe the consumption patterns of people aged ≥ 50 in agro-tourism areas in mountain area of Central Java.

Methods: This cross-sectional study was conducted in Junggul Hamlet in Bandungan, Semarang District. Consumption data was collected using SQ-FFQ questionnaires on 72 respondents (men 25 people and 47 women) aged ≥ 50 . Data were analysed and presented descriptively.

Results: Rice is the main source of carbohydrate and consumed the most frequent. This is followed by cassava and potato. Rice is consumed 21 times/week while the others are consumed 2-3 times/week. As the main sources of proteins, *tempe*, tofu, *gembus*, eggs, and chicken meat are the most frequent food. Tempe and tofu both are consumed 18-19 times/week, while *gembus* is consumed 11-14 times/week. The amounts of consumption of each of these plant-sources of protein are 25.16 gr for tempe, 21.62 gr for tofu, and 14.23 gr for *gembus*. Eggs and chicken meat are consumed 1-2 times/week. There are various vegetable available but Chinese cabbage is consumed the most frequent, which is 11-12 times/week with the amount of 10.40 gr/week. Other vegetables are consumed 1-2 times/week, with average amount of 9-60 gr/week. There are 5 kinds of fruits that the people eat frequently. They are Banana Ambon, Orange, Mango, Watermelon, and Papaya. Ambon Banana is consumed the most frequent but only 1-2 times per week. They drink mainly still water and sweet tea. The later is consumed once a day. The adequacy for energy was 84.34% for men and 101.25% for women. For the protein, the adequacy was 118.78% for men and 135.4% for women. For carbohydrate, the adequacy was 91.83% for men and 110.55% for women. For fat, the adequacy was 68.75% for men and 80.87 % for women. The main carbohydrate dishes provide 64.2% for energy, while plant-source protein provides 66.32% protein. Fat is mainly provided by *tempe* and tofu.

Conclusion: The consumption patterns of Junggul hamlet villagers ages >50 are dominated with vegetable dish, with rice is the main carbohydrate source. Protein and fat are especially come from tofu, *tempe*, eggs and chicken meat. Though there are various amounts of vegetables, but the types of vegetables consumed is a few. The people eat less fruits in term of kind and amount. Reducing drinking sweet tea might be beneficial.

Keywords: Consumption pattern; Java society.

Determination of New Cut-Off Point Neck Circumference and Waist Circumference Among Obesity Adolescents in Jayapura Papua

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ABSTRACT

Introduction: Obesity and overweight was one of health problem in many developing country. The prevalence of obesity always increase. The prevalence of adolescents obesity in district abepura was 10.9%. Waist circumference (WS) and neck circumference (NC) is one of the screening tools to determined obesity and overweight. The purpose of this study was to determined cut off point waist circumference and neck circumference among obesity/overweight adolescents in Abepura District, Jayapura.

Methods: The method of this study was cross sectional design. We randomly recruited 1675 adolescents aged 11 – 15 years old from middle school in district Abepura, Jayapura. Cut off point WS and NC among obesity/overweight were determined using Receiver Operating Characteristic (ROC).

Results: The prevalence overweight in adolescents was 15% and obesity 11%. Cut off point WS in overweight adolescents was 71.6 cm (77.7 % sensitivity and 76.2% specificity) and obesity 75,25 cm (84.2 % sensitivity and 83.4% specificity). Cut off point WS in male overweight was 72.8 cm and obesity 76.6 cm. Cut off point WS in female overweight was 72.05 cm and obesity 75.05 cm obesity. Cut off point NC in male overweight was 30.9 cm and obesity 31.8 cm. Cut off point NC in female overweight was 29.8 cm and obesity 30.1 cm.

Conclusion: The cut off point WS and NC in adolescent was vary depending sex and nutrition status.

Keyword: Adolescents; *cut off point*; neck circumference; overweight; obesity; waist circumference

Relationship Between Obesity with Blood Sugar as Diagnostic Criteria Risk of Diabetes Mellitus in Adolescent at Smak Santo Yusup Surabaya

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ABSTRACT

Introduction: Malnutrition is a problem facing Indonesia. Not only under nutrition problems but on the other side Indonesia is also experiencing over nutrition problem. Obesity in adolescents has a short and long-term impact. One of short-term effect of adolescent obesity is high risk of falling into the state of prediabetes, a condition that indicates a high risk of diabetes mellitus. The data proportion of Indonesian population with risk factors of diabetes mellitus that is overweight at the age of 16-18 years is 1.6%.

Method: This study was a correlational descriptive study with cross sectional design. The population in this study were 10th and 11th grade students of SMAK Santo Yusup Surabaya. Sample of this study were 60 people. The sampling technique was purposive sampling with inclusion criteria were the age of 15-18 years and experience of overweight or obesity. The analysis used Spearman rho test.

Results: Result showed that 58.3% of respondents were overweight and 41.7% of respondents were obese. Respondents who had normal fasting blood glucose level were 78.3% and fasting high blood sugar level were 21.7%. Spearman correlation analysis obtained correlation coefficient 0,294 ($p = 0,023$).

Conclusion: There was a significant correlation between obesity and blood sugar levels as one of the diagnostic criteria for diabetes mellitus in adolescents at SMAK Santo Yusup Surabaya.

Keywords: Obesity, blood glucose, adolescent, diabetes mellitus

Perception on Patient Safety Culture and Practice of Patient Identification among Food Service Workers in Hospital

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ABSTRACT

Introduction: Hospital diet, similar to medications, is part of therapies which should be in concordance with patient safety principles. Implementing Patient Identification procedure during food distribution will ensure the right diet served to the right patient. The purpose of this study was to exploring between perception on patient safety culture and its association with patient identification practice among hospital food service workers.

Methods: The method of this study was cross-sectional study with mix method was conducted in a Joint Commission International (JCI)-accredited hospital in Yogyakarta Indonesia. Food service workers who already received patient safety training and were responsible for distributing diets in adult inpatient wards (n=76) participated in the study. Perception on patient safety culture was measured using a validated questionnaire and in-depth interview, whereas patient identification practice was observed directly using a check-list. Data analysis employed descriptive statistics and chi-square test.

Results: The results of this study showed more than half of the subjects (55.3%) had good perception on overall patient-safety culture. However, 39% of the subjects considered that instead of food service workers, patient identification is more appropriate to be performed by other health professions such as nurses. Furthermore, 34.2% of the subjects performed substandard practice in verifying patient's identity (name, address or medical record number) when delivering diet. Bivariate analysis showed insignificant association between perception on patient safety and patient identification practice ($p > 0.05$).

Conclusion: The results of this study indicated that perception on patient safety culture is not associated with patient identification practice by food service workers.

Keywords: Patient safety; patient identification; hospital food service

Low Level of Serum Vitamin D in Hospitalized Patients with Chronic Heart Failure

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ABSTRACT

Introduction: Heart failure is one of the global public health problems with the estimated number of patients continue to increase. Despite advances in its management, the prognosis heart failure remains poor. Vitamin D is a micronutrient affecting the prognosis of patients with chronic heart failure (CHF). There is currently no data available for the serum vitamin D level in patients with CHF among Indonesian. Purpose of this study was to know the level of serum vitamin D in hospitalized patients with CHF.

Methods: An observational study was done at the Dr. Kariadi General Hospital from November 2017 to January 2018. Patients diagnosed with a functional NYHA class III and IV CHF were enrolled. Serum 25-hydroxy vitamin D (25 (OH) D) was determined by enzyme linked immunosorbent assay (ELISA).

Results: A total of 100 patients (median of age 55.5 (22-65) years old) were enrolled in this study; 69 patients met the selection criteria. Median LVEF were 35 (10-76)%. Median serum vitamin D level was 47.25 (14.25-143.02) nmol/L. Most importantly, 88.4% of the patients had a lower than the recommended level of serum vitamin D. Low level of vitamin D was found more frequent in female patients or in whom with either hypertension, diabetes, or history of rehospitalization than that the counterparts.

Conclusion: Low level of serum vitamin D was found in most of the hospitalized patients with chronic heart failure. This finding highlight the important of vitamin D measurement in the indicated patients with CHF.

Keywords: Chronic heart failure; vitamin D; hospitalized patients

Dietary intake of Stunted Children Age 9-11 years Old in Brebes

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ABSTRACT

Introduction: Prevalence of children with stunted was high in many countries. Unicef 2012 reported that short stature prevalence was 25% in children under 5 years old with highest prevalence was in Sub-Saharan Africa and South Asia which was 38%, meanwhile prevalence in South-East Asia was 28%. Data in Indonesia, according to National Health Research 2013 showed short stature prevalence was 37.2% consist of 18% short and 19.2% very short. Age 9-11 years old was important because it's when fast growth started. To know the association between dietary intakes with incidence of stunted in children.

Methods: This study was case control with subject was children with stunted aged 9-11 years old. We conducted anthropometric measurement and food recall. Statistical analysis used was Mann-Whitney test.

Results: Case control study with subject children age 9-11 years old in Brebes on July-October 2015 period that fulfilled inclusion criteria. Case was 65 children, 36 (52.2%) boys, with mean age 122.17 ± 1.26 months and 116.2 ± 0.29 months in control group. Mean weight was 18.55-39.1 kg in case group. Mean BMI was -1.08 ± 0.11 SD in case group and 44 % suffered from moderate and severe severe malnutrition. Mean energy was protein intake was 15.22 ± 0.88 gr/dl, zinc was 6.15 ± 0.19 mg, vitamin A was 574.09 ± 61.65 mcg, iron was 12.44 ± 1.18 mg; in case group respectively and Calcium was 279.63 ± 23.09 mg in case group. We compared the sufficiency and found that calcium intake was different significantly between group.

Conclusion: There was a relationship between calcium intake and stunted in 9-10 years old children in Brebes.

Keywords: Dietary intake; stunting; children

Psychosocial Associated and Predictors of Post Stroke Depression 3- 6 months after Onset: A Systematic Review

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ABSTRACT

Introduction: The aim of study was investigated the psychosocial factor and predictor associate with post stroke depression 3 until 6 months after onset

Methods: The Database search included Medline, Academic Search Complete, CINAHL, Psychology and Behavioral Sciences Collection. The search was limited to articles written 2005 and 2017. The criteria inclusions of paper were population of stroke ischemic 3 until or 6 months after onset, the study design is cross sectional design: prospective or retrospective study. All articles were assessed for eligibility using the Critical Appraisal Skills Program (CASP) evaluation method.

Results: There are 89 articles related. The articles were elicited with the criteria inclusions. Eighteen articles related with criteria. Nine articles eligible in the study. The presence of post stroke depression was ranged. The Psychosocial which are related post stroke depression are female gender, education, trouble paying bill, past history of depression, Depressiveness at 8 weeks, stress full life event exposure in the month preceding stroke, stress of health, acceptance resignation and avoidance, social support and family stress.

Conclusion: Psychosocial associated and predictor of post stroke depression should be treated. The psychological should be considered as an integrated treatment with medical treatment as well.

Keywords: Psychosocial; post stroke depression 3 until 6 months

Management of ARDS and Septic-aki Pasca Infratentorial Tumour Craniotomy

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ABSTRACT

Introduction: The presence of pulmonary dysfunction after brain injury is well recognized. This can be explained by the brain-lung interaction mechanism. A great brain injury will induce a systemic inflammatory reaction that will cause changes in the blood – brain barrier permeability and neutrophil infiltration into the alveoli space. In addition to the alveoli the cytokine cytemic reaction can also attack other important organs such as the kidneys so that there will be a multi-organ failure. The development of ARDS and Septic-AKI in patients with acute brain injury makes it a challenge for clinicians to reduce morbidity and mortality.

Results: Male 54 years old is refered to ER with diagnosis infratentorial tumour and hydrocephalus non-communicant based on head ct-scan confirmed. Physical examination resulted level of conscious is compos mentis, vital sign within normal limit. VP-shunt was carried out and a week later craniotomy was performed. Post craniotomy, the patient was admitted to the ICU on a ventilator. In the third day in ICU develop into severe ARDS, severe sepsis and AKI. Condition of patient: unconcioussness, unstable hemodynamic, leukocytosis, high temperature, Procalcitonin 217, and hyperlactatemia.

Discussion: After craniotomy, it is suspected that there is severe SIRS that will cause lung and kidney disorders. The right treatment is to do hemofiltration. With hemofiltration, there will be a more adequate regulation of fluid balance, especially in post-brain injury or postoperative craniotomy, where intracranial pressure needs to be tightly guarded besides removing sepsis mediators. After hemofiltration, PCT 62, urine production of 1.1 ml/kg/hour, the infiltrate in both lungs decreased, and lactat clearance.

Conclusion: Hemodiafiltration is an effective choice of supporting interventions in acute brain disorders accompanied by ARDS and septic-AKI. Besides being able to improve fluid balance, it is useful to remove inflammatory mediators and ureum where conditions like this can interfere with brain healing function. Hemodiafiltration also helps reduce the need for diuretics, vasopressor and as a ventilation protection in ARDS by restriction of fluid.

Keywords: Tumour infratentorial; craniotomy; ARDS; Septic-AKI

The Correlation between Neutrophil to Lymphocyte Ratio (NLR) with TIMI and GRACE Risk Stratification Scores in Patients with Acute Myocardial Infarction without ST segment Elevation (NSTEMI)

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ABSTRACT

Introduction : Acute myocardial infarction without ST elevation (NSTEMI) is a recently increased cardiovascular event with high mortality rate. Mortality risk stratification scores such as TIMI risk score and GRACE score are needed to stratify NSTEMI patients. The neutrophils to lymphocytes ratio (NLR) might be a prognostic marker in patients with coronary artery disease (CAD), as well a simple, efficient, and low cost examination. This study was to investigate the correlation between NLR with TIMI and GRACE risk stratification score in patients with NSTEMI.

Method : It was an observational analytic study with cross sectional design. The subjects were patients with NSTEMI that met the inclusion criteria from May to July 2017 in Dr. Kariadi hospital Semarang. They were selected by consecutive sampling.

Results : There was significant correlation between NLR with GRACE risk stratification ($r=0,38$, $p=0,028$), but not with TIMI risk stratification ($r=-0,26$, $p=0,131$). There were no significant differences in NLR values between different class of TIMI risk stratification score (NLR value in low TIMI risk = $6,14\pm 2,26$, NLR value in medium TIMI risk = $6,05\pm 4,71$, and NLR value in high TIMI risk = $5,46\pm 3,95$, $p=0,425$). There were significant mean differences in NLR value between low, medium, and high degree of GRACE risk stratification scores (NLR value in low GRACE risk = $4,45\pm 2,03$, NLR value in medium GRACE risk = $4,39\pm 2,36$, and NLR value in high GRACE risk = $11,59\pm 4,48$, $p=0,002$). The significant differences were found between the low and the high GRACE risk stratification groups ($p=0,001$); and between the medium and the high GRACE risk stratification groups ($p=0,001$).

Conclusion : There was a moderate positive correlation between NLR and GRACE risk scores. NLR might be useful to stratify the prognosis of patients with NSTEMI
Keywords: Neutrophil to Lymphocyte Ratio, NLR, TIMI, GRACE, risk stratification score, NSTEMI

Keywords: Neutrophil to Lymphocyte Ratio; NLR; TIMI; GRACE; risk stratification score; NSTEMI

The Quantity and Quality of Antibiotic Use for Patients In Surgery Departments of Two District Hospitals in Central Java Province

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ABSTRACT

Introduction: Antibiotic use in patients undergo surgery in tertiary hospitals have been widely reported. Currently there are no such data in secondary hospitals, while the number of patients cared in secondary hospitals is much higher than that in tertiary hospitals. This study aimed to learn the quantity and quality of antibiotic use in Surgery Departments of secondary district hospitals.

Method: This was a prospective, descriptive observational study involving patients operated in Surgery Departments of two district hospitals in Central Java province, one in a small city, one in a big city. Patients were recruited using consecutive sampling. The quantity of antibiotic use was measured using Defined Daily Dose (DDD) /100 bed-day. The quality of antibiotic use was analyzed using van der Meer-Gyssens algorithm.

Results: Ceftriaxone was the most frequently used antibiotic in both hospitals with 48 DDD/100 bed-day and 21 DDD/100 bed-day respectively. Prudent antibiotic use (category 0) was very low (0% and 7,5% respectively), while the use of antibiotic without indication was very high (57% and 70% respectively).

Conclusion: The quantity and quality of antibiotic use in both hospitals need urgent improvement, in order to prevent from the emergence of serious problem of antimicrobial resistance.

Keywords: Quality antibiotic use, quantity of antibiotic use DDD, van der Meer-Gyssens

Leaflet Design of Nutrition Education on Food Intake to Treat Anemia in Female Teenager

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ABSTRACT

Introduction: Anemia is one of nutritional problems in female teenager. Knowledge and understanding of healthy dietary pattern is essential to treat anemia in female teenager, especially consumption of food rich in iron. Nutrition education becomes a solution to deliver information on healthy dietary pattern to treat anemia in female teenager. This research aims to evaluate the success of leaflet design of nutrition education on food consumption in increasing knowledge and motivate dietary pattern adjustment to treat anemia.

Method: The research design used was Non Randomized Pretest-Posttest Control Group Design. Experimental group included female students who received intervention of nutrition education on dietary pattern to treat anemia in form of a leaflet, 25 students in total, and 1 control group (without intervention). Intervention was done from April-May 2018 in Perguruan Rakyat Vocational High School, South Jakarta. Pre and post tests regarding knowledge on food intake to treat anemia and motivation to adjust food consumption was done. Analysis was done using independent and dependent sample T-test.

Results: Leaflet design contained information on definition, prevention, danger of anemia, and food treatment for anemia. There was a 22 point increase in average score of female students knowledge after reading leaflet in experimental group, meanwhile only a 5 point increase in control group was observed. Average score on motivation in experimental group showed 27 point increment, while control group achieved 7 point increment. A significant difference was found, $p = 0.000$ for knowledge and $p = 0.002$ for motivation before and after leaflet intervention in experimental group, whereas control group showed no significant difference ($p > 0.05$).

Conclusion: Leaflet design succeeded in increasing knowledge and motivation of female teenagers. Motivation to change dietary pattern by consuming food rich in iron to treat anemia was present.

Keywords: Anemia, leaflet, nutrition education, female teenager, food intake

Correlation between Frequency of Clinical Skills Performance and Self-Perceived Competence of Medical Clerkship Students at Faculty of Medicine UNISSULA

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ABSTRACT

Faculty of Medicine UNISSULA has run the learning system PBL (Prolem Based Learning). This requires ongoing evaluation. The purpose of this study is to analyze the correlation between frequency of clinical skills performance and self-perceived competence of medical clerkship students at Faculty of Medicine UNISSULA

This research is an observational research with cross sectional design. The sample is a student of the Faculty of Medicine UNISSULA who has completed the clinical rotation of the surgical section in the period March 2015 until August 2017. Samples taken by using simple random sampling of 123 students. The data collected are frequency of clinical skills performance and self-perceived competence. Clinical skills performance includes CPR (cardiopulmonary resuscitation), endotracheal intubation, wound toilet, suturing, suture removal, fracture immobilization, surgical nail removal, intravenous catheterization, nasogastric tube insertion, bladder catheterization, emergency needle decompression, circumcision, and intravenous injection.

There is a correlation between frequency of clinical skills performance and self-perceived competence of CPR ($p=0.00$, correlation=0.57), endotracheal intubation ($p=0.00$, correlation=0.58), wound toilet ($p=0.00$, correlation=0.34), suturing ($p=0.00$, correlation=0.50), suture removal ($p=0.00$, correlation=0.42), fracture immobilization ($p=0.00$, correlation=0.49), surgical nail removal ($p=0.00$, correlation=0.60), intravenous catheterization ($p=0.00$, correlation=0.56), nasogastric tube insertion ($p=0.00$, correlation=0.60), bladder catheterization ($p=0.00$, correlation=0.45), emergency needle decompression ($p=0.00$, correlation=0.45), circumcision ($p=0.00$, correlation=0.52), and intravenous injection ($p=0.00$, correlation=0.44).

There is a correlation between frequency of clinical skills performance and self-perceived competence of CPR, endotracheal intubation, wound toilet, suturing, suture removal, fracture immobilization, surgical nail removal, intravenous catheterization, nasogastric tube insertion, bladder catheterization, emergency needle decompression, circumcision, and intravenous injection.

Keywords: Faculty of Medicine UNISSULA,; frequency of clinical skills performance; self-perceived competence

Implementation of M-Health Discharge Planning to Optimize Discharge Readiness for Acute Myocardial Infarct Patients

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ABSTRACT

Introduction: Acute Myocardial Infarct is a disease of high readmission rate. Discharge planning is the key for quality inpatient care as it concerns with patients' readiness for discharge and hence, prevents readmission. However, discharge planning has not been optimally implemented yet. The use of improper method was identified as the cause for this. This research proposes a method of discharge planning known as M-health discharge planning. This research is aimed at proving that the implementation of M-discharge planning optimizes discharge readiness of Acute Myocardial Infarct patients.

Method: This research employed quasi-experimental using pretest-posttest nonequivalent control groups design. There were 30 respondents in the sampel. Two groups were involved; control and intervention. M-health discharge planning was prepared in an android-based application and was implemented in stages of feasibility study, guideline set up, monitoring, and evaluation. M-health discharge planning covers everything from inpatient admission to the moment patients undergo follow up care. Both patient groups in this research underwent measurement for discharge readiness using a questionnaire of Readiness for Hospital Discharge Scale (RHDS).

Results: Results of Wilcoxon show differences in discharge readiness scores prior to and after the implementation of M-health discharge planning (p value < 0.001), while results of T-test show significant differences in scores of discharge readiness between the M-health discharge planning and the traditional discharge planning (p value < 0.000).

Conclusion: Implementation of M-discharge planning has proven to optimize discharge readiness among patients with Acute Myocardial Infarct. Therefore, this intervention is a new alternative in discharge planning

Keywords: Acute myocardial infarct, discharge planning, mobile health, discharge readiness

Characteristics of Professionalism of Nurses: a Literature Review

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ABSTRACT

Introduction: Nursing practice problems are mostly caused by the nurse's professionalism resulting in a loss of the nurses's identity. Professionalism is a difficult concept to be understood by nurses and it requires the description about its characteristics whilst there is limited literature discuss about it.

Method: Method used in this research is a literature review. The article search was through Google search, ScienceDirect, and Proquest with the keywords including professionalism, nursing, and nurse. The inclusion criteria were in the form of full text, using English, and published in 2010-2018, it is then analyzed qualitatively using Cronin, Ryan, and Coughlan' method consisting of four steps: select a review topic, search the literature, gathering, reading and analyzing the literature, and writing the review.

Results: The result of literature search is eight articles discussing the nurse's professionalism. The result illustrates three characteristics of the nurse's roles as a leader, a practitioner, and a researcher.

Conclusion: The professionalism characteristic on nurse is very essential in improving the quality of a practice nursing. Some strategies are needed to escalate the nurse's professionalism especially on capacity building which is related to the characteristics of the nurse's professionalism.

Keywords: Characteristic, nurse, professionalism

The Influence of Module Training of Acute Glaucoma Emergency of 3B Competence toward Knowledge Level and Clinical Skill of General Doctors

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ABSTRACT

Introduction: Glaucoma is the second most of a group of eye diseases which result in damage to the optic nerve and vision loss. One of the efforts to minimize the defect is to give training for the medical personnel especially the general doctors. This training is a part of professional development supported by the Module of Acute Glaucoma Emergency. The aim was to figure out the influence of the Module of Acute Glaucoma Emergency towards knowledge and clinical skill level of general doctors.

Methods: This is a quasi-experimental research design with control group pre-test and post-test design. After the preliminary studies, the research was conducted in Health Office Semarang City from October to December 2016, with 83 samples. The module was validated. The validity and reliability of the instrument has been tested. Before data analyses, the achievement test was conducted as the sampling method. Average treatment effect was done using *t test* independent.

Results: Pre-test score changes $p = 0.070$. The post test score changes $p = <0.000$. The value difference of pre-test and post-test for each group $p < 0.001$ has the increasing value significance. The score for knowledge and skill pre-test and post-test between treatment group and control group is $p = 0.767$. There is no significant difference between two groups.

Conclusion: There is no significant different in the increase of knowledge and clinical skill level between group with module and training and group with module.

Keywords: Training; module; acute glaucoma; knowledge; skill; general doctors

Nurses Knowledge on Paliatif Care Treatment for Cancer Patients in Dr. Kariadi Hospital Semarang-Indonesia

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ABSTRACT

Introduction: Palliative care (PC) aims to improve the quality of life (QoL) of cancer patients until the end of their lives through management of symptoms and other sources of patients' suffering. Patients with cancer experience suffering require an integrated approach from various healthcare professionals, especially nurses. One imperative basic thing nurses must possess is knowledge about PC. This study aims to identify the level of knowledge of nurses about PC in cancer patients in Dr. Kariadi Hospital, Semarang.

Method: This study was a descriptive study. All 163 nurses who had experience in taking of of cancer patients in Rajawali and Cendrawasih wards were recruited as respondents in this study. Data were collected between September - October 2017 using Palliative Care Knowledge Test (PCKT) consisting 36 items. Univariate data were presented in frequency.

Results: Among 108 female nurses and 54 male nurses, there were only about 45 nurses who had taken seminar, workshop or training about PC. 148 (91.4%) nurses had good knowledge, while 14 (8.6%) nurses had sufficient knowledge about PC in cancer patients. There were 30% and 58% nurses had only fair knowledge in PC principle and score domains, respectively. More than half of the nurses had lack of knowledge on the concept of pain in PC.

Conclusion: Good knowledge in all PC domains would support in providing optimal PC service. Nurses should do more reading on PC and hospital should enhance their cooperation with educational institutions in providing non-formal education to nurses in the form of seminars or training about PC.

Keywords: Nurses' knowledge; palliative care; cancer patient

Nurse Student Interprofessional Education Experiences

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ABSTRACT

Interprofessional Education (IPE) was a program designed to support educational systems that trained the students to collaborate with other professions. The bad IPE implementation process would impact on the health of the patients because the management of the patients could not be done comprehensively and might endanger the health of the built family. The purpose of this study was to describe the experiences of the implementation of Interprofessional Education (IPE) applied on the students of Nursing Sciences Study Program academic year 2013. This was a quantitative research using descriptive survey design. The sampling technique used was total sampling involving 129 respondents. The data were collected using questionnaires and analyzed using descriptive statistics. The results of this research were the implementation of IPE in the preparation stage was in good category (69.8%), the implementation stage was also in good category (50.4%), and the result stage was in good category (51.2%). It could be concluded that the implementation of IPE in the Faculty of Medicine of UNDIP was generally well. The implementation of IPE should be improved more by organizing more clearly and appropriate IPE guidelines according to its operational procedures for the students' better understanding.

Keywords: Interprofessional education; nursing; student

Effective Methods to Improve Compliance Implementation Nurses against Hand Hygiene: A Literature Review

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ABSTRACT

Background: The incidence of infection as a result of health care (*HAIs*) is still high enough in the world or in Indonesia. One of the prevention and control of events *HAIs* by healthcare workers is to hand hygiene. Compliance nurses in implementing hand hygiene are still considered lacking. To improve compliance with hand hygiene nurses required in carrying out a method or an effective and efficient intervention. The aim of this literature review was to identify interventions or methods are most effective in increasing adherence to the implementation of hand hygiene nurse.

Methods: This study is a literature review. Data were collected through the online databases of EBSCO, PubMed, and Science Direct. The articles used in this study were determined to be published in 2012 to 2017. The key words used in searching for the articles were compliance nurses, hand hygiene.

Results : The results of a review as many as 13 articles that fit the criteria found that there were interventions / methods that can improve compliance of nurses to hand hygiene that multi-model; feedback method comprising of audit, incentives, reminders via text message, education, perception of officers; method of online reporting system; electronic monitoring with HHCS; and a combination of interventions.

Conclusion: All the models identified have not indicated which model is the most effective and efficient way to improve adherence to nurse, hand hygiene even though all the models showed no influence on the compliance of nurses in performing hand hygiene.

Keywords: Compliance nurses; hand hygiene; compliance hand hygiene

Effects of Training on Proctor's Reflective Modification Model Supervision for Head Nurses on Nurses' Fall Prevention Behaviors

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ABSTRACT

Introduction: Patient safety incidents illustrate the quality of health services provided. Low quality of service can have an impact on the decreasing level of public trust. One of the patient safety incidents is patient falls. The Center for Disease Control and Prevention in 2015 reported that there were 2.5 million incidents of patient falls in adult age. The Congress XII of PERSI reported that the patient falls incident in Indonesia was among the top three medical incidents in the hospital and ranked second after medicine error. Incorporating the function of management is needed to improve the nurses' fall risk prevention behaviors which will improve the quality of service. The implementation of clinical supervision for fall risk prevention behaviors has not yet adopted an effective supervision model. Clinical supervision of Proctor's reflective modification model can increase the nurses' fall risk prevention behaviors. This study aimed to analyze the effects of Proctor's reflective modification model of supervision for head nurses on nurses' fall risk prevention behaviors.

Methods: This study employed a pre-experimental pretest-posttest design and involved 32 samples selected using purposive sampling. The results showed differences in the nurses' fall risk prevention behaviors before and after the supervision of Proctor's reflective modification model from the head nurses.

Results: There were effects of the supervision on the nurses' fall risk prevention behaviors with a significance value of $0.000 < 0.05$.

Conclusion: The head nurses should be given supervision training in order to conduct good supervision to improve the nurses' fall risk prevention behaviors.

Keywords: Fall risk prevention; Proctor's reflective modification model supervision

Effects of Caring Leadership on Job Satisfaction of Staff Nurses in Public Health Center

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ABSTRACT

Introduction: High nurses' dissatisfaction with their job can cause low work performance, high turnover rate, poor performance, lack of enthusiasm, and poor product quality. Nurses' job satisfaction is a manifestation of the nurses' perception reflected in their attitude and is focused on the nurses' behaviors on the job. The average nurses' job satisfaction is still very low at present. An effort which can be made to improve the nurses' job satisfaction in public health center is by implementing effective leadership style. Caring leadership is a leadership style which means leading with compassion and wisdom, improving motivation as well as protecting and creating a conducive working environment to improve the nurses' performance and job satisfaction.

Method: This study used a pre-post test quasi-experimental design with a control group. The total samples were 58 nurses selected using purposive sampling technique. Data were collected by observation sheets to assess the implementation of caring leadership, and questionnaires to assess the job satisfaction, and were analyzed using a paired t-test.

Result: The results showed differences in the mean value of nurses' job satisfaction before and after the implementation of caring leadership with p-value = 0.001, meaning there were effects of caring leadership on the nurses' job satisfaction. Implementation of caring leadership could improve the job satisfaction of nurses in public health centers.

Conclusion: It is suggested that caring leadership is implemented continuously and consistently in all health service activities in public health centers since caring leadership can improve nurses' job satisfaction and impact on the quality of service.

Keywords: Caring leadership; job satisfaction; staff nurses

The Correlation between the Height of Medial Longitudinal Arch with Feiss Line and Arch Index with Footprint

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ABSTRACT

Introduction: The functional mechanics of the human foot are greatly influenced by the structure of the foot, in particular, by the height of the medial longitudinal arch. X-rays method provides direct and valid measurements of the height of medial longitudinal arch, but it is expensive and it requires special tools and expertise. Therefore, it is necessary to consider an easier, cheaper and faster method. The previous study showed that there was a significant correlation between the arch index with navicular height from radiographs. The purpose of this study was to evaluate the correlation between Feiss line and Arch Index (AI).

Methods: The method of this study was a cross-sectional study involving a random sample of 25 students (16 to 18 years of age) with 50 footprints comprising 26 footprints of male student and 24 footprints of female students. The inclusion criteria were the students aged 16-18 years old. All students were checked using Feiss line and arch index. Feiss line was used to measure the height of medial longitudinal arch of the foot. Footprint was used to measure arch index. The correlation tests were performed.

Results: The results of this study showed that there was significant correlation between Feiss line and AI ($p < 0.001$, $r = 0.921$); Feiss line and BMI ($p < 0.001$, $r = 0.865$); AI and Age ($p < 0.05$, $r = -0.324$); AI and BMI ($p < 0.001$, $r = 0.783$).

Conclusion: The results of this study that significant correlation between Feiss line and Arch Index in the 16-18 year old adolescents.

Keywords: Feiss line; arch index; footprint; medial longitudinal arch height

The Effects of Circuit Training and *Senam Kesegaran Jasmani Lanjut Usia* on The Functional Mobility of the Elderly

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ABSTRACT

Introduction: It is well known that aging impairs functional mobility. Exercise is one of the ways to counter the aging process that makes a broad range of physiological changes. The common aerobic exercise for elderly living in Nursing Home is *Senam Kesegaran Jasmani (SKJ Lansia)* by Ministry of Youth and Sports. Another alternative to improve functional mobility of the elderly is circuit training which combines aerobic and resistance exercise. The timed up and go test (TUG) has been studied extensively to measure functional mobility. The main purpose of the study is to know the effects of circuit training and *SKJ Lansia* on the functional mobility of the elderly.

Methods: An experimental comparative study was conducted at a Wening Wardoyo Nursing Home in Ungaran, Central Java. A total of 26 healthy elderly were randomly allotted into two groups. The first group was given circuit training and the second group was given *SKJ Lansia*. The intervention period was four weeks. The functional mobility of the elderly was measured by using TUG.

Results: The groups were analyzed by using Mann-Whitney U test. The result of pre-TUG between two groups showed that there is no significant difference ($p=0.144$) while the result of post-TUG showed significant difference ($p=0.026$).

Conclusion: Circuit training is more effective compared to *SKJ Lansia* in improving the functional mobility of the elderly.

Keywords: Circuit training; functional mobility; *SKJ lansia*; TUG

Effect of 10,000 Steps Goal Program in Quality of Life Domain Physical Health in Obese Adolescent

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ABSTRACT

Introduction: Obesity is a condition which there is excessive deposit of fat in the body that affect healthy state. Most public health guidelines recommend 30 minutes of moderate intensity of physical activity a day to maintain good health. Walking is a great aerobic, where an accumulated ten thousand steps a day is equivalent to the recommended goal of 30 minutes of daily physical activity. The 10,000 steps walking uses a pedometer can monitor the progress and establish new personal health goals. The purpose of this study is to investigate the effect of 10,000 steps goal program in quality of life domain physical health in obese adolescent.

Method: Twenty-four participants were divided into intervention and control group. Intervention group was given 10,000 steps goal program using a pedometer, 5 days a week, for 6 weeks and control group was given un-goal pedometer program. WHOQOL (WHO Quality of Life)-BREF questionnaire was used to evaluate the quality of life domain physical health before and after intervention in both group.

Results: There is statistically significant difference before and after intervention in WHOQOL-BREF score in intervention group ($p=0.00$), but in the control group there was a difference in WHOQOL-BREF score but not significant ($p=0.082$).

Conclusion: Ten thousand steps can improve the quality of life domain physical health in obese adolescent.

Keywords: Obese adolescent; quality of life domain physical health; ten thousandsteps

Kind of Massage in Patients with Chronic Functional Constipation Patients: A Literatures Review

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ABSTRACT

Introduction: Chronic functional constipation is a rare or difficult evacuation of stools experienced by three months from the last twelve months. Constipation is one of the most common intestinal disorders, in Indonesia ranging from 0.3 to 10.1% which conveys a functional constipation. Massage is one of the interventions that provides a positive effect in overcoming constipation. This literature review was conducted to identify various massage methods and their effects in overcoming constipation.

Methods: Search strategy using EBSCOhost, PUBMED, SpringerLink, Sciencedirect and ProQuest. The keywords used are fecal impaction, constipation, chronic constipation, functional constipation, massage, reflect, stool frequency, stool consistency. Research design used is Randomized Controlled Trial (RCT).

Results: Total articles that match the inclusion criteria are 3 articles reviewed. The review show that massage increasing frequency of defecation and consistency of feces. There are 3 massage methods that can be done to overcome constipation which are classical abdominal massage, abdominal massage with principle of tensegrity and connective tissue manipulation.

Conclusion: Massage in patients with functional constipation has an effect on decreasing constipation. Further research needs to be done to reinforce the evidence of the benefits of massage on chronic functional constipation.

Keywords: Chronic constipation; functional constipation; massage

Laparoscopy Biliodigestif Surgery

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ABSTRACT

Pancreatic cancer is the fourth leading cause of cancer related death in the United States and second only to colorectal cancer as a cause of gastrointestinal cancer related death. The overall 5 year survival for patients with pancreatic cancer is 7%. Surgical resection offers the only chance for long term cure. Unfortunately, because of the late presentation, only 15%-20% of patients are candidates for surgical intervention. We report a 71 years old male presented with enlargement abdomen with jaundice and pruritus within couple of months. MSCT shows tumor at the head of the pancreas with enlargement peripancreatic lymphnode, ascites, gallbladder and bile duct dilatation. We performed laparoscopic biliodigestif bypass, the patient`s jaundice than decrease and discharge in well condition.

Keywords: Laparoscopic biliodigestif

Gratophyllum Pictum (L.) Griff Extract as Anti-Inflammatory on Wistar Rat with Experimental Hemorrhoids.

Study on Serum IL-6, COX-2, TNF- α and total leucocytes in anal tissue.

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ABSTRACT

Gratophyllum pictum (L.) Griff (GP) is a medicinal plant that in Indonesia is commonly used to treat constipation, inflammation, hemorrhoid and many others. The author would like to study the effects of ethanol GP extract (EGPE) as anti-inflammation for wistar rat with experimental hemorrhoids. RCT post-test only design were done on 28 wistar rats, that were allocated into four groups. The 2nd, 3rd and 4th group were induced with 6% croton oil into the anus for three days, while the 1st group was not induced. On the 4th day, group 1 and group 2 were given physiologic saline, group 3 was given EGPE 100 mg/ kg BW, group 4 was given EGPE 300 mg/ kg BW. At the 9th day, before termination, blood was aspirated from retro-ocular region for examination of serum IL-6, COX-2 and TNF- α , using ELISA method, and SGOT, SGPT, urea and creatinine level. Anus was removed and prepared for microscopic examination to count the leucocyte under 400 HPF. The mean difference among and between groups were done using Anova and LSD for TNF- α , SGOT, SGPT, urea and creatinine and Kruskal Wallis and Mann Whitney for COX-2, IL-6 and leucocyte count. Induction of 6% croton oil significantly increase the inflammatory marker (TNF- α , IL-6, COX-2 and leucocyte count). Treatment with EGPE dose 100 mg and 300 mg/ body weight significantly reduce the inflammatory marker (TNF- α , IL-6, COX-2 and leucocyte count), dose 100 mg were even better than 300 mg except for leucocyte count. SGOT, SGPT, blood urea and creatinine were not significantly difference among groups. In conclusion, the EGPE 100 mg and 300 mg have anti-inflammatory effects in hemorrhoids wistar rat which can suppress IL-6, COX-2, TNF- α , and total leucocytes. The EGPE dose 100 mg is better than dose 300 mg. EGPE save for kidney and liver.

Keyword : *Gratophyllum pictum* (L.) Griff, IL-6, TNF- α , COX-2, hemorrhoids.

Effect of Hypnotherapy on Vomiting and Nausea in Cancer Patient: An Analytical Literature Review

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ABSTRACT

Introduction: Hypnotherapy has been reported that it has an ability to reduce symptoms such as pain, anxiety, nausea and vomiting. Some hypnotherapy techniques are used in various populations including cancer patients with chemotherapy. The purpose of this study is exploring appropriate hypnosis techniques in reducing nausea and vomiting among cancer patients.

Method: The method used electronic database that were identified from EBSCO, Springer PubMed, Science Direct, ProQuest with keywords: hypnosis, hypnotherapy, vomit, nausea, cancer and chemotherapy. Inclusion criteria in this study were: articles published in 1983 – 2018, which was available in full text, the article using English, the method of this study was using experimental study. The netted articles were 7 articles experimental research articles which were then analyzed used PICO (Population, Intervention, Comparator and outcome) metode.

Results: The results of several studies in the intervention group had a positive effect in reducing nausea and vomiting. Three hypnotherapy article with relaxation progressive, and one article with imagery and suggestion could reduce nausea and vomiting. Two hypnotherapy articles with progressive relaxation and imagery are significant, and one insignificant to reduce nausea and vomiting in cancer patients with chemotherapy.

Conclusion: Based on the result analysis of several studies it could be found that hypnotherapy with imagery and relaxation were the right techniques in reducing nausea and vomiting that were experienced by cancer patients after chemotherapy.

Keywords: Hypnosis; hypnotherapy; vomiting; nausea; cancer; chemotherapy

Adequacy of Energy Protein Intake and Hand Grip Strength (HGS) in HIV patients

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Introduction Most patients with HIV suffering from weight loss due to various causes, e.g. nausea, anorexia, and inadequate dietary intake that leading to malnutrition risk. Malnutrition risk is associated with lower functional capacity and muscle strength. HGS is a valid method to evaluate voluntary muscle strength. Unfortunately, there is not enough evidence whether nutrition intake could affect muscle strength in HIV patients. This study conducted to determine the correlation between adequacy of energy and protein intake with HGS in HIV patients. Method This research was performed using correlation analysis method. Sixty six patients aged >18y, normal BMI, not diagnosed tuberculosis nor consuming any tuberculosis medications, not suffering from diarrhea, muscle atrophy, wound nor amputation in the hands, were recruited from VCT Clinic in dr. Kariadi General Hospital Semarang. Nutritional intake was determined using FFQ and Nutrisurvey® software. Energy requirement calculated using TEE formula and protein requirement was set for 0.8 g/kgBW/day plus 10%. Adequacy energy and protein intake were presented as percentage of their energy and protein intakes compare to their requirements. HGS was evaluated using Jamar dynamometer. Pearson tests were performed to investigate those correlations.

Results The adequacy of energy and protein intake was 85±19.7% and 145.7±51.5%, respectively. The average HGS was 32.6±8.2 kg (men 36.3±6.7 kg; women 25.4±5.6 kg). There were no correlation between energy intake and HGS (p=0.720) and between protein intake and HGS (p=0.754).

Conclusion Adequacy of energy and protein intake was not significantly correlated to HGS in HIV patients.

Keywords : adequacy; energy intake; protein intake; muscle strength; hand grip strength (HGS); HIV

The Overview of Physical Activity in Patients with Hypertension at Kedungmundu Health Center Semarang

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ABSTRACT

Introduction: Activity intolerance is a major nursing problem in patients with hypertension. Activity intolerance affects the quality of life of patients with hypertension, such as discomfort in activity, fatigue, and immobilization. Adjustment of physical activity needs to be done to prevent adverse events. The main purpose of this study is to measure the physical activity in patients with hypertension at Kedungmundu Public Health Center Semarang.

Method: Quantitative descriptive with cross sectional approach was used in this study. 143 respondents were recruited using consecutive sampling method. Global Physical Activity Questionnaire (GPAQ) was utilized to measure the physical activity with r count $> 0,361$ and Alpha Cronbach coefficient value 0,823. The data were analyzed using univariate analysis and presented in frequency distribution table.

Results: Most respondents aged 41-60 years old, as housewives, had first degree hypertension, and had suffered from hypertension for 1-5 years. Most respondents had moderate physical activity level (43.3%) with a value of 600-3000 MET/minutes. Respondents with a light activity level were mostly early adult, had other occupations, had second grade hypertension, and had suffered from hypertension for more than 10 years. Respondents with a moderate activity level were mostly middle adult, worked as civil servants, had prehypertension, and had suffered from hypertension for 6-10 years. Respondents with a vigorous activity level were mostly late adult, worked as labors, had first degree hypertension, and had suffered from hypertension for 1-5 years. More than half of respondents had moderate work activities (53.1%) with a quartile of 17-125 minutes/day, nearly half of respondents had light transportation activities (43.4%) with a quartile of 0 minutes/day, and most respondents had medium recreational activities (42%) with a quartile of 0-20 minutes/day.

Conclusion: Patients with hypertension can assess and choose the right physical activity according to the conditions of hypertension they are suffering from. This research is expected to be a recommendation for nurses to improve motivation of patients with hypertension with low level of activity to join in PROLANIS program. Nurses are also expected to monitor the physical activity of patients with hypertension in the past week and provide education about how the importance of physical activity in order to motivate patients to maintain physical activity. Physical activity helps control blood pressure so that patients can obtain optimal health status.

Keywords: hypertension, activity intolerance, physical activity

Military Psychological Well-Being of the Indonesian Context: a Systematic Review

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ABSTRACT

Introduction: Preface Psychological trauma in soldiers is job risk related as well as physical injury or death. Psychological problems in Indonesian soldiers in terms of work related include military training, working assignment and deployment, personal, economy and family problems. Soldiers in Indonesia with mental disorders especially stress created maladaptive coping behavior such as smoking. The demand that the soldiers' work performance ought to be ready, alert, sprightful, could affect psychological conditions during work. Search in literature found more of psychological well-being of soldiers in conflict area or war zone. But, research in the psychological well-being of Indonesian soldiers is very limited, hence it needs systematic analysis review to discuss the psychological conditions of the soldiers. Purpose to give an idea of psychological well-being of Indonesian soldiers by elaborating the structure of psychological well-being in order to do well in the military assignment.

Methods: The methods used in this paper is systematic review study. The database search includes Google Scholar, Sage, Wiley, Medline, PubMeds, Science Direct, JAMA Psychiatry, and Emerald. Strategy searching use psychological well-being in army with the inclusion criteria are articles on army and family who active and retired, articles in Indonesian and English. Data analysis went through three stages: type of research, sinthethycal methods and analytical mode. **Results:** Result from the search of relevant literatures, there are 15 articles discussing the psychological well-being of soldiers. The search of literatures gave 6 psychological wellbeing structure of Indonesian soldiers; autonomy, environmental mastery, life skill development, positive relations to others, purpose in life, and self-acceptance.

Conclusion: The psychological well-being state of soldiers are needed in doing the military mission. The increase in adaptive coping mechanism of soldiers will be able to diminish negative thoughts in the effort to maintain health in terms of psychological with preventive intervension.

Keywords: Psychological well-being; health; Indonesian soldier

Effect of Psychoeducation on the Psychological Condition of Cancer Patients: A Systematic Review

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ABSTRACT

Introduction: People who are diagnosed with cancer not only have physical problems but also psychological problems. Cancer patients often feel worried, useless, burdening others, ashamed, guilt over a long period of time, which then affect the behavior of self-blame. Therefore, psychosocial supports can help and encourage individuals with physical or emotional problems. One of the psychosocial interventions that can be applied to cancer patients is psychoeducation. Thus, this review aims to assess the effect of psychoeducation on the psychological problems of cancer patients.

Methods: This study used a systematic review design. This study reviewed previous studies about the effect of psychoeducation on cancer patients. Article search was done systematically through some databases and search engines, such as Science Direct, EBSCO, Garuda portal, and Google Scholar with keywords psychoeducation, cancer patients, depression, coping, adjustment. Inclusion criteria of the article include cancer patients as the respondents, using psychoeducation intervention, RCT or quasi-experiment research design, and original article, as well as full text with an English and Indonesia language. Whereas the exclusion criteria include research with respondents of advanced cancer patients or metastasis and research with psychiatric disorders patients. After the selection process, four articles were included in the review.

Results: A total 4 articles were eligible for analysis, 1 article from Canada, 1 article from Korea, 1 article from US, and 1 article from Indonesia. Fifty percent of study reviewed used RCT and fifty percent used quasi-experiment design. All studies reviewed explained psychoeducation interventions. The findings from the studies are psychoeducation effective in reducing depression, improving the coping and adjustment of cancer patients.

Conclusion: Psychoeducation is an effective psychosocial intervention to decrease depression, improve coping, and enhance adjustment to disease. This systematic review can be used as the basis for the decision to use psychoeducation to overcome the psychological problems of cancer patients.

Keywords: adjustment; cancer patients; coping; depression; psychoeducation

Psychological Distress in Caregivers of Schizophrenia Patients at Primary Health Care (PHC)

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ABSTRACT

Introduction: Caring for patients with schizophrenia tends to last a lifetime. The risk of noncompliance affecting the susceptibility of the recurrence of patients, as well as community stigma against patients with schizophrenia results in schizophrenia caregivers at risk for mental health problems. Objective of the study was to analyze the mental health problems of the families who care for people with schizophrenia in the work area of Mumbulsari PHC in Jember East Java.

Methods: using a descriptive approach using the self-reporting questionnaire-20 (SRQ-20). The population is a family of patients with schizophrenia that helps self-care and schizophrenia treatment; with total sampling counted 35 respondents.

Results: Most caregivers were parents of people with schizophrenia (62.9%). A total of 74.3% caregiver has a risk of mental health problems, namely the tendency of anxiety and depression problems. Caregiver experienced several complaints in physical, psychological, and social aspects. Perceived physical complaints include frequent headaches (80.0%); difficulty sleeping (65.7%); intolerable digestion (40.0); tired easily (85.7%); and discomfort in the stomach (68.6%). While the psychic complaints experienced caregiver on average feel tense, anxious or worried (74.3%); difficult to make decisions (45.7%); often cry (42.9%) and tend to be easily scared (51.4%). There are 3 caregivers who have the idea of suicide.

Conclusion: These responses have an impact on susceptibility to depression, anxiety, helplessness and despair. Nurses should assist caregivers of schizophrenia patients about managing stress and adaptive coping skill mechanism for enhancing psychological well-being of caregivers of schizophrenia patients.

Keywords: Caregivers; mental health problems; schizophrenia patients

The Effect of Holy Quran Voice with and without Translation on Symptom of Schizophrenia: A Quasi Experimental Pre-Test-Post-Test Control Group Studies

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ABSTRACT

Introduction: Psychoreligious is a novelty in the human health world which focused on giving religion-and-spiritually-related therapy for those with mental health problems. However, this therapy is rarely implemented by many health institutions because of the scarcity about its understanding of values and importance. This study tried to implement Holy Quran broadcast to the symptoms of schizophrenia to investigate the effect of hearing the broadcast to the symptoms of schizophrenia.

Methods: This study was conducted in Rumah Sakit Jiwa Daerah Dr. Amino Gondohutomo Provinsi Jawa Tengah with Quasi-experimental design and Pre-test-Post-test control group approach, samples consisted of 60 people with schizophrenia were allocated into three groups using purposive sampling technique. Group I received broadcast of the Holy Quran Ar-Rahman with translation, group II received the broadcast without translation, and group III is the control group.

Results: Both intervention groups gives better improvements towards schizophrenia's symptoms when compared to the control group which concluded from the delta PANSS 12.25 ± 11.14 from group I, delta PANSS 15.67 ± 10.03 from group II, and 7.83 ± 7.57 from group III. Still, it is scientifically insignificant with the p value 0,60 ($p > 0.050$).

Conclusion: These study showed that the implementation of Holy Quran Ar-Rahman broadcast with translation gives insignificant improvements when compared to the broadcast without translation.

Keywords: Broadcast; holy Qur'an Ar-Rahman; schizophrenia symptom; PANSS

Effect of Yoga Relaxation Reduce Anxiety among in Hypertension People

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ABSTRACT

Introduction: Hypertension become a major health problem throughout the world today because the total number of high prevalence of hypertension. Some factors of hypertension are, genetics, race, genders, smoking habits, obesity and psychological stress in the form of anxiety. Hypertension can also be treated using the therapy in the form of meditation in the form of yoga. The purpose of this research is determine the effect of yoga therapy to decrease anxiety in patients with hypertension.

Methods: This used Quasi-experimental design at Banyumanik Semarang. Total sample of 60 patients with primary hypertension, who were randomly divided into two groups: the intervention group (n = 30) and control group (n = 30).

Results: The results of analysis of this research showed yoga influences the anxiety level among hypertension people with value p of 0.000 ($p < 0.05$) between the intervention and control groups. This research found that yoga relaxation reduces anxiety level and the education regarding yoga relaxation effectively to promote health among hypertension people. Yoga relaxation stimulates good mood, relax, deep breathing exercise among hypertension people.

Conclusion: There is the influence of yoga relaxation to reduce on anxiety for hypertension people. The prevention of hypertension is major nursing challenges through yoga relaxation. In recent decades, different classes of antihypertensive agents were developed and tested in a variety of settings and among different patients.

Keywords: Yoga; anxiety; hypertension

Spiritual and Emotional Technique for Physical and Psychological Problems in Patients with Chronic Illnesses : A Systematic Review

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ABSTRACT

Introduction: Patients with chronic illnesses experience physiological impairment in the body and than resulting in the occurrence of physical and psychological problems. Complementary therapy is required to be a pharmacologic therapy companion in overcoming physical and psychological problems in patients with chronic illnesses, that is spiritual and emotional technique. This paper offers a literature review assessing the implications of previous studies order to create evidence-based decisions about spiritual and emotional technique for physical and psychological problems in patients with chronic illnesses.

Methods: Searches were performed using EBSCO, Google Scholar, and ScienceDirect. Articles are limited from 2008 to 2018. Qualifying studies were reviewed. To be included, studies had to satisfy four criteria, covering experimental studies, spiritual and emotional techniques, patients with chronic illnesses and physical and psychological outcomes. Four articles included in the literature review.

Results: Three studies reported effect of spiritual techniques on physical and psychological problems. Seven studies reported positive changes for those attending emotional technique. Studies reviewing spiritual and emotional techniques for managing physical and psychological problems.

Conclusion: Spiritual and emotional techniques is an effective intervention to resolve the physical and psychological problems in patients with chronic illnesses. More outcome research is needed to evaluate the effectiveness of spiritual an emotional techniques across the spectrum of physical and psychological problems.

Keywords: Chronic illnesses; emotional technique; physical problems; psychological problems; spiritual technique

Symptoms of Depression Among Women Prisoners

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ABSTRACT

Introduction: Stressor of prison life can cause women prisoners to become depressed. Symptoms of depression among women prisoners are important to know to prevent the negative effects of depression. This study aimed to describe the symptoms of depression among women prisoners.

Methods: A quantitative descriptive study involving 66 women prisoners was designed. Self-report surveys using Beck Depression Inventory II were conducted to collect data related to showed the symptoms of depression.

Results: Symptoms of depression can be divided into three domains include cognitive, affective and somatic. This study showed that the symptoms of depression most commonly experienced by women prisoners are sadness (cognitive symptoms), anxiety (affective symptoms) and changes in sleep patterns (somatic symptoms).

Conclusion: The findings suggest that early symptoms of depression identification can help professional to minimize the negative effects of depression. Further research is needed to overcome depression among women prisoners.

Keywords: Depression, prison health, women prisoners

The Effects of Cognitive Behavior Therapy (CBT) on Dietary Adherence of Patients Chronic Illness

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ABSTRACT

Introduction: One of that can speed the recovery of patients with chronic illness is patient compliance to proper diet. Diet programs that are not done will affect the length of the healing process and worsen the prognosis of disease. Cognitive Behavior Therapy (CBT) is one of recommended interventions to improve patient compliance in the diet. The aim of this study was to review the effect of CBT to improving patient compliance in the diet.

Methods: This study is a systematic review to synthesize research articles. Articles were searched through access from Science Direct, Ebscohost, Google Scholar, and Pubmed, database which published from 2010-2018. Study designs which included in this review are RCTs.

Results: The results of the three articles show that CBT can be improve patient compliance with medication and physical activity.

Conclusion: CBT is useful for improving patient compliance. CBT can be adopted as an intervention to patient compliance with diet, medication and physical activity, especially in patient chronic illness. Future research is needed to find out other possible effects from CBT.

Keywords: Cognitive behavior therapy; dietary adherence; chronic illness

Effect of Spiritual Therapy on Anxiety and Depression in Hemodialysis Patients: an Analytical Literature Review

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Abstract

Introduction: In the end-stage renal disease of CKD, the patients should be hemodialysis to stabilize the state of the kidney function. Increased psychological problems such as anxiety and depression resulting from CKD complications and the consequences of hemodialysis programs performed on patients. It is important for nurses to provide psychological support to patients. The application of complementary therapies such as spiritual therapy is essential. The purpose of this study was to explore various forms of spiritual therapy in hemodialysis for anxiety and depression.

Methods: This study used electronic database identified from MEDLINE, CINAHL, proquest, and GARUDA. The criteria of the paper in this study were: articles published at 2012 – 2018, full text, the article using English or Bahasa Indonesia, and the method of study using experimental study. We extracted 6 intervention studies and critical analyzes used PICO (Population, Intervention, Comparator, Outcomes) method.

Results: After applying spiritual therapy, several studies resulted in average scores of anxiety and depression that decreased in the intervention group, including Self Paced Therapy, Prayer, Dhikr, Murotal Holy Quran and Spiritual Counseling. In addition, this therapy also has a positive impact on some aspects of the patient's life include the physical and social relationships.

Conclusion: Based on the analysis of the results some studies on CKD patients with hemodialysis therapy for anxiety and depression experienced the results obtained that spiritual therapy like include self-paced, prayer and dhikr therapy, and spiritual counselling can decrease anxiety and depression.

Keywords: Anxiety; depression; chronic kidney disease; hemodialysis; spiritual therapy

**Effect of Aromatherapy in Reducing Anxiety:
A Systematic Review**

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ABSTRACT

Background: Anxiety symptoms are serious and critical problems in the occupational context and can cause some disorder when untreated properly. Aromatherapy is the complementary medicine which uses plants volatile oil. It provides relaxation, helps reduce pain and alleviates stress and anxiety. This systematic review is to analyze the characteristics of aromatherapy to reduce anxiety in an adult patient.

Methods: An extensive literature search was carried out in the following databases: Scopus, Ebsco (CINAHL & MEDLINE), Science Direct, pubmed, and Spinger. All studies were rcts with any kind of randomization, the time restriction is from 2016 to 2017, no restriction in the treatment duration with statistically significant or non-significant findings. Systematic reviews and meta-analyze are excluded. Each database was taken from the following keywords: aromatherapy, anxiety, fragrance, aroma, and anxieties.

Results: Nine randomized controlled trials studies were synthesis. Types of aromatherapy are inhaled aromatherapy, massage aromatherapy and drank aromatherapy. Seven studies showed improvement in reducing anxiety in the experiment group.

Conclusion: The characteristic of aromatherapy which was being effective to reduce anxiety was essential oil form with commonly the essence of lavender and used in inhalation method.

Keywords: Anxiety; aromatherapy; aroma; fragrance.

The Effect of Acceptance and Commitment Therapy on Depression of Patients with Chronic Disease

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ABSTRACT

Introduction: Patient with chronic disease have many problems, not only their physics but also their psychology. One of the most frequent psychological problems is depression. Acceptance and Commitment Therapy (ACT) is one of recommended interventions to reduce depression on TB and HIV co-infection patients. The research's aim was to review the effect of Acceptance and Commitment Therapy (ACT) to reduce depression.

Method: This study is a systematic review to synthesize research articles. Articles were searched through access from Ebscohost, Science Direct, Pubmed, and Google Scholar, database which published from 2008-2018. Study designs which included in this review are RCT and quasi experimental.

Result: The results of the five articles showed that ACT can reduce depression on patients with chronic disease.

Conclusion: Acceptance and Commitment Therapy is useful for reduces depression on many diseases. ACT can be adopted as an intervention to reduce depression, increases quality of life, increases acceptance of negative thoughts and emotions and living a mindful and value-based life, especially on patients with chronic disease. Acceptance and commitment therapy is applicable and feasible to implement due to its flexibility, costs (inexpensive), and non invasive and no side effects.

Keywords: Acceptance and Commitment Therapy; Depression; Chronic Disease

Effectiveness of Peer Education on Tuberculosis Case Finding: Systematic Review

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ABSTRACT

Introduction: The detection of TB cases is important for treatment purpose and is the key to the patient's recovery. One of the strategies to improve TB case finding is by counseling and providing support for knowledge and understanding as well as mindset and social environmental support of TB sufferers in the form of peer education or group therapy. The objective of this study was to review the effect of peer education on TB case finding.

Method: Data Sources: The data were obtained from PubMed, Medline, Ebsco, and Google Scholar. Inclusion Criteria: 1) Study on TB sufferers finding, 2) giving intervention in the form of peer education, 3) Full text, articles of the year 2005-2018, International Journals. Appraisal study and synthesis method: Appraisal study used Critical Appraisal Skills Program (CASP), while synthesis method used PICO modification.

Result: The results of the data can be analyzed that peer education interventions can be implemented to find TB sufferers in the community.

Conclusion: Peer education is effective to improve the knowledge and influence a person to behave as the desired.

Keywords: Peer education; Tuberculosis; case finding

Profile of Microorganisms and Their Sensitivity in Diabetic Patients with Ulcers Descriptive Study on Inpatients at Sultan Agung Islamic Teaching Hospital Semarang

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ABSTRACT

Introduction: Diabetic (DM) ulcers are one of the complications of DM disease that often result in amputations in the lower limbs. Most cases of ulcers DM accompanied by an infection. This study aimed to determine the profile of microorganisms in ulcus diabeticum and its sensitivity to antimicrobial therapy.

Method: This study was a descriptive study with cross sectional design on DM patients with ulcer treated at Sultan Agung Islamic Teaching Hospital Semarang in the period of January 2017 to December 2017. Samples were taken from wound swabs previously cleared, then cultured on medium Blood Agar and Mac Conkey. Sensitivity pattern is done by using disc diffusion method based on CLSI. A total of 35 patients were collected during the period.

Result: A total of 11.43% sterile, and 5.71% are normal flora. Results of 29 (82.85%) patients gram negative bacteria 24 (87.75%) compared to gram positive 5 (17.24%). The largest bacteria that cause ulcer dm are *Proteus mirabilis* (20.69%) and *Escherichia coli* (20.69%). Some of them produce ESBL (extended spectrum beta lactamase). *Staphylococcus aureus* is the largest cause bacteria for gram-positive groups. Most are methicillin-sensitive *Staphylococcus aureus*. There are MDRO (multi drug resistant organisms) such as *Pseudomonas aeruginosa* and *Acinetobacter baumannii*. *Pseudomonas aeruginosa* is sensitive to antipseudomonal cephalosporin (ceftazidime, cefepime), fluoroquinolone, aminoglycosides, and carbapenem. *Candida albicans* also found in some ulcers.

Conclusion: Most of the infectious bacteria in diabetic ulcers are gram negative, some produce ESBL. While gram-positive is largely a Methicillin Sensitive *Staphylococcus aureus*. The infecting fungus is found in the wound.

Keywords: DM ulcer; microorganism profile; Sultan Agung Islamic Teaching Hospital Semarang

Tekelan Leaf Extract (*Chromolaena odorata*) 75% Reduces Bleeding Time of a New Wound

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ABSTRACT

Introduction: Tekelan (*Chromolaena odorata*) is a plant containing phytochemical compounds such as tannins, phenols, flavonoids, saponins and steroids. Tekelan is traditionally used as a remedy for bleeding cessation (contain compound of tannin content). In America, the prevalence of patients with injuries is 3.50/1000 of the population. According to the Ministry of Health of the Republic of Indonesia, the prevalence of open wound injuries in Indonesia is 25.4%. The purpose of this study was to understand the effectiveness of the tekelan leaves extract (*Chromolaena odorata*) 75% to bleeding time of a new wound on a white wistar rat (*Rattus norvegicus*).

Method: The method of this study was experimental research was post-test only controls group design. The research was conducted at the Laboratory of the Faculty of Medicine, Muhammadiyah University of Surakarta. Samples were wistar male rats of 16 individuals per group, with random sampling technique. The research instruments were an observation sheet and stopwatch. Research data was analysed using Mann Withney test.

Results: The results of this study showed that the mean of the bleeding time in the control group and tekelan 75% group were 87.81 seconds and 36.69 seconds. The average of difference bleeding time between controls with tekelan 75% group was 51.12 seconds. The difference between control groups with tekelan 75% group was p-value 0.000.

Conclusion: The results of this study indicated that tekelan 75% is effective to reduce bleeding time of a new wound.

Keywords: Tekelan leaf; bleeding time; wound

The Effect of Paracetamol and Morphine Analgesic Combination on Creatinine Levels in Male Wistar Rats

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ABSTRACT

Introduction: Combination of paracetamol and morfin is an ideal analgesic combination and effective to relieve moderate to severe pain. They belong to different group of analgesic and have different mechanism of action. Moreover, they have a better potential in relieving pain. Beyond these advantages, these drugs also have potential side effects, one of which is on the kidney.

Methods: An experimental study of post test only control group design. The sample were 24 Wistar rats, randomized into 4 groups: control group, a group receiving paracetamol 9 mg, a group receiving morfin 0.18 mg, and a group receiving paracetamol 9 mg and morfin 0.18 mg combination, administered 3 times a day orally using gastric instillation for 14 days. At 15th day, blood is collected from retro orbital vessel to measure the serum creatinine levels. Stastical analysis was conducted using ANOVA Test and Post – Hoc Test.

Results: Obtained from stastical analysis where there is a significant increase in serum creatinine levels in Wistar rats given paracetamol and morfin combination compared to the control group ($p < 0.005$). However, there is no significant increase in serum creatinine levels on the other groups.

Conclusion: There is a significant increase in serum creatinine levels between administration of paracetamol and morfin combination compared to the control group.

Keywords: Paracetamol; morfin; creatinine serum; pain

The Relationship between Iodine Content of Water and Thyroid Volume

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ABSTRACT

Introduction: Iodized salt and drinking water are sources of nutrition iodine to fulfill body requirement. The aim of the study was to investigate the relationship between iodine content of water and goiter of women of childbearing age at Sengi, subdistrict of Dukun, Magelang Regency post eruption of Merapi 2010.

Methods: This cross-sectional observational study was performed 140 women of childbearing age from eight hamlet at Sengi village, subdistrict of Dukun, Magelang regency was selected proportional randomly. Iodine content of salt and water used titration method. Urinary Iodine Excretions (UIE) were measured used acid digestion method. Data were collected using modified Food Frequent Questionnaire (FFQ) then be converted by a computer program which call as Nutrisurvey 2007 to get the intake of iodine per day from each sample. The women of childbearing thyroid enlargements were assessed by internist physicians using palpation method, and by radiologist physicians using ultrasound. The relationships were test by Spearman.

Results: The study found Total Goiter Rate (TGR) about 4%. Mean value iodine content of water 2.03 ugr/L. Most of used iodized salt with iodine content less than 30 ppm and drinking water with iodine content less than 20 µg/L.

Conclusion: Based on TGR results, Sengi was not a endemic goitre area anymore. The study not detected the associations between thyroid volume on women of childbearing age and iodine content of water.

Keywords: Thyroid volume; total goiter rate; iodine content of water; women of childbearing age; post merapi eruption 2010

Effect of Ketamine as Adjuvant in Superficial Cervical Block on P Substance Content in Patient with Thyroidectomy

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ABSTRACT

Introduction: Substance P is a neuropeptide that is important for pain perception. This mediator will be blocked Bilateral Superficial Cervical Plexus Block / BSCP. This study was to compare local anesthetic and local anesthetic with ketamine in BSCP technique. This study proved the preemptive method to eliminate the post operative pain. The aim was to compare the Substance P in thyroidectomy under general anesthesia with the BSCP technique with adjuvant or without adjuvant ketamine 0.25mg/kg.

Methods: This study is a double blind experimental. total of 48 patients underwent thyroidectomy under general anesthesia divided in 3 groups. Group N (with 15cc normal saline), group B (with 15 cc bupivacaine 0.25%), group K (with 15 cc bupivacaine 0.25% + ketamine 0.25 mg/kg). This assessment was done by VAS in 1st, 12th hour and the substance P were taken pre and 12th hour post operative.

Results: Every variable in this technique with adjuvant or without adjuvant was analysed and compared with suitable statistical measure of 95% reliability and level of significance $p < 0.05$. The need of opioid intraoperatively lower in group B and K compare with group N ($p < 0.05$). There is no significant different to compare the substance P and vas score in the twelfth hour post operative in group B and K ($p > 0.05$).

Conclusion: BSCP technique with bupivacaine 0.25% versus bupivacaine 0.25% with ketamine 0.25 mg/kg effectively as an analgetic intra and postoperatively in thyroidectomy with general anesthesia. BSCP technique was proven to decrease substance P and VAS in 12th hour post operative, as well as the needed of opioid intraoperative.

Keywords: BSCP; ketamine; substance P; thyroidectomy; VAS

Peer Support Program in Hemodialysis Patients: an Analytical Literature Review

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ABSTRACT

Introduction: Changes that occur in hemodialysis patients can cause problems such as physical, psychological, financial, spiritual, and social problems that can affect their quality of life. People living with chronic conditions need more than medical treatment from their health care providers. They need support in sustaining the complex self-care behaviors or self-management. Several peer support program interventions have been undertaken to improve the outcome of chronic disease patients. There are many different types of support program and approaches to running them with their own special style, emphasis, objectives and outcomes. The purpose of this study was to explore various forms of peer support program in hemodialysis patients and their effects on the outcome of care.

Methods: The study is an analytical literature review method used an electronic database identified from CINAHL, MEDLINE, Proquest, and GARUDA. The criteria of the paper in this study are: articles were published in the year of 2015 – 2018, full text, the article using English or Indonesian, the method of study are using experimental study, the study using support program in hemodialysis. We extracted 9 intervention studies, and critical analyzes used PICO (Population, Intervention, Comparator, Outcomes) method.

Results: This study found that two main topics on peer support program include the method of peer support program and the health outcome of peer support program for hemodialysis patient.

Conclusion: Peer support program carried out by sharing the experiences of fellow patients or health provider that can be used as a combination of hemodialysis treatment for improving hemodialysis patient's quality of life, self-management skill and adherence to treatment.

Keywords: Peer support program; chronic kidney disease; end-stage renal disease; hemodialysis

**Improving Quality of Life (QoL) among Family Caregivers of Patients on Hemodialysis with Increasing Family Resilience:
An Analytical Literature Review**

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ABSTRACT

Introduction: Family caregivers are considered as hidden patients experiencing physical and psychological disorders. This affects to family resilience and also quality of their lives. Family caregivers as a main coping resource for haemodialysis patients, need to have a high resilience and high quality of life. This study aimed to explore the evidence of caregiver's quality of life and to describe family resilience among caregivers with hemodialysis patients.

Methods: Articles extracted in both qualitative and quantitative studies using four bibliography databases (*ScienceDirect*, Proquest, PubMed, and Portal Garuda) with inclusion criteria were: articles published at 2011–2018, available in full text, using English and Indonesian, the study about Quality of Life (QOL) and resilience among caregivers of hemodialysis patients. We extracted 9 studies and performed critical analyzes using PICO (Population, Intervention, Comparator, Outcomes) method.

Results: Previous studies were showed that QOL among family caregivers of patients on hemodialysis is low when compared to general population. Perceived social support, perceived burden of care, affliction with other diseases, intellectual understanding of patient's limitations, accepting self and family relationship with the patient were relevant factors to the QOL of caregivers. Family resilience extends the understanding of healthy family functioning to situation of adversity (adaptation strategies) including caring to the hemodialysis patients which perform adaptation strategies to improve QOL of caregivers.

Conclusion: Caregivers of patients undergoing hemodialysis have low QOL affected from poor family resilience. Since there is a direct relationship between family caregivers and patient's QOL, health care system should pay more attention to family caregivers.

Keywords: Quality of life; resilience; family caregivers; hemodialysis

Analysis of Nursing Care based on Self Care Orem's Theory among Patients with Urinary Elimination Disorders

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ABSTRACT

Introduction: Nursing care in patients with urinary system disorders need to study based on the theory of nursing as an effort to improve the quality of nursing care. Implementation of nursing care in patients with urinary disorders using Self Care Orem's theory provide an overview of the self-sufficiency level among patients to meet self-care needs independently. This analysis aims to provide an overview of the nursing care implementation based on Self Care Orem's Theory among patients with urinary system disorders.

Methods: This case study used 40 respondents with descriptive explorative research design. Role of care provider had performed by implementing nursing care through applying nursing theory of Orem's Self Care Deficit Theory on 40 patients with renal disease, obstruction urinary tract, carcinoma in urinary tract, and emergency of urinary system.

Results: The results of the analysis showed that most of nursing problems are urinary elimination disorder (95%) for universal self-care requisites, lack of knowledge for developmental self-care requisites (82.5%), and anxiety for health deviation self-care requisites (67.5%). Partly compensatory was the most widely used nursing system in nursing diagnoses before evaluation of nursing care was performed (65%). Most patients were at supportive educative compensatory condition when evaluation of nursing care had performed (75%). Guidance, teaching, and directing were the most widely used methods of helping (85%).

Conclusion: Nurses can apply the theory of Self Care Orem to improve nursing service quality especially for helping patient with urinary system disorders.

Keywords: Self care Orem's theory; nursing care; urinary elimination disorder

Patient and Family Experience Managing Body Fluids of Patients with ESRD undergoing Haemodialysis

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ABSTRACT

Introduction: Terminal kidney disease in patients can cause physical and psychological effects to them. The decline in renal function include impaired the ability of filtration, reverse osmosis and excretion. Patients with renal function loss, leading to impaired body function in maintaining fluid and electrolyte balance excess fluid is one of the nursing problems in patients with end-stage renal disease. ESRD's patients undergoing hemodialysis may present excess body fluid nursing problems. Identify the experience of patients and family in the regulation of body fluids of hemodialysis patients.

Methods: This research is a design of phenomenology study and recruiting samples of 6 participants with purposive sampling technique. Participants were ESRD patients with hemodialysis. The interview transcript is an analysis using the Colaizzi method.

Results: This study get 6 themes: patient and family knowledge of the fluid consumption setting. The patient's perceived reaction in case of excess fluid. Patient and family behavior in limiting fluid intake and the actions of patients and families in the event of excess body fluids of patients. The others are ways patients and families get information in fluid settings, and the patient's difficulty regulates the body's fluid balance.

Conclusion: ESRD Patients and families consider excess body fluids caused by damaged kidneys and cause less urination. They consider the excess body fluids caused by damaged kidneys and cause less urination. Patients feel shortness of breath, swelling and discomfort when there is excess fluid. In the event of signs of excess fluid, the patient and family will lower the fluid intake and to the hospital for treatment and treatment if they are unable to cope with the patient's condition. Efforts are made by patients and families in fluid restrictions, such as measuring and limiting drinks and foods containing lots of water. Patients still find it difficult to manage fluids when they feel very thirsty.

Keywords: Haemodialysis; managing body fluid; chronic kidney disease

Dietary Diversity among Adolescents in Senior High School, Sarolangun Jambi

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ABSTRACT

Introduction: Teen age is the first phase of some changes physical and sexual maturity. Thus, nutrition problems in adolescents become one of the main concerns in the field of health. Nutrition problems that occur in adolescents can be caused by the fulfillment of nutrients that are not in accordance with diet recommendations. Therefore, this study aims to analyze the dietary diversity among adolescents.

Methods: The study was conducted from January until May 2018 in Senior High School, Sarolangun (Jambi). This research uses a cross-sectional study. The sample of 139 students, males as many as 47 students, and women as many as 92 students. Dietary diversity data was obtained from a food frequency questionnaire which consists of 9 food groups. Data to be analyzed descriptively and different test (Mann-Whitney test).

Results: The results showed that most of the diversity score in adolescents is score 2 (consuming 3-5 types of food times per day). Mann-Whitney test showed that there was a significant amount of tofu consumption ($p = 0.000$), fruits consumption habits ($p = 0.015$), and vegetable consumption ($p = 0.001$) among male adolescents (2.03 ± 1.35 ; 0.99 ± 1.33 ; 1.18 ± 1.11 times per day respectively) and adolescent girls (0.75 ± 1.03 ; 1.52 ± 1.35 ; 1.98 ± 1.42 times per day respectively).

Conclusion: The dietary diversity in adolescents is still relatively low because it does not achieve an ideal score of dietary diversity is score 4. Therefore, it is necessary for nutrition education to increase the quantity and quality of consumptions among adolescents.

Keywords: Dietary; diversity, consumptions, adolescent

The Effect of Paracetamol and Morphine Analgesic Combination on Aspartate Aminotransferase Levels in Male Wistar Rats

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ABSTRACT

Introduction: Paracetamol is an effective analgesic to relieve mild to moderate pain when it is used in therapeutic doses. Morphine is an opioid analgesic to relieve moderate to severe pain. Both are metabolized in the liver and have different mechanisms in the treatment of pain. The use of paracetamol and morphine as monotherapy has been extensive, but research on the effectiveness of these drugs in combination is still limited, especially about its effect in liver damage. This study was to investigate the effect of paracetamol and morphine analgesic combination on aspartate aminotransferase (AST) levels in male Wistar rats.

Methods: This was an experimental study using Post-Test Only Control Group Design. The samples were 20 male wistar rats randomized into 4 groups; group I (control group, without treatment), group II receiving paracetamol 9 mg, group III receiving morphine 0.18 mg, and group IV receiving combination of paracetamol 9 mg and morphine 0.18 mg. Drugs were administered through oral gastric instillation 3 times a day for 14 days. Blood samples were collected at the 15th day through retroorbital vessel to measure the AST levels. The data was analysed using One-Way ANOVA test and Post-Hoc test.

Results: One-Way ANOVA test showed that there were significant differences ($p=0.022$) among all groups. Post-Hoc test showed that there were no significant differences in the control group toward paracetamol group ($p=0.098$), control group toward morphine group ($p=0.226$), paracetamol group toward morphine group ($p=0.992$), paracetamol group toward combination group ($p=0.983$), and morphine group toward combination group ($p=0.799$). However, there was significant difference in the control group toward combination group ($p=0.045$).

Conclusion: The administration of paracetamol and morphine combination might increase AST levels in comparison to control group, but not in paracetamol or morphine monotherapy.

Keywords: Paracetamol; morphine; paracetamol and morphine combination; AST levels; pain

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