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(IIHS Academic Sessions 2018: Conference Proceedings)

Editor in Chief- Dr. E. A. K. K. Edirisinghe

Managing Editor- Dr. Dinusha Kanatiwela Niriella

Co-Editor- Mr. Damith Rajakulathunga



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From the Managing Editor

Welcome to the Proceedings of IIHS, 14th BioInquirer- Annual Academic Sessions, 2018 with its special theme “*New Dimension in Health: Creating a Sustainable Healthcare Safety Net for All*”.

Healthcare Safety Net (HSN) is defined as those providers that organize and deliver a significant level of healthcare and other related services to uninsured, underinsured, and other vulnerable populations, due to their financial circumstances, insurance status, or health condition. HSN has to be sustainable by achieving high-quality care delivery and improved public health without exhausting natural resources or causing severe ecological damage. This being a new approach to healthcare, considering spiritual and financial factors in addition to the previously considered physical, emotional and social factors, makes it a new dimension of health. In a nutshell, it is our responsibility to ensure that all people have access to needed promotive, preventive, curative and rehabilitative health services, of sufficient quality to be effective, while also ensuring that people do not suffer financial hardship when paying for these services.

As a lower-middle income country, it is essential for Sri Lanka to ensure that a sustainable HSN is available for its people. As a training organization of international level health professionals, it is important to expose the global issues around HSN to the young health scientists who are to serve across many continents.

This year conference will cover the below mentioned factors to be ensured for a sustainable HSN for a community or country;

- Ensure healthy lives and promote wellbeing for all at all ages
- Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all
- Reduce inequality within and among countries
- Strengthen the means of implementation and revitalize the Global Partnership for Sustainable Development

Therefore, the IIHS Academic Sessions for 2018 will also be based on these important aspects.

I would like to express my deepest appreciation to the authors whose contributions are presented in these proceedings. It is because of their excellent contributions and hard work that we have been able to prepare these proceedings. And On behalf of the organizing committee I welcome you all to BioInquirer 14 – Annual Academic 2018.

The proceedings of this conference can be accessed online at <http://bioinquirer.org/journal-articles/>

Dr. Dinusha Kanatiwela Niriella

Managing Editor

BioInquirer Journal

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DR. SARATH SAMARAGE

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“New Dimension in Health: Creating a Sustainable Healthcare Safety Net for All”

Half the world's population is unable to access essential health services; 100 million people are pushed into extreme poverty each year because of out-of-pocket expenditures on health; and catastrophic spending on illness and disease is a truly global problem.

Healthcare Safety Net is defined as those providers that organize and deliver a significant level of healthcare and other related services to uninsured, underinsured, and other vulnerable populations, due to their financial circumstances, insurance status, or health condition.

It is our responsibility to ensure that all people have access to needed promotive, preventive, curative and rehabilitative health services, of sufficient quality to be effective, while also ensuring that people do not suffer financial hardship when paying for these services.

Universal coverage is defined as access to key promotive, preventive, curative and rehabilitative health interventions for all at an affordable cost, thereby achieving equity in access. The principle of financial-risk protection ensures that the cost of care does not put people at risk of financial catastrophe.

The cornerstone of Sri Lanka's Universal Health Coverage (UHC) agenda has been supply-side efforts to ensure strong service delivery. It has provided universal, free access to government provided health care services to its population since the 1930s. Although Sri Lanka is well positioned to achieve UHC, current demographic, epidemiological and economic transitions are challenges to ensuring universal and equitable health financing and care provision.

Whilst the government's commitment to maintaining universal health services of good quality for all continues, the need for change has been recognized. The government is exploring now how a rational model of care can best be instituted given limited resources. The key policy objectives are to make us able to respond to evolving health needs, reduce catastrophic health spending and improve our overall satisfaction in health experiences.

Current efforts centre on strengthening the primary health care system, synergising community-based prevention and primary medical care. These proposals represent a new vision for a reorganised primary health care sector in Sri Lanka, preserving our health gains from the past, and preparing the nation to meet the health challenges of the future. To facilitate and foster these improvements a new organisational structure is proposed termed the Shared Care Cluster System. As a lower-middle income country, it is essential for Sri Lanka to ensure that a sustainable healthcare safety net is available for its people.

PLENARY - OP01

PROF. SHANG SHAOMEI

Nursing in China has been developing rapidly. Multiple education programs are available for nurses with different education background, so that their clinical and academic abilities have been improved significantly. Subsequently, nursing education level in China has been improved. However, China's nursing human resources are still relatively deficient and unevenly distributed. China still needs plenty of RNs with bachelor degree and above.

Since its inception in 1984, Peking University School of Nursing (PKUSON) has always been one of the leading institutions cultivating nursing students in China. It is the only one nursing school enlisted in the Mainland of China in the Top 100 of QS World University Rankings for three years. PKUSON focuses on four research areas, including aged care, chronic disease management, midwifery/maternal and child care, and oncology care, and strives to promote international academic exchange in research frontiers.

This presentation will outline situation and prospect of nursing education development in China and PKUSON's role and efforts in nursing education.

Nursing Students' Health Behaviour in Finland

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Introduction: Health behavior is the foundation for human health and health promotion is the focus of health policy. For nursing students, health promotion and health behavior are key elements of education. Students in their upcoming career work will be role models, guiding and motivating their customers/patients in lifestyle changes to promote health. Knowledge of nursing students' health behavior is needed as a basis for evidence-based development of education policy and training services. This study is part of the joint project: Health status, health behavior, health counselling and vocation among nursing students in Finland, China, Japan and Sri Lanka - Comparison of nursing students in four countries. The aim of the study was to assess health behavior and lifestyles of nursing students, self-rated health and life situation, use of health services and health counselling and social support. In addition, the aim was to study motivation for nursing studies and vocation for nursing profession.

Methodology: This mix methods study consisted of quantitative and qualitative data and methods. Data was collected by electric questionnaire (lifestyles 7 items, health and life situation 6 items, health counselling and services 2 items, social support 2 items, motivation for nursing education and vocation for nursing profession 1 item and one open question). The data (N=200) was analysed statistically and one open-ended question by qualitative method.

Results and Discussion: Detailed results of the Finnish nursing students' health behaviour will be presented in conference.

Conclusion: The results will be used in developing services and interventions for promoting health and wellbeing of the Finnish students. The results from four partners are compared and similarities and differences will be recognized for the basis of development of the students' wellbeing services.

Key Words: *Health Behaviour, Life Style, Life Situation, Motivation, Vocation, Calling.*

Health Behavior and Vocation among Nursing Students in China

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Background: Nursing education may affect student's health behaviors. Some studies show that nursing education improves some aspects of student's lifestyle. In addition, motivation in nursing education has a great impact on learning effects. As future clinical workers, nursing students will provide health service and their behaviors may affect the clinical services that they provide to clients. This study project conducted in China was designed to examine the health situation, life styles and motivation of nursing students and maintenance of their vocation, during nursing studies.

Methodology: This study was performed on 200 undergraduates (69 males and 131 females) of Peking University, School of Nursing who were selected through stratified random sampling procedure. The data collection tool was a questionnaire including sociodemographic characteristics, and health behaviors. This instrument had 5 subscales of lifestyle, health and life situation, health service and counselling, social support, motivation and vocation in nursing education. In order to keep the weight of expressions of the tool and subscale scores, the mean was calculated. To serve this purpose, the last four expressions were scored on a scale of 1 to 5 (with Excellent, good, average, poor and very poor equals from 5 to 1). Data was analyzed using statistical tests of Chi-Squared, Independent t-test and variance analysis.

Results and Discussion: According to the results, 64.6% second-year nursing student's nutrition and diet became healthier, but student's lifestyle became unhealthier as students advanced through academic progress. In the 'health and situation' subscale, the results showed that the highest mean belongs to assessment of mental health (3.89 ± 0.78) and the lowest belongs to assessment of life situation (3.23 ± 0.79). The mean of 'health and situation' subscale among male students was higher than among female students. The mean of students' motivation in nursing education became lower with the increase of grades ($3.34 \pm 0.89, 3.33 \pm 0.77, 3.20 \pm 0.95$) and male student's mean score (3.49 ± 0.83) was higher than females' ($3.32 \pm 0.85, p < 0.05$).

Conclusion: Nursing education could improve student's health awareness. However, student's lifestyle has become unhealthy as pressure increases. Both grade and gender had an impact on nursing student's learning motivation.

Key Words: Health Behaviors, Motivation, Vocation, Nursing, Students.

Health Status, Health Counseling, Health Behavior and Vocation among Nursing Students in Sri Lanka

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Introduction: On average a Nursing student in Sri Lanka will have to complete a Diploma in Nursing, which is 3 years in length. The program consists of academic and ‘on the job’ clinical training prior to graduation. The program duration and intensity has a risk of posing health risks for students. As the future health work force it is imperative to examine and understand the health behaviors of the students whilst addressing the questions surrounding life situation, stress, social support and health counselling. The aim of this study was to examine the health situation, life style and motivation of nursing students and the maintenance of their vocation, during nursing studies.

Methodology: This study was performed on 200 undergraduate nursing students completing a 3 year Advanced Diploma in General Nursing from both the private and public sectors of Sri Lanka were selected through a stratified random sampling procedure. Data was statistically analyzed.

Results and Discussion: In the study, only 5.5% of applicants were married whilst 84.5% lived with their families. 91.5% of student have never consumed alcohol in their lives and a very negligible amount (1%) have used substances other than alcohol. 97% of students have never smoked in their life whilst 1.5% have ceased to over the past 1 year. 35% believed that their nutrition and dietary habits have decreased during the nursing education. 31.5% stated that they have gained weight whilst 34.5% of them stated that they have gained weight during this time. 49.5% stated they have never exercised. Socially, 97% stated that they have adequate social support, where 82% received support from parents and immediate family. 61% have a good motivation towards nursing education.

Conclusion: On average, nursing students have motivation towards their education and are adequately supported socially. However, it is vital to promote health awareness in relation to exercise and dietary habits during their education period.

Key Words: Nursing, Education, Health Behaviors, Motivation.

Assessment of Knowledge and Attitudes of the Nurses in the Process of Breaking Bad News in a Government Hospital in Rathnapura District, Sri Lanka

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Introduction: “Breaking Bad News” (BBN) is one of the most complex and challenging tasks for the Healthcare professionals and it is also a process of interactions which occur before, during and after bad news is broken. Hence, this study intends on assessing the nurses’ knowledge and attitudes of their role in the process of BBN in a government hospital in Rathnapura District.

Method: A quantitative study using descriptive cross-sectional design was conducted among 135

Registered Nurses in a government hospital in Rathnapura District using cluster sampling technique via a self-administered questionnaire (Response rate 100%). Ethical approval was taken from Colombo South Teaching Hospital.

Results and Discussion: From the sample, 60.7% (n=135) had the opinion that a first-degree relative is the most suitable person to take the bad news. While majority (96%) had participated in BBN process,

77% of nurses revealed that no guideline was available for BBN process. Many participants strongly agreed that there should be some limitations in conveying bad news (51.1%) and that it is better to have other health professionals’ or colleagues’ support (64.4%). From all the nurses, 54.81% agreed that there’s no need of follow ups with family members. Further, they agreed that their level of knowledge (49.62%) and personal and spiritual values (44.44%) affect the way they deal with the patients’ emotions, and that cultural beliefs and values of the patient also affect this process (63.70%).

Conclusion: Knowledge and attitudes of the study participants regarding the process of BBN was satisfactory. It was recommended to update nurses’ knowledge on BBN process, its team approach, ethical principles, patients’ rights, protocols and guidelines. Further training was warranted for the nurses regarding communication skills and the process of BBN.

Key Words: *Knowledge, Attitudes, Breaking Bad News.*

Satisfaction on the Current Nursing Uniform among Nurses in a Selected Government Hospital in Kaluthara District, Sri Lanka

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Introduction: Wearing uniforms help in the formation of professional identity in healthcare. Nurses' satisfaction on the uniform will lead to increased self-image and quality of care. The objective of this study is to study the satisfaction on the current nursing uniforms among nurses in a government hospital in Kaluthara District, Sri Lanka.

Methodology: Hospital-based, descriptive, cross-sectional study was conducted using 175 nurses in medical, surgical and pediatric wards in a government hospital in Kaluthara District, Sri Lanka. A self-administered questionnaire was used to collect data.

Results and Discussion: Among the respondents, only 40% of nurses preferred to wear the current uniform while others (60%) preferred a modification in the uniform. Majority (59.24%) of the nurses who preferred a modification liked to wear a scrub suit and 52.24% of them were from pediatric wards. White color was the highly preferred (91.42%) color for the uniform. Majority (92.85%), of nurses preferred to wear a cap while 55.71% of nurses disagreed with the level of comfort of the current nursing uniform.

Conclusion: Majority of the nurses in Kaluthara District were not satisfied with their uniform. However, majority preferred white color and to wear the cap whereas most of the nurses in pediatric wards preferred a scrub over the usual uniform.

Key Words: *Satisfaction, Current Nursing Uniform, Nurses*

Assessment of Patients' Satisfaction on Nursing Care: Perception of Patients and Experiences of Nurse Experts

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Introduction: Satisfying a patient with nursing care has become a critical task. Service quality evaluation is an essential process for improving quality care leading to satisfaction. The purpose of this study was to assess patient satisfaction on nursing care through the patients' perception and through experiences of nurse experts.

Methodology: A descriptive cross-sectional survey study with a qualitative component conducted in surgical-medical wards in a leading teaching hospital, Sri Lanka 2018. Patients' perception of satisfaction was measured using SERVQUAL; a researcher modified 5 point-Likert scale while semi-structured interviews were used to explore expert nurses' experience through purposively selected expert nurses and nursing managers. Quantitative component was analyzed descriptively while qualitative component was analyzed thematically.

Results and Discussion: Of the sample (n=300) mean satisfaction was 3.2 ± 0.64 . Patients were mostly satisfied with 'empathy' (mean=3.31, ± 0.04). Responsiveness in pain management, and reliability in care provision, was higher than the expected level while receiving information prior to investigations and informing their investigation results were lesser than expected. Lack of resources, attitudes, poor resource management and leadership were identified; based on expert nurses' opinion, as key factors affecting patient satisfaction.

Conclusion: Patients were satisfied with empathic and responsive nursing care. Provision of information needs to be improved. Each aspect of resource management needs to be improved with attitudinal changes of nurses and nurse managers.

Key Words: *Patient-satisfaction, SERVQUAL, management of nursing, nursing care.*

Assessment of Fear and Anxiety related to Public Speaking among Nursing Students in Ampara District, Sri Lanka

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Introduction: Similar to all professions, nursing also requires the skill of public speaking. However, fear and anxiety of public speaking among students debilitate the future professional life. The aim of this study was to identify the causes for anxiety and fear regarding public speaking.

Methods: A descriptive cross-sectional study was done on 344 students at the College of Nursing, Ampara using a self-administered questionnaire.

Results and Discussion: Among 344 participants, 30.81% participants have never presented a public speech. Among the rest, only 70.6% is satisfied with their ability. Only 29.65% of students liked using English as a delivery language and also 37.5% students have missed their chances of public speaking.

54.81% are suffering from fear and anxiety regarding public speaking and among them 76.74% of the students have relieved their fear just after started delivering the speech. First-year students were the most fearful on public speaking. Third-year students were also fearful to a considerable amount. Palpitation (61.91%) and dry mouth (34.01%) were the most common signs of fear and anxiety regarding public speaking. Female students were more fearful than male students. Lack of confidence (72.08%) was the most common cause for this problem and language barrier (70.34%) was the second common cause. 84.59% of participants had a good attitude on public speaking and 57.5% of students were seeking professional help to develop their public speaking ability.

Conclusion: A considerable amount of students suffer from fear and anxiety regarding public speeches and lack of confidence and language barriers are the common causes.

Key Words: *Public Speaking, Fear, Anxiety.*

A Program on Traditional Medicines for Nervous System Health

Both “western” (Evidence-based medicine) and traditional medical approaches are now integrated into healthcare strategies, globally. In general, “western” medicine is rationalised on laboratory based experimental data leading to clinical testing prior to their use, where as traditional medicines have largely not undergone science-based laboratory testing. Notably, over 80% of the population in Sri Lanka use traditional medicines in treating both acute and chronic disorders. Other traditional practices (e.g. foods as nutraceuticals, herbal cosmeceuticals etc), also use a plant-based pharmacopeia.

We are applying science-based laboratory and clinical experimental protocols to further validate the traditional pharmacopeia used in the treatment of neurological disorders. Here, we will provide “evidence based” *validation of existing formulations* e.g. intranasal delivery of therapies (nasaya treatments) to the nervous system, as a putative pathway circumventing the blood-brain barrier. We will also *investigate novel product development* based on a scientific rationale, for the wellbeing and health of the nervous system e.g. nutraceutical strategies (rationalising the existence of the gut-brain axis) as conditioning treatments for improving neurological function.

We will apply ancient knowledge of traditional practices used for the wellbeing and treatment of the nervous system, to rationalise neuro-scientific experimental strategies towards establishing therapeutic products. This science-based approach will enhance both preventative “treatments” as well as therapies for neurological disorders, thereby increasing the “*safety net for all.*”

Usage of Agrochemicals in the Vegetable Industry, Monaragala District, Sri Lanka

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Introduction: Agrochemicals have become a vital part in vegetable cultivation. Agrochemical usage in Uva province is relatively high, especially due to the short duration of crops and highly favorable conditions for rapid spread of infections. Recently, public concern related to health risks associated with agrochemical residues in vegetables has been increased. The purpose of this study was to assess the usage of agrochemicals in vegetables in Monaragala District, Sri Lanka.

Methodology: A descriptive cross-sectional study was done on 50 vegetable farmers in the Monaragala District, conveniently selected using a self-administered questionnaire.

Results and Discussion: The most commonly used type of agrochemicals was fungicides. The crop that was most cultivated for two seasons per year was the brinjal. Around 30 out of the 50 (60%) farmers applied agrochemicals before appearance of symptoms. Majority of farmers (88.1%) applied agrochemicals at pre-harvest stage to reduce the post-harvest losses. Almost all participants were aware of the 2-week pre-harvest interval. A higher percentage of farmers (66%) read the information on the label. A majority of the farmers (61.7%) dispose the empty chemical containers by burning. Storing the remaining pesticides for future use was a practice of 47.7% of the farmers. Only 56% of the farmers were aware of biological pest management methods; whereas, 60% of them didn't use this method because it was unable to control all the pests.

Conclusion: Most of the issues in practices can be related to lack of knowledge due to poor education. Therefore, knowledge among farmers should be increased.

Key Words: *Agrochemicals, Vegetables.*

OP11

Study on the Change of Yeast Activity when Changing the Yeast Substrate (Food) in Fermented Biscuit Dough

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Introduction: Yeast is eukaryotic, single-celled fungi with over 600 different species. Yeast cell sizes vary depending on species and environment and generally of 3-4 μm in diameter. About 30 billion of yeast cells may contain in one gram of compressed baker's yeast. Baker's yeast is produced from species called *Saccharomyces cerevisiae*. Yeasts are using organic compounds as the source of energy and they are called as chemoorganotrophs. Sources of carbon are generally hexose sugars such as glucose and fructose or disaccharides such as sucrose and maltose. Also some organisms can metabolize pentose sugars such as ribose, alcohols and organic acids. Yeast cells use oxygen for aerobic cellular respiration and also have anaerobic cellular respiration methods. They perform fermentation in anaerobic conditions. The objective of this study was to find out the most suitable combined levels of different substrates (yeast food) for fermented biscuit dough. This will lead to enhanced performance of the yeast activity of the fermented biscuit dough as well as increased profit of the company.

Methodology: The rate of CO_2 gas production was measured as an indirect parameter of the activity of yeast. Glucose syrup and fructose were tested replacing malt that is being used in the original recipe. In another set of experiments, different combinations and proportions of yeast food were tested.

Results and Discussion: When using glucose and malt in different proportions for the same recipe, the rate of CO_2 production increases. When using 50% of malt and 50% of glucose from original amount (from original recipe), the highest rate of CO_2 production was observed, and when using 30% of malt and 70% of glucose from original amount, a slight increase in the rate of CO_2 production was observed compared to when only malt was used. Glucose, a monosaccharide is easily used as a substrate by yeast than maltose, a disaccharide. Therefore, when yeast food contains more monosaccharides, the activity of yeast increases by subsequent increase of rate of CO_2 production.

Conclusion: The results demonstrate that using appropriate combinations of yeast foods will provide better yeast activity rather than using single yeast food. Moreover, it is economically feasible than when using only malt.

Key Words: Yeast, Fermentation, Maltose, Glucose.

OP12

Design of Wireless Electronic Stethoscope

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Introduction: The Stethoscope is an aural medical tool which is used to auscultate human body sounds, as one of the most key diagnostic tools in a doctor's repertoire, and relatively low-tech by today's standards. The objective was to develop a reasonably priced device that is proficient of capturing, processing, recording, and outputting phonocardiogram and audio signal. Volume control, noise filtering, digital storage, and visualization analysis abilities along with Global System for Mobile (GSM) facilitated wireless technology.

Methodology: Atmega2560 Arduino processor was the processing part for hardware and software interfaces. The board was embedded with the analog to digital converter which converts the captured signals by the acoustic sensor which was mounted with a microphone at 8 KHz sampling rate. The amplifier circuit was built in the PCB. Conditioned audio file was outputted to 3.5mm jack via PWM method. Also recorded file was illustrated in real time in the Mat lab at 100 Hz as a phonocardiogram. The conditioned data can be stored in the SD memory card via Serial Peripheral Interface (SPI) communication.

Results and Discussion: The Liquid Crystal Display (LCD), Secure Digital module and GSM module were initialized when the device was turned on. During the record process, device requested a track number to save the "wav file". When the start button was pressed, only the recording process begins. When stop button was pressed the device saving the "wav file". During the diagnosis the real time data was played in the speaker with reasonable audio quality. During the measure BPM mode, the device waits for 60s to calculate the spikes. During the send SMS mode, after measuring the BPM, the tested value can be sent as a SMS to a person. The Mat lab data analysis represents the phonocardiogram of a patient. The highest error percentage is approximately 5% by the device output while measuring the BPM.

Conclusion: The design met almost all the criteria what was expected but there were few draw backs like some recorded files were noisier and sometimes the SD card got interrupted. This digital stethoscope worked with all the modules mentioned in the design and it connected easily to the device. It made the stethoscope user friendly by means of all the components.

Key Words: *Wireless, Stethoscope.*

Experimental Study on a Prototype of Three-Chambered Compost Bin

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Introduction: In Sri Lanka, an average of 5 kilograms of solid waste is collected per household. Out of that, more than half the amount of garbage can be used to make compost. The compost bins that are currently available in Sri Lanka have number of draw backs such as; increased time consumption, generating bad odor and improper method of composting. The aim of the study was to introduce a compost bin which could help in generating organic fertile soil and improve home composting practices which are more time efficient.

Methodology: A prototype was designed and developed using disposed poly vinyl barrels and other plastic, metal and rubber waste. The prototype consisted of three compartments; two aerobic chambers and one anaerobic chamber. The organic waste was first put into the aerobic compartment where the compression of the disposed waste occurred because of the heat conducted through the walls of the bin and secondly, it was moved into the anaerobic compartment where the waste was digested by microorganisms and finally, it was moved to the bottom chamber in which maturation of the compost waste occurred within a certain time period. Cow dung was used as it contains microorganisms, which helped in the decomposition and digestion process.

Results and Discussion: A fine and rich homemade fertilizer, without any added chemicals, was produced. After the deposition of the first 8 weeks, the organic fertilizer made was extracted on a weekly basis.

Conclusion: Compared to the current compost bins in Sri Lanka, the prototype compost bin with three different phases is more convenient to use, efficient and time saving. The final product is a homemade, fine and rich compost waste fertilizer.

Key Words: *Prototype, Three-chambered Compost Bin, Homemade Fertilizer.*

OP14

Prevalence of Lactose Intolerance among Sri Lankan Teenagers and Adults and Consumption of Energy Drinks, Western Province Sri Lanka

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Introduction: Lactose intolerance is a condition in which people have symptoms due to decreased ability to digest lactose; a sugar found in milk products. Symptoms could include abdominal pain, bloating, diarrhea, and nausea. It typically starts between half and two hours after consuming milk products. Many do not aware that lactose-based energy drinks also could cause lactose intolerance symptoms if the consumer is lactose intolerant. The purpose of the study was to assess the prevalence of lactose intolerance among Sri Lankan teenagers and adults, and find out the energy drink consumption.

Methodology: Descriptive cross-sectional quantitative survey study was conducted with conveniently selected 320 subjects. Data was analyzed and disseminated descriptively.

Results and Discussion: Among the total subjects (n=320), 42% consume energy drinks. Among the all subjects, only 3% were lactose intolerance. However, 7% of subjects who were both lactose intolerant and had milk allergies. Among the subjects who consumed energy drinks 65% were between age 20-24. It was found that the pattern of energy drink consumption was different from person to person.

Conclusion: The majority of people with milk allergies do not have clinically identifiable milk allergies. Many individuals, who think they are allergic to milk products, were mostly lactose intolerant. Teenagers and adults have shown interest to consume energy drinks; however, the pattern of consumption was different. Further studies are recommended to find out the different patterns of energy drink consumption and attitudes towards energy drinks.

Key Words: *Energy Drinks, Lactose Intolerance.*

OP15

Developing a Natural Pesticide against Mealy Bugs

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Introduction: Mealy bugs are group of small gregarious insects with soft bodied creatures containing filaments. Mealy bugs can be found on specific vegetables and ornamental plants. They feed on plant sap causing a loss of harvest while acting as vectors for different plant diseases. The objective is to develop a natural eco-friendly pesticide against Mealy bugs.

Methodology: Neem leaves were soaked overnight, grinded and strained the brew and filter it using filter paper. Garlic, pepper, onion, chili and ginger were chopped and strained the mixture. Finally, filtrates of all ingredients were added and transmitted into a spray bottle. It was sprayed onto the infected areas of the plant three days consecutively and the progress was recorded. Samples of the solution were left in room temperature as well as in the refrigerator both open to air and enclosed for two weeks to study about its persistency and to be certain of the suitable environment for storing the solution.

Results and Discussion: 10 trails were conducted in the study but 8 trails were succeeded. The plants clearly demonstrated the insecticides mealy bug repellent qualities by showing positive results within 3-4 days. The solution is equally effective and persistent up to two weeks. The sample that was left in room temperature was persistent up to 4 days. The sample that was refrigerated was successfully persistent up to 2 weeks.

Conclusion: The solution forces the mealy bug to move away from the plant.

Key Words: *Mealy Bugs, Pesticide.*

PLENARY - OP16

DR. KATRI LUUKA, DR.TARU RUOTSALAINEN AND DR.ANNA-MARIA VILKUNA

The reform and growth of Metropolia University of Applied Sciences is founded on phenomenon- based innovation hubs. Innovation hubs are located in four campuses in cities of Helsinki, Vantaa and Espoo in Finland. Innovation hubs offer a favourable operating and innovation environment to solve challenges across private and public sectors industries and technologies.

Innovation hubs are actively bringing together experts and expertise from various parts of society: new expertise for the future needs of businesses and society, better services, wellbeing and vitality to regions and a range of opportunities for new research, growth and business.

Innovation hubs provide an excellent setting to implement the development goals in UN's 2030 Agenda for Sustainable Development and to help Finland become a model country of sustainable development.

Metropolia UAS's five themes of phenomenon-based innovation hubs are; 1) Clean and Sustainable Solutions, 2) Functional City for People, 3) Smarter Mobility, 4) Data-driven Construction and 5) Customer-oriented Wellbeing and Health Services.

Customer-oriented Wellbeing and Health Services Innovation Hub will be located in a brand new Myllypuro campus in Helsinki. It will give a new pedagogical platform for curriculum development where clients, students, teachers and enterprises are co-working together creating new services for social and health care.

How Computer-Related Technology is Incorporated into Instructional Methods and Objectives in Secondary School Classroom

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Introduction: Educators have been debating the purposes of schooling, issues of restructuring curriculum and instruction, and K-12 school change and educational reform in the recent past decades in the United States. One such debate is centered on the role of computer-related educational technology and instructional methods used in K-12 schools to meet the educational demands of the Information Age. The research examined what computer-related technology secondary school teachers incorporate into instructional methods and objectives. The study focused on actual instructional practices teachers employ in their secondary school classrooms.

Methodology: The participants of this research study were 84 secondary school teachers from 5 private high schools in New York City and its suburbs. The data were collected through a qualitative/quantitative mixed-research methodology to answer the research questions of the study.

Results and Discussion: The findings indicated traditional methods incorporated with technology such as lecture and demonstration, as well as, constructivist methods integrated with technology such as project-based learning, and collaborative and individualized learning. The technology integrated instructional objectives associated with traditional methods were: (1). the teacher required students to use technology to aid memorization of facts, formulas, and recalling for tests; (2). Teacher required students to use technology to access and perform factual, knowledge-based activities. The participants also indicated constructivist objectives addressed in the strategies in which they facilitated students' use of technology for communication with others; in their designing/creating/innovating skills; to think critically about real world problems; for articulation/explanation; for exploration of information; for comprehension; for interpretation and analysis of information; for application of information; and for evaluation of information and for composition. The qualitative findings disclose different kinds of instructional objectives addressed in the technology incorporated methods such as cognitive, social, and computer skills.

Conclusions: The findings related to this study of secondary school teacher practices are an authentic indicator of the possibility of a balanced approach to computer-related technology integrated instructional methods and objectives. Incorporating technology into instructional methods/objectives is only a part of the educational pie. Technology initiative has implications for classroom management, administration, and professional development.

Key Words: *Computer-Related Technology, Instructional Methods, Secondary School Classroom.*

Knowledge and Practice on Research and Evidence Based Practice (EBP) among Healthcare Professionals in Sri Lanka

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Introduction: Research and Evidence Based Practice (EBP) are closely bound together in healthcare. Healthcare professionals should actively engage in research and apply EBP into practice in order to improve their professional standards. However, it is not evident how different healthcare professionals in Sri Lanka apply EBP into practice. The purpose of this study was to assess knowledge and practice on research and EBP among healthcare professionals in Sri Lanka.

Methodology: A descriptive cross-sectional quantitative survey study was conducted through a researcher-developed online questionnaire. The survey questionnaire was sent to gate keepers to distribute among healthcare professionals and received 111 responses from different healthcare professions. Analytical and descriptive statistics were used for analysis and dissemination of results.

Results and Discussion: Majority of respondents (73%) had studied at least up to Bachelor's level or above. Although 90.1% of them were taught research during their academic period, only 70.3% had conducted a research, while only 37.8% among them had published their research. Knowledge on research methodologies was evidently limited as only 9% of the respondents had scored above 50% for the knowledge component. Knowledge on EBP was also limited as only 32.4% had scored above 50% for the knowledge component. Although 91.6% accepted that implementation of EBP is important to their profession, only 18% of the respondents had regularly applied EBP into practice while 9% had never applied. Only 20.7% were very confident that they can assess the quality of research evidence. However, only 4.5% of the respondents who regularly applied EBP, were very confident on quality assessment. ANOVA test showed that there was no statistically significant difference between profession and the research knowledge ($p=0.104>0.05$), profession and EBP knowledge ($p=0.195>0.05$), and work experience and applying EBP into practice ($p=0.482>0.05$). Vast majority of respondents (97.3%) extended their interest to learn research and EBP, preferably through workshops (64%).

Conclusion: It was evident that the majority of healthcare professionals were lacking research and EBP knowledge regardless of their field of practice. Furthermore, applying EBP into practice was not up to a satisfactory level. Therefore, healthcare professional bodies in Sri Lanka should implement strategies to promote research and apply EBP into practice. Further research should be conducted to identify the barriers to engage in research and apply EBP into healthcare practice in Sri Lanka.

Key Words: *Research, EBP, Healthcare Professionals, Knowledge, Practice.*

Study Habits among Nursing Students in Private Sector Nursing Schools in Sri Lanka

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Introduction: Teaching and learning environments have shifted from traditional learning environments to new learning environments. As a result of learning methods, strategies and study habits, those have changed overtime. Nursing education is also being changed continuously to meet future challenges in relation to the rapidly changing healthcare delivery system and modern technology used in nursing education.

Methodology: A descriptive, quantitative study was conducted to investigate the study habits among the students in the private sector Nursing Schools of Sri Lanka. A survey questionnaire was completed by 131 2nd and 3rd year nursing students from five private Nursing Schools in Sri Lanka.

Results and Discussion: The results revealed that 63.3% of the students studied 5–10 hours per week while 6% of students studied only if there was homework. Among the participants, 87.3% used tablets or smartphones and most of the participants (84%) used tablets or smartphones for entertainment and personal reasons. According to Independent Sample t-test, there was a statistically significant difference between 2nd year and 3rd year students [$t(144) = -3.527$, $p=0.01$], on the use of desktops/laptops, [$t(115) = -3.068$, $p=0.000$], on accessing internet, e- library [$t(125) = 2.555$, $p=0.012$] and on using tablets or smartphones for academic reasons.

Conclusion: According to the results, it is recommended that the attention must be paid to develop students' study habits throughout the study programs in Nursing. Re-designing of curricular of private sector nursing programs is also needed to enhance study habits and effective use of modern technology such as internet and e-libraries among the nursing students to facilitate their studies. Re-designing of curricular of private sector nursing programs are also needed to enhance study habits and effective use of modern technology such as internet and e-libraries among the Nursing students to facilitate their studies.

Key Words: *Nursing Students, Study Habits, Modern Technology.*

Tabs vs Books: A Study on Acceptance of New Technology among Student Nurses, Sri Lanka – 2018

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Introduction: One of the most important skills which healthcare professionals in Sri Lanka lack is the use of Information Communication Technology and grasping of current technology has been quite challenging. One way of overcoming this issue would be to familiarize oneself with basic devices such as smartphones, tablets and computers. Using tablets for learning has shown to be effective in achieving this. However, as a country catching up with the pace of the world, it is necessary to assess the healthcare professionals' acceptance of new technology prior to implement it. Hence, this study was done to assess the satisfaction of nurses following a Bachelor's Degree in Nursing (BN) on using Tablets for the course instead of books.

Methodology: A descriptive cross-sectional Quantitative study was done using a purposive sampling technique. As the sample, BN first-year students who were working in hospitals at the time were selected. A Computer-Assisted Personal Interviewing (CAPI) technique was used to collect data from 135 working nurses and analysed using Microsoft Excel and SPSS.

Results and Discussion: From the participants, the highest percentage was under 30 years old nurses (73.3%, n=99), only 9% (n=8) were male nurses. Out of all, 85.1% had the experience of using a smartphone for more than 2 years. It was found that there is no significant difference between age and the years of using smartphones according to the Pearson Chi square test ($p=0.147$). Most of them have used a tab for less than 2 years (average 68.1%). It could be seen that there is a significant difference between age and the preferred method for future (tabs/books) ($p=0.045$). Similarly, 94.9% believed that books alone would not help them grow professionally. Finally, 88.8% of them confirmed that they would be satisfied in using a Tablet instead of Books.

Conclusion: The nurses have been using smartphones regardless of their age differences. However, the preferred method for future use has changed significantly with the age where mostly the younger nurses preferred tabs than senior nurses. In conclusion majority of the nurses were satisfied with the use of tablets rather than books and believed that it would help further in professional growth.

Key Words: *Information Communication Technology, Books, Tablets, Satisfaction, New Technology, Education.*

4th Industrial Revolution and Healthcare

The past industrial revolutions enabled humankind to progress significantly through mass production and digital capabilities. However, the fourth industrial revolution sets itself quite apart from its predecessors. This latest revolution brings about a range of advanced technologies which brings together physical, biological and digital worlds. The impact is felt in all disciplines, economies and industries. This revolution brought about means of globally connecting billions through digital networks, increasing efficiency and effective asset management that is also environmentally conscious.

Focusing on healthcare, the revolutions in biology and computer science have significant effects on the healthcare industry globally. Some of the changes already implemented include advanced monitoring systems and technology that allows early diagnosis, development of precision treatment plans and subsequently reduce cost of healthcare. Healthcare will be revolutionized through new technology that will increase speed of healthcare, enable effective management of chronic illnesses through personalized medicine and be data driven in the future.

Additionally, data analytics will enable more focused medical research, for example, fuel genomic studies which will allow predictive and personalized medicine to take center stage. The real-world examples of these trends are increasing. Early in November of 2015, an experimental treatment that uses “molecular scissors” to edit genes and create designer immune cells programmed to kill drug-resistant leukaemia was used at Great Ormond Street Hospital in the UK. The treatment, previously only tested in the laboratory, was used in one-year-old, Layla Richards who had relapsed acute lymphoblastic leukaemia. She is now cancer free and doing well.

Similarly, connectivity will impact profoundly on healthcare and some of the groundbreaking ventures include remote, robotic surgery and will help decrease healthcare inequality. Costs will be contained because waste will be eliminated and only relevant treatments will be prescribed. Innovation will become the instrument to value-based healthcare. These are the promises of the fourth industrial revolution when it comes to healthcare.

**A Study on Household Cost of Chronic Kidney Disease Patients in Renal Dialysis;
Moving towards Cost Minimizing Methods**

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Introduction: This research study focuses on the chronic kidney disease patient's expenditures, the gap between current expenditure level and how much customer can afford for the medicine and the reports which have to be taken from clinics outside. The study will be performed based on customer perception and expectations.

Methodology: A descriptive cross-sectional survey was conducted through self-administrated questionnaire with dialysis patients.

Results and Discussion: Majority of the kidney patients who live in Kandy district were males and the disease were most prevalent between the age gaps of 40 – 50 years. Personal cost of kidney patient consists of the meal cost, cost for nutritional food and lost day's income. Averagely, a patient spends over Rs. 1000 to 2000 per day as personal cost. In addition to this, 85% of respondents are not getting free medicine or free test reports. Therefore, the medical expense of a patient per month was counted as Rs. 10,000 to 20,000. Other cost comprises with transportation cost and bystander cost. The need for a bystander comes with a great cost. On average, a kidney patient is paying more than Rs. 500 (sometimes more than Rs. 1000) for a bystander and at the same time they spend an equivalent amount on transportation also.

Conclusion: Estimating the household costs of patients with kidney disease in Sri Lanka is very challenging because stages of kidney diseases often go unreported on health care claims or in survey data. As per results of this study the total household cost for CKD patients is relatively high.

Key Words: *Chronic Kidney Disease, Healthcare, Household Cost.*

A Study on Out-of-pocket Expenditure on Purchasing Medicines for Chronic Diseases at Pharmacies in Colombo District, Sri Lanka

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Introduction: Out-of-pocket spending on health represents the direct expenses of households, including payments made to health practitioners and suppliers of pharmaceuticals, therapeutic appliances, and other goods and services. The objective of the research is to assess the out-of-pocket expenditure for purchasing medicines related to chronic diseases and the factors contributing to such expenditure being incurred by the patients at pharmacies in Colombo District.

Methodology: Data were gathered using structured questionnaire. The sample comprised of 196 male and female patients or their supporters who visited pharmacies in Colombo District. The data analysis carried out using SPSS 16.0.

Results and Discussion: Out of the participants, 24% of patients who received the prescription from government hospitals had to incur expenses out of the pocket as they had to visit private or SPC pharmacies to obtain medicines. 19% of the respondents were suffering from diseases for more than 7 years. Thus, their out-of-pocket expenses were also high due to long lasting diseases. 80% of respondents visited only private institutes or both private and public institutes, so they were incurring medical expenses regularly. Out of them, only 35% had a full insurance coverage for medical and health-related expenses, 21% had selected private hospitals due its less time-consuming nature. 52% spent up to Rs. 1,000.00 for practitioners' fee and medicines while 100% of the respondents spent up to Rs. 5,000.00 for transport cost. 85% of people have not incurred cost for surgeries and hospitalisation during last 3 months. However, 14% have spent more than Rs. 10,000.00 for surgery and hospitalisation which is the highest out-of-pocket expenses reported. Only 34% of the respondents had a medical insurance coverage. Diseases pattern, the cost of medicine, insurance coverage and the income level have shown a relationship ($P < 0.05$) while medicine received and the prescribing pattern have not shown any relationship ($P > 0.05$) with the out-of-pocket expenses.

Conclusion: According to the analysis out-of-pocket expenses, factors affecting such expenses have significant relationships except for prescription pattern.

Key Words: *Out-of-pocket Expenditure, Purchasing Medicines, Chronic Diseases.*

PLENARY – OP24

DR. V. BHARDWAJ AND DR. B. BHATNAGAR

Imaging using USG for Supporting in Musculoskeletal and Postural Control for Increasing Performance Mobility program

This study examined the effects of USG Imaging for supporting in musculoskeletal and postural control for increasing performance mobility among athletes. A good musculoskeletal and postural control is the key to better mobility and optimal performance. Core muscles including pelvic floor muscles, transversus abdominis, multifidus, internal and external obliques, rectus abdominis, erector spinae (Sacrospinalis) especially the longissimus thoracis and the diaphragm. Inadequate activation and contraction of these muscles due to poor prolong immobilization or deconditioned state, can affect the mobility and lead to poor performance. A group of 20 subjects were selected and divided equally in to two groups, an experimental and control group, with an inclusion criterion of immobilization or rest of more than 6 weeks due to low back pain. There range of motion of lumbar spine measured before intervention in both the groups. 10- meter walk test and multidirectional reach test were conducted pre and post treatment sessions. The experimental group went through the USG imaging to visualize the contraction and to measure the muscle girth while the control group was treated with same intervention except the USG imaging. There was significant increase in range of motion of lumbar spine and better readings of 10-meter walk test and multidirectional reach test among the experimental group.

Clinical Outcomes following Conservative Management with Retro Walking for the Patients with Grade II Knee Osteoarthritis:A Case Series

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Introduction: Retro walking is a developing concept for the treatment of various disorders. It is not only used for the treatment of musculoskeletal disorders but also used for the treatment of various neurological disorders. The effect and applicability of retro walking as an adjunct to the conventional treatment protocols is explored by various researchers. In this study it is tried to explore the effect of retro walking in the patients with Grade II primary knee osteoarthritis. Primary objective is to determine the effect of retro walking on pain and activity function among individuals suffering from Grade II OA.

Methodology: The study was done as a case series. Five patients were selected for the study that was diagnosed as Grade II primary knee osteoarthritis. Patients were selected according to an inclusion and exclusion criteria. General musculoskeletal assessment was done for all the patients prior to the procedure. Pain (NPRS), WOMAC index, ROM was taken as baseline measurements. All the patients were treated by conventional physiotherapy treatments which were followed by 10 minutes of retro walking for four consecutive days. On the fourth day again the Pain (NPRS), WOMAC index and ROM was taken and compared with the previous measurements.

Outcome measures

- Range of motion (Passive, Active)
- Numeric pain rating score (NPRS)
- Western Ontario and McMaster Universities Osteoarthritis Index (WOMAC)

Results and Discussion: Results were obtained by comparing the pre and post data of pain (NPRS), WOMAC and ROM.

Conclusion: On the basis of the results obtained on the case series, it is found that retro walking is effective in treating the patient with chronic osteoarthritis of knee.

Key Words: *Retro walking, Knee osteoarthritis, Primary OA*

Association between Health-Related Quality of Life (HRQoL) and Socio Demographic Data in Patients with Chronic Obstructive Pulmonary Disease (COPD)

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Introduction: Chronic Obstructive Pulmonary Disease (COPD) is one of the most common chronic respiratory diseases where Sri Lanka has shown a significant amount of mortality and morbidity rate. Since curing is still impossible for most of the COPD patients, the primary goal of patient care is to improve Health Related Quality of Life (HRQoL). The aim of this study was to explore the status of HRQoL regarded to its main three domains and to discover the associations between those 4 components and the sociodemographic factors in patients with Chronic Obstructive Pulmonary Disease (COPD).

Methodology: A descriptive cross-sectional study was conducted with COPD patients, using a systematic sampling method, conducted at the Chronic Obstructive Pulmonary Disease (COPD) clinic in the National Hospital for Respiratory Diseases. Data were gathered using an interviewer-administered questionnaire and the study was analyzed using SPSS version 23.

Results and Discussion: A total of 77 patients (mean age 59.39 ± 7.28 , 90.1% males) were studied. The study showed that the smoking duration was found to be the significant predictor for the impact component of HRQoL ($R^2=0.440$, $p=0.046$) and gender found to be the significant predictor for the score of symptom component ($R^2=0.472$, $p=0.048$) of the Chronic Obstructive Pulmonary Disease (COPD) patients of the current study.

Conclusion: The smoking duration to the impact component of HRQoL and gender to the score of symptom component were found to be the significant predictors in Chronic Obstructive Pulmonary Disease (COPD) patients in the current study.

Key Words: *Health Related Quality of Life, HRQoL, Chronic Obstructive Pulmonary Disease, COPD, Impacts, Symptoms.*

A Systematic Review on the Prevalence and Associated Factors of Lower Back Pain among Physiotherapy Students

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Introduction: Physiotherapy is a physically demanding profession which makes students in their training period vulnerable to musculoskeletal injuries such as lower back pain (LBP). The aim of this study to understand the prevalence of lower back pain among students studying Physiotherapy as a future profession with their scope of study ranging from undergraduate to doctorates in Physiotherapy through the revision of accredited literature.

Methodology: A systematic electronic search for survey articles published in Google Scholar, BMC Musculoskeletal Disorders, ResearchGate, NCBI – National Centre for Biotechnology Information, and U.S. National Library of Medicine from the years 2003 onwards was conducted. All research was then subjected to JBI Checklist for Analytical Cross Sectional Studies and Mixed Methods Appraisal Tool -2011 Version.

Results and Discussion: Throughout the 6 studies, 971 Physiotherapy students participated to note the prevalence of LBP. All research had a response rate of above 70. A larger number of fourth-year students experienced LBP compared to first years. The average age of students suffering from LBP ranged from 21-25 years and the average age of onset was noted to be 16-19 years. It was remarked that individuals in this age are prone to rapid growth and improper body mechanics and this period of time made them prone to musculoskeletal injuries and that Physiotherapy students were 2.55% more likely to experience LBP.

Conclusion: LBP was increasingly prevalent among Physiotherapy students, increasing with the progressive duration of their course. Academic factors were the main factors in the development as a causative agent and proper preventative techniques should be taken to prevent further increment.

Key Words: *Lower Back Pain, Back Pain, Physiotherapy, Physiotherapy Students, Prevalence.*

Conservative Concepts in Restoring Scapular Dyskinesia

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Introduction: The shoulder is the greatest movable joint in the human body. Its anatomical design allows a wide range of motion in all directions. This leads to an insubstantial balance between stability and mobility. Conservative treatments are suggested by a number of authors for restoring the scapular dyskinesia; however, this condition can be overlapped by various other clinical findings. Therefore, comprehensive analysis of individual biomechanical rationale is central to designing the ideal rehabilitation regimen to overcome scapular dyskinesia by restoring the scapular-thoracic rhythm, which also prevents associated problems.

Methodology: After gained written consent, a systemic approach was carried out through the patients' medical history and comprehensive physical examination to identify the scapular dyskinesia subject from each classified pattern for a case series.

Results and Discussion: The rehabilitation of scapula dyskinesia must follow comprehensive clinical evaluation based on the individual's perspective for achieving better outcomes. Therefore, we applied the standard scapular rehabilitation algorithm therapeutic interventions to our three types of scapular dyskinesia patients as per their clinical evaluation. Approximately, after 6-8 weeks follow up, all subjects felt less pain and suffering in their day-to-day activities and also VAS and DASH measuring tools had improved significantly on their pain and functional capabilities respectively.

Conclusion: This manuscript presents a brief case series of three patients with shoulder pain due to common musculoskeletal alteration of complex shoulder anatomy and biomechanics leading to pathomechanics and clinical characteristics of the scapular dyskinesia and explain how to perform a precise musculoskeletal examination and to focus the applicable conservative interventions that can be easily incorporated into the scope of physiotherapy practice to gain successful outcomes linked to scapular dyskinesia and shoulder pain.

Key Words: *Scapular Dyskinesia, Conservative Approach, Scapular Algorithm.*

Perception on Musculoskeletal Injuries among Adolescent Cricketers in Kandy District, Sri Lanka

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Introduction: Cricket is one of the most popular played sports in Sri Lanka. The cricket infrastructure in most countries are still developing, therefore, injury surveillance is essential for identifying the potential injury risk factors in order to develop a mechanism for effective injury prevention. The objectives of the study were to understand adolescent cricketers' perception on musculoskeletal injuries and how the adolescent cricketers cope up with their musculoskeletal injuries.

Methodology: Qualitative, one-to-one in-depth interview was carried out using a purposive sampling in 7 schools in Kandy District, Sri Lanka until data saturation point reached (n=15). Data was analyzed thematically.

Results and Discussion: The results portrayed that most cricketers have experienced musculoskeletal injuries. Majority of the participants believed that the injuries have a direct impact to them both physically and mentally. However, they were not willing to stop playing cricket although they are more prone to injuries. Majority of the players believed that the injuries affect their performance. Majority of adolescent cricketers used basic injury prevention methods during practice. Majority of the adolescent cricketers preferred physiotherapy for injuries while some preferred indigenous medicine. Majority of adolescent cricketers expected faster recovery to return to play when they got injuries.

Conclusion: Adolescent cricketers believed that musculoskeletal injuries have a direct impact in reducing their performance. Although injuries could affect both physically and mentally, adolescent cricketers did not want to stop playing cricket. Since they were more prone to injuries, majority of them preferred physiotherapy in order to gain faster recovery and return to play.

Key Words- *Musculoskeletal Injury, Adolescent Cricketers, Perception, Performance.*

Case Study on the Incidence of Most Commonly Sustained Injuries, Impairments and Deficiencies in Competitive High-School Rugby - A Pilot Study

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Introduction: Rugby is a high-intensity contact sport which is very popular among high-school students. Rugby injuries are defined as injuries sustained as a result of participation in this sport. The incidence of rugby-related injuries is rather high and an understanding of the types and kinds of injuries is required along with identifying proper treatment protocols and recovery techniques. The purpose of this study is to study the incidence of the most commonly sustained injuries, impairments and deficiencies in competitive high-school rugby.

Methodology: Athlete Screening Questionnaire and Assessment Tool was used on 58 high-school rugby players that were chosen by convenience sampling method, before the start of and throughout the competition season.

Results and Discussion: 58 players that took part in competitive high-school rugby were chosen, out of which 49% of the players sustained injuries over a period of 6 months. From this population, 26% sustained moderate injuries, while 27% sustained previous or mild injuries, 24% had severe injuries and 22% could not continue to play as a result of their injuries. Pre-match and post-match screenings were done for players for 6 matches during the span of 8 months. Findings from the pre-match screenings showed an incidence of 18% of ankle injuries, 35% of knee injuries, 18% of other leg related injuries, 9% of hand and groin injuries each, and 11% injuries to and around the shoulder joint. Post-match screening showed an increase in injuries by 15% with the most significant increases being in the shoulder joint, with an increase of 40%, an increase of 20% each in the knee and ankle, and a 6% increase each in the hand and leg.

Conclusion: There is a significant increase in injuries as a result of playing rugby with the most common injury being of and around the shoulder joint. Further studying and analysing of data is recommended to identify treatment regimes and prevention and recovery strategies.

Key Words: *High-School, Incidence, Injury, Rugby, Sports.*

PLENARY – OP31

DR. NIHAL DE SILVA

The Opioid Crisis

In the history of the world and of mankind we have had many health-related epidemics. They were caused by “germs” of which we had no knowledge at the time of these epidemics. These epidemics caused death by the millions till treatments were found and today many of these illnesses are eradicated or well under control. Partly due to these advances, today’s human population has reached a record 7.5 billion today – a number that is a good “market” for the spread of an epidemic.

While “germ” related epidemics are not now in the forefront, instead we have an epidemic of a bigger scale brought on by humans themselves. Instead of being in pockets of populations this modern epidemic is common to all populations irrespective of wealth, social class, education level, religion, race or culture. In numbers, it surpasses death and disability from war, traffic accidents, guns and natural disasters combined.

This is the modern day (street) drug epidemic or the “opioid epidemic” as they call it in the USA. It is insidious in onset, pervasive, under direction from powerful people and leaves a trail of destruction behind it at a personal, family, employment, social and cultural level.

The medical aspect of it is addiction. Addiction is controllable or even curable and research is promising. However, awareness programs, prevention, less criminalization and stigmatization, pharmacological treatment, behavioral management and guidance, rehabilitation and employment all play a role. A quick fix is not in sight and it is quite possible that you know someone who is affected.

Identification of Accessibility Gaps for Wheelchair-Bound Passengers using Railway as a Mode of Transportation from Colombo to Gampaha Railway Stations, Sri Lanka - 2018

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Introduction: Railway is one of the major transportation methods which is being used for number of decades. However, it is not evident that how far disabled people can use railway as their main transport mode. It is identified that the disabled people use railway transport minimally when compared to other modes. Therefore, it is important to identify the reasons behind that and implement strategies to overcome the identified barriers. The purpose of the study was to find out the accessibility gaps for wheelchair-bound passengers in railway transport and to find solutions for the same.

Methodology: This was an observational study carried out in 15 stations from Colombo to Gampaha and mini interviews were carried out with passengers. Accessibility gaps were identified during observation and mini interview stages.

Results and Discussion: Out of all the 5 major types of trains, only two types were accessible for wheelchair-bound passengers. Out of all the 15 stations, only Ganemulla and Bulugahagoda stations were accessible. Even though Maradana and Fort stations were identified as major stations, they lacked wheelchair access to most of the platforms and the platform height varied irrespective of the new constructions. Platform heights varied from 60cm (2nd platform, Horape) minimum to 220cm (2nd platform, Kelaniya) maximum. The standard wheelchair width is 23.5 inches and minimal doorway width should be 32 inches. However, according to the trains selected, S10 and S11, the doorway widths were only 22.5 inches and 23 inches respectively.

Conclusion: It was revealed that railway is not an accessible transportation mode for wheelchair-bound passengers. Hence, introducing modified train compartments is highly necessary in accordance with standard wheelchair measurements.

Key Words: *Disabled, Accessibility Gap, Train, Railway, Wheelchair.*

Exploring the Socio-Economic Factors of Garbage Collectors in Gampaha District, Sri Lanka

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Introduction: Waste collection workers are exposed to several occupational stressors which may affect their quality of life. Garbage collectors pick up the trash and take it away from towns and cities to more remote waste-management facilities. Throughout the working time, garbage collectors are exposed to certain types of stressors. The aim of this study was to explore the socio-economic issues on Garbage collectors in Gampaha District, Sri Lanka.

Methodology: A qualitative study was done on 20 garbage collectors until the point of saturation was reached, in Gampaha District, Sri Lanka, using convenience sampling through one-to-one, in-depth interview. Data analysis was conducted using thematic analysis and data were disseminated thematically. As this research addresses one of the most sensitive areas in the society, this methodology would make sure that the privacy of the participants is maintained.

Results and Methodology: Majority of the participants belong to the age group of 41-50 years and male participants. Most of garbage collectors studied up to grade 8 while minority studied up to Ordinary Level. Majority of participants stated that they work up to 12 hours per day and have more than 15 years of experience in their fields. Among the total candidates, most of them do not engage much in leisure activities. Most subjects stated that they are satisfied about their salary and also their families are more supportive and happy about the job. Majority mentioned that they are facing social discrimination while working. They didn't receive respect from the society but they chose this job due to the privileges they get later in the life, like pension, over time and as it was difficult for them to get another job with their qualifications. Majority accepted that their families are happy about what they do, from their expression it was proved wrong since some of them said at last that the money earned is not enough for a month's expenditure.

Conclusion: According to the study, being a garbage collector is not the last option but they chose this job due to the privileges they get later while they have many social problems. It is suggested that they get a higher salary because if these people are not doing their job properly, a beautiful world won't sustain.

Key Words: *Economic, Garbage Collectors, Social Problems.*

Beggar's Impact on Sociological Development in Colombo District, Sri Lanka

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Introduction: During the past decade, the beggar population in Sri Lanka has been increasing at a rate of nearly 1,000 a year in Colombo area. Beggars seem to have a negative impact to the country and the tourism industry; increasing the poverty of the country and increasing the rate of drug abusers in Sri Lanka. Hence, assessing their impact on sociological development in Colombo District is very important. Aim of this study was to assess the beggars' impact on sociological development in Colombo District, Sri Lanka.

Methodology: A qualitative study was done on beggars, until the point of saturation was achieved at 13 participants, in Colombo District using convenience sampling through one-to-one interview with the participants. Data analysis was done using thematic analysis.

Results and Discussion: Majority of the beggars had at least a minor amount of literacy due to lack of enrolment or bunking school. The vast majority had been begging for at least more than three years. Moreover, most of the beggars were unaware of the health issues they have. Certain respondents, however, were diagnosed as having phlegm, asthma, hyperlipidemia, hypertension and vision problems. Majority of participants refused to take free government health services. Major amount of the participated beggars earned an income ranging from Rs. 100 to Rs. 2000 per day. Furthermore, most of the respondents stated that public perception towards begging is negative.

Conclusion: Actual beggars who cannot work and has no care should be identified and directed appropriately to reduce the negative impacts on the sociological development in Sri Lanka.

Key Words: *Beggars, Sociological Development.*

Life Style of Slum Dwellers in Kelaniya, Sri Lanka

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Introduction: A slum is an overcrowded urban street or district consisting mostly of closely packed, dilapidated housing units in a situation of worsen infrastructure, inhabited primarily by impoverished people. Experience of Sri Lankans in slums is discussable and it is one of current topics of national policy planners. According to the Ministry of Urban Development, there are 25000 slums in Sri Lanka. Slums are differ in size and people who are living in slums are facing many problems such as lack of sanitation services, lack of clean water, reliable electricity, law enforcement and other basic services. General objective of this study was to explore the life style of slum dwellers and specific objectives were to explore socio-economic status and to explore problems faced by slum dwellers in Kelaniya-Sri Lanka.

Methodology: This was a one-to-one, in-depth interview-based qualitative study design and the study population in this research was the urban slum dwellers from 18-65 years in Kelaniya in Colombo District. The research was based on sample until a saturation point comes, 14 people were interviewed and data were analyzed by using thematic analysis.

Results and Discussion: Four major themes were identified; Economic status, Health and Sanitary, Infrastructure, and Natural Disasters. Secondary education was the highest education that most of them had achieved. Sanitary facilities and infrastructure were at a very low standard have made them to face communicable diseases frequently. Frequent floods were also noticed in the area.

Conclusion: While exploring the life style of slum dwellers, this study has found four major issues such as low income, low education qualifications, low standard sanitary, low infrastructure facilities. Frequent flooding in the area should be addressed by the authorities immediately.

Key Words: *Life style, Slum Dwellers.*

Exploring the Psychosocial and Physical Wellbeing of the Policemen in Western Province, Sri Lanka

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Introduction: Police is a force that is responsible for preventing and detecting the crimes and the maintenance of the public order of the civil in the state. They work under extremely stressful environments which may lead to negative impacts on their mental and physical health and social wellbeing. The purpose of this study was to explore the psychosocial and physical wellbeing of the policemen in Western Province, Sri Lanka.

Methodology: A qualitative research was conducted using one-to-one in-depth interview implemented on community-based policemen until the point of saturation is reached at a number of 13 participants. Results were analyzed and disseminated thematically.

Results and Discussion: Majority of the participants stated that they sought employment as a policeman since it was the best occupation available, although currently some of them regret about it. Most are away from their families and homes; however, a greater part of the families cope well in their absence. Nearly all participants had plans after their retirement. Generally, the police force receives an immense respect from the society. Many of the participants suffer from occupational health issues, predominantly mental health issues. Nevertheless, few participants stated concerns regarding physical health while accepting to be negligent regarding their physical and mental wellbeing.

Conclusion: Policemen receive a substantial amount of social acceptance and social respect. Duties of the police cause both physical and mental stress upon the officers. A very few of the policemen have gone through significant incidents which still cause them difficulties.

Key Words: *Psychosocial, Policemen, Physical Wellbeing.*

Investigation on Socioeconomic Status of Construction Workers in Gampaha District - Sri Lanka

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Introduction: The construction industry is one of the most hazardous work environments and the workers of a construction company are generally dispersed on different projects and fronts, and are rotated continuously. One of the greatest labor forces and strengths lie in construction workers, as a large proportion of the country's population falls under the category of manual laborers in construction sites. General objective of this study was to investigate socioeconomic status of construction workers and explore their life style. Specific objectives were to understand their daily routine, to explore their mental, physical and emotional wellbeing, to understand the availability of expendable income, to understand the basic routine with regards to their family and to understand society's outlook of their occupation from their point of view.

Methodology: This was a one-to-one, in-depth interview-based and focused group discussion based qualitative study design and the study population was the construction workers from 18 to 65 years who are working in Gampaha District in Sri Lanka. The research was based on sample until the saturation point was reached, 20 people were interviewed and data were analyzed using thematic analysis.

Results and Discussion: Majority of the workers stated that the job experience was of satisfactory standards and worked for 8 hours a day, they received money for extra hours. Most of workers have approached this occupation in their early 20's. In addition, the workers have not faced large scale injuries but small-scale injuries. They stated that site is giving all medical needs to any injury. Only a few workers stated that they have experience with psychological disturbances. Workers do not participate in extracurricular activities during work days. Workers took a periodic leave of 3-6 days every month. The construction workers were satisfied with the salary received and were able to support their families.

Conclusion: The daily routine of a worker was well understood and when considering the wellbeing, no complaints were received about the physical injuries due to the adherence of health and safety standards. They were financially balanced and could afford to spend for their family.

Key Words: *Socioeconomic Status, Construction Workers.*

Effects of Sociological Factors Affecting Hospital Sanitary Staff of Gampaha District, Sri Lanka

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Introduction: Hospital sanitary staff members are a group of people who clean the hospital environment to ensure the cleanliness and safety. Society does not have a positive view regarding them due to their job role. The aim of this study was to look in to social wellbeing of Hospital sanitary workers in the society and also in the hospitals in Gampaha district.

Methodology: This was a one-to-one, in-depth interview-based and focused group discussion based qualitative study design and the study population was the sanitary staff members in Gampaha district in Sri Lanka. The research was based on sample until a saturation point comes, 20 people were interviewed and data were analyzed by using thematic analysis.

Results and Discussion: Almost all the participants have stated that the salary they get is not enough for their expenses. All the participants have not a proper education. Majority have stated that they get a good supervision from their supervisors. Majority of the staff members have stated that they are already treated well from the staff members and there were also very few members who think that they should get more support from the staff members. All the sanitary members have stated that they have a good job satisfaction. None of these participants have stated that they are getting an insurance from the hospital and all have stated that they are getting a bonus only for the New Year season only.

Conclusion: Hospital sanitary staff members should provide with better salary increments and they also should be treated well in the society. A proper training should be given from the hospital regarding the waste management in the hospital setting.

Key Words: *Sanitary Workers, Hospital, Social Status, Sociological Factors.*

Intimate Partner Violence and Help Seeking Behaviour in Culturally Diverse Communities: A Systematic Review

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Introduction: Intimate Partner Violence (IPV) is prevalent across all cultures and it is essential to understand how to reduce and prevent the violence. It is essential to examine culturally intrinsic ways of prevention and intervention to address IPV and encourage women from ethnic minority groups to seek assistance.

Methodology: A systematic review of 17 peer-reviewed journal articles with 40,904 participants was conducted. A range of databases was searched for articles published between 1988-2016 that met the inclusion criteria. All articles were required to make cross cultural comparisons of IPV and help seeking behaviour.

Results and Discussion: This review found some differences in the procurement of support across cultural groups. While Caucasian women were more likely to seek assistance from formal services such as mental health and social services, Latina/Hispanic and African-American women were more likely to utilize other types of formal supports such as hospital and law enforcement services. The findings regarding utilization of informal support systems showed mixed results.

Conclusion: Overall, the findings of this systematic review suggest that women from culturally diverse minority backgrounds should be educated and encouraged to access support before and after experiencing IPV. Further, potential barriers to help-seeking need to be identified and addressed across women from all cultures.

Key Words: *Help-Seeking, Intimate Partner Violence, Women, Culture, Ethnicity.*

The Study on Socio-Economic Impact on Families and Patients Staying for a Prolonged Period for Neurosurgical Treatment and Care

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Introduction: Patients undergoing neurosurgeries are routinely assessed preoperatively, yet the economic and social impacts are poorly studied. This study aims to identify the socio-economic impact on the families, caregivers and patients who stayed hospitalized for a prolonged period in a neurosurgical ward in National Hospital of Sri Lanka.

Methodology: A quantitative study using descriptive cross-sectional design. The study intended to collect data from 200 individuals using an interviewer-administered questionnaire including socio-economic data and social and economic impact to family. Data analysis was done using SPSS software.

Results and Discussion: In this study, response rate is 93.5% and a higher percentage of 61% of the patients have stayed for more than a month in the neurosurgical ward. This was mainly due to unavailability of surgical theatres (42.78%) and complications of the surgery (34.75%). Both cerebral and spinal areas have been affected in most of the patients (32.6%). Higher level of expenditure (n=123, 66%) and no financial support (105, 56%) were two major concerns. Most affected domains were disruption of family leisure activities (86%), interruption of family activities (72%), and disruption of family interaction (60%). Expenditure (75%) and effect on health status (87%) were the most affected domain for the care givers. However, most (70%) reported positive attitudes towards the caregiver task. Study revealed significant association between age of the patient and the effect of income of the family or the patient ($p=0.04$) and significant association between the interruptions of family routines ($p=0.001$). Moreover, hospital stay and effect on expenditure found to be significant ($p=0.001$). Similarly, Family type and the effect on psychological wellbeing of the others were found significant ($p=0.001$). Further, family caregiver who lives with the same house and the caregiver task/reason are found to be significant ($p=0.001$).

Conclusion: Policy makers and administrators should be critically considered Socio- Economic impact of hospitalized patient. Strengthening & equal distribution of neurosurgical facilities, starting proper palliative care service, enhancing community nursing care & implanting insurance facilities those who are need can be taken are recommended.

Key Words: *Prolong Hospital Stay, Socio-Economic Impact, Neurosurgery, Treatment and Care.*

Socioeconomic and Healthcare Issues Faced by Sex Workers in Colombo, Sri Lanka

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Introduction: In any industry, the workers face socioeconomic and healthcare issues. Although sex working is illegal and neglected occupation in Sri Lanka, the individuals employed in it face number of socioeconomic and health issues. The purpose of the study was to explore the socioeconomic and health issues faced by female sex workers in Colombo.

Methodology: A qualitative, cross-sectional study was conducted on 8 female sex workers selected using the snowball sampling method in Colombo. Data was analyzed and disseminated thematically.

Results and Discussion: The participants ranged from 20-60 years of age. Only the female gender was selected due to the insufficiency in male sex workers. It was shown that majority of participants had failed marriages and had engaged in this industry as a quick source of income. Majority of participants had one or more dependents. Majority of participants stated that their daily income insufficient since they have many dependents. All participants agreed that the sex working proved to have a negative impact on the society. Majority of women were drug addicted and it had become a part of their daily routine. Although majority was from low social and educational background, they were aware of the sexually transmitted diseases (STD).

Conclusion: Source of easy income was one of the key reasons for sex workers to keep on engage in their occupation. The number of dependents had a direct impact on their income and expenditure and it was noted that they were not economically stable. Although they were from low social, economic and educational background, they were aware of the STD. Further studies should be conducted to gain in- depth understanding of sex workers and their impact to the society.

Key Words: *Sex Workers, Health Issues, Socioeconomic.*

Assessing the Lifestyle of Porters in Pettah, Colombo District, Sri Lanka

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Introduction: A porter, also called a bearer, is a person who carries cargoes or luggage for others. The range of services conducted by porters is extensive, from shuttling luggage aboard a train to bearing heavy burdens at altitude in inclement weather on multi-month mountaineering expeditions. Objective of the research was to assess the lifestyle of porters in Colombo District.

Methodology: A qualitative one-to-one in-depth interview method was used to conduct the study using convenient sampling. The data saturation point was reached at 15 participants. Data analysis was conducted using thematic analysis and data was disseminated thematically.

Results and Discussion: Participants of this research included porters aged 40-65 years of age and all were males. Majority of them had schooled up to 4th grade and had stopped schooling. Mostly porters' health status and socio-economic status were low since even if they earn money by doing heavy work all day long, they spent all of money for their families and most of them admitted that they use alcohol. Majority of them strongly believed that the society excludes them due to their job role.

Conclusion: The study revealed that porters' hard work and the job satisfaction were questionable since porters were not happy with their job recognition. Alcoholism was part of their daily routine and that could lead to numerous health and social complications.

Key Words: *Porters, Lifestyle, Health State, Socioeconomic State.*

Walking Types and Social Behaviours of Brisk Walkers in Colombo District, Sri Lanka: An Observational Study

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Introduction: Exercising in walking pathways is becoming a popular lifestyle pattern in Colombo District, Sri Lanka. Increasing physical activity is recommended as an effective intervention for enhancing health and quality of life. The aim of the study was to identify the patterns of walking and social behaviours associated with walking pathways.

Methodology: A prospective study was done on 195 brisk walkers in Colombo District. The participants were selected by the method of simple random sampling. Permission was obtained by the relevant authorities and videography was conducted to confirm observations whilst further observation was done on site.

Results and Discussion: Out of 195 participants, a majority of walkers proceeded to normal walking (49.2%). There were 68 participants who performed brisk walking and another 26 participants who did race walking on the walking pathways. There were only 4 participants who chose to power walk. 13 participants out of 195 were observed using their mobile phones whilst walking. According to the observations noted, it was noted that most of these participants were walking alone which constituted to 65.6% out of the total sample population. 48 people were observed walking in pairs. 5 groups were found in groups of 4 and one group including 3 members. 1 participant was observed executing stroller walking.

Conclusions: Walking in the walking pathways as a form of exercise is more common in urban areas at present. Further research should be carried out to find out whether the individuals perform accurate gait and are aware of the potential benefits and risks of walking.

Key Words: *Brisk Walkers, Walking Types, Walking Pathways, Social Behaviour.*

Knowledge and Practices on Infection Control among Kidney Transplant Recipients from a Selected Nephrology Unit

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Introduction: Chronic kidney disease is a major health burden and the 12th leading cause of death globally. Sri Lanka has a high incidence of chronic kidney disease. This results in a significant number of patients undergoing renal transplantation. After transplantation, recipients are advised to make changes in personal protection, especially for prevention of infections. In addition, they should be aware of early signs of an infection or rejection. Therefore, good knowledge and correct practices of infection control after kidney transplantation would ensure a longer survival time for the transplanted kidney. The purpose of this study was to assess knowledge and practices on infection control among kidney transplant recipients from a selected nephrology unit in Sri Lanka.

Methodology: A descriptive cross-sectional study was carried out. All post-renal transplant patients registered at the selected clinic were included in the study. An interviewer-administered, pretested questionnaire was used for data collection.

Results and Discussion: A total of 152 participants were included of which majority (67.1%) were males. The ages ranged from 16 -75 years (mean: 44.7, SD: ± 13.25) and 48.7% were between 46 – 60 years. Hypertension (35.5%) was the commonest cause for chronic renal disease while it was idiopathic in 25%. Signs of urinary infections were correctly named by 52.6% and 79.6% of participants were aware that fever was a sign of infection while 59.2% mentioned severe pain at the transplant site as a sign of rejection. Face masks were used by only 43.4% and this was only when they go outside of their homes while only 68.4% used soap and water for hand washing. Knowledge of infection control (52.6%) was at a satisfactory level though practices of infection control were poor (29.6%). Level of education ($p=0.043$) and sex ($p=0.016$) were significantly associated with practices of infection control.

Conclusions: The knowledge on infection control among post-renal transplant recipients was satisfactory while practices on infection control were poor. Lifestyle changes need to be instituted to improve the outcome of renal transplant.

Key Words: *Infection Control, Kidney Transplant, Infection Control*

Usefulness of Hand Sanitizers and Face Masks in Preventing Occupational Chickenpox

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Introduction: Chickenpox is a highly communicable viral disease caused by human herpes virus III, varicella zoster virus. Chickenpox is characterized by the sudden onset of slight fever, the feeling of fatigue and weakness and followed by an itchy vesicular rash, usually starting on the scalp and face, mucus membrane of the mouth and exposed parts of the body. Complications are rare but severe. The incubation period for chickenpox is usually 2 to 3 weeks. Individuals are infectious 1-2 days before they get the rash until crusting of the lesion has occurred. According to the national statistics, WER (weekly epidemiological reports) stated that 25,240 cases had been reported from January to May 2018.

Case report: The study is constrained to the premises of the International Institute of Health Sciences, Sri Lanka.

The study was carried out due to the epidemic condition of chickenpox at IIHS during the period from Aug 2018 to Oct 2018

The study involved a short investigation and analysis of the risk factors at a closed office environment through the 11 cases reported at IIHS of those exposed to the chickenpox virus.

The Common risk factors are due to airborne contact of droplets and close contact from person to person (rash, droplets or airborne spread: coughing and sneezing). This includes sharing washrooms, office rooms, lunch and tea rooms, collaborative work environment, verbal communication without the use of masks, sharing physical items, close communication during meetings, and lectures in fixed ventilation systems.

Based on the above, IIHS has taken the preventive methods such as hand sanitizers at frequent locations, recommending varicella zoster vaccine inclusive of medical infrastructure, all regularly communicable surfaces such as door handles and equipment to be cleaned, wearing of masks, awareness programs of the risks and preventive methods of chickenpox.

Hitherto, it was possible to limit the spread at 11 cases in an environment of 80 working employees only within a period of 2 months.

Key Words: *Chickenpox, Varicella Zoster Virus.*

Health Behavior and Health Status of Nursing Students in Japan

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Introduction: Primary prevention is important against lifestyle-related diseases. Lifestyle habits while young affect health situations as one grows older. Daily lifestyle habits are related to physical and mental health care practices. The purpose of this study was to describe health behaviors and health situations of nursing students in Japan.

Methodology: An anonymous survey was conducted from May to June 2018. 270 Japanese university nursing students participated. The questionnaire was composed of items within the following factors: *Basic Attributes, Lifestyle habits, Health Status, and Life situations*. Chi-square and Mann Whitney U statistical tests were used to compare the four factors, while correlation coefficients determined the relationship between health status and life situation.

Results and Discussion: 270 questionnaire copies were distributed with 193 students (71.5%) analyzed: 96.9% were between the ages of 18-22 years and 185 were women (95.9%). Lifestyle changes from alcohol consumption, nutrition and dietary habits, weight management, and social media showed the 1st and 2nd grade students had better lifestyle habits than the 3rd and 4th grade students ($p < 0.01$). The mental health situations of the 3rd and 4th grade students were bad compared with the first and second grades ($p < 0.05$). Correlation between health status and economic situation, study situation, and human relations were significant at $p < 0.01$ level. The results of the comparison by grades showed that lifestyle, health status and life situations of students were affected by the Japanese law regarding legal age for drinking, and the nursing education curriculum. The results indicated that health status and life situations obtained positive correlations thereby suggesting that support for the living environment including the university settings were also important.

Conclusion: Health behavior and health status of nursing students in Japan was better among those who were first and second grades, than the students who were third and fourth grades. Also, it was found that health status is clearly affected by life-style situations.

Key Words: *Health Behavior, Health Status, Nursing Students, Japan.*

Effectiveness of Trigger Point Dry Needling for Specific and Non-Specific Chronic Lower Back Pain

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Introduction: Chronic Lower Back Pain (LBP) has become a clinical, social and economic burden globally which demands an effective intervention. Trigger point Dry Needling (DN) technique is widely used by many Physiotherapists in day-to-day practice. The aim of demonstrating this review is to explore the effectiveness of trigger point dry needling for treating pain and disability among specific and non-specific chronic LBP patients.

Methodology: A systematic review was designed in order to reveal the answer for the proposed question. CINHALL, MEDLINE, Pedro and AMED were searched individually to gather maximum number of articles using key terms and subject headings between April to August 2018. Studies were screened according to the eligibility criteria and then filtered down to the chosen area of study. Joanna Briggs institute (JBI) appraisal checklist was used to critically appraise the included studies and the results were demonstrated in a narrative presentation.

Results and Discussion: Out of the 202 articles from the databases, 44 duplicates were removed. 151 papers were excluded as they were not suitable for the eligibility criteria. Four RCTs and three quasi-experimental studies were included in the review. Out of the 7 studies, 2 evaluated effectiveness of dry needling among specific chronic LBP and 5 investigated among non-specific chronic LBP. Two of the specific LBP studies fell under low risk of bias and they were positive towards the effectiveness. However, it cannot be confirmed that DN is effective for specific LBP due to the limited number of studies. Overall studies were analysed, and 3 low risk of bias and 4 moderate risk of bias were determined. DN combined with other treatment had greater effects in terms of reducing pain, disability, muscle function and kinesiophobia. However, there were no sham control trials to conclude that DN alone was effective. Three quasi-experimental studies had no control groups and one of them and one RCT remained neutral towards the effectiveness of DN.

Conclusion: Overall, moderate-quality evidence suggests that trigger point DN is effective in relieving pain, disability and kinesiophobia for short term. However, high-quality and long-term follow-up, rigorous studies should be performed to draw conclusions exclusively.

Key Words: *Trigger Point Dry Needling, Chronic Low Back Pain, Effectiveness*

Assessment of the Factors Affecting Pre-Operative Anxiety of Patients Undergoing Surgeries at Emergency Trauma Centre Theatres in Teaching Hospitals, Sri Lanka 2018

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Introduction: Undergoing a surgery can be an anxious life incident for many people. However, the factors affecting anxiety and level of anxiety during the per-operative stage are not much known. The main aim of the study was to identify the significant factors affecting preoperative anxiety in patients before elective surgery, using the Visual Analogue Scale for Anxiety (VAS). Specific objectives of this study were to identify factors which increase patient's anxiety level according to the gender, age, and previous experience of surgery, to recognize the most significant factor affecting preoperative anxiety and to assess the level of anxiety according to the VAS.

Methodology: Conveniently selected sample of 120 patients undergoing elective surgery were given an interviewer-administered questionnaire. Twenty-five-item questionnaire was given to clients who were scheduled for anesthesia prior to the surgery. Detailed instruction was given by researcher and informed consent was obtained. Data was analyzed using descriptive statistics.

Results and Discussion: Moderate anxiety level was reported among 73% of the subjects while 21% were reported severe anxiety. The most significant factor which caused pre-operative anxiety was pain (48%). 40% of the subjects were anxious due to family concerns while only 6% were anxious due to fear of death. Among the total female patients, 29% of them had severe anxiety while overall 95% of females and 91% males were anxious pre-operatively. The study identified that the patients prefer (51%) their family members to stay in the theater during the surgery.

Conclusion: Majority of patients were anxious during the pre-operative stage. The most common factors which caused pre-operative anxiety were pain, family concerns and fear of death. Pre-operative anxiety level can be reduced by allowing their family members to stay in the theater during the surgery.

Key Words: *Pre-operative Anxiety, Emergency and Trauma*

PP01

Awareness and Attitudes on First Aid following Road Traffic Accident (RTA) among School Students in Yapahuwa Area, Sri Lanka

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Introduction: Road Traffic Accident (RTA) is the second most considerable cause of death among 5-29 years-old people in Sri Lanka. Since school students are in the high-risk category, it is important to identify their awareness level on RTA.

Methodology: A descriptive cross-sectional quantitative survey study was conducted among conveniently selected 100 Advanced Level school students in Yapahuwa area, using a self-administered questionnaire.

Results and Discussion: Among the subjects (n=100), 61% were female students. 91% of the subjects knew what first-aid is. 30% of the subjects had received first-aid treatments but only 13.3% among them had received RTA-related first-aid treatments. It indicates that the majority of students do not have first-aid experience or training. Although their experience and training were insufficient, overall awareness level on first-aid following RTA was moderately satisfied (>50%). Students' attitudes for first-aid following RTA was highly satisfied (98%). It was identified that all participants (100%) were willing to practice first-aid following RTA when necessary. Moreover, all participants were interested to learn first-aid as a part of their school syllabus. It was identified that lack of training and knowledge among students were the key barriers to practice first-aid followed by RTA.

Conclusion: Awareness on first-aid followed by RTA was in the moderately satisfactory level among school students in Yapahuwa area. Students showed positive attitudes towards first-aid training and practice.

Key Words: *Road Traffic Accidents, Awareness, Attitudes, School Children, RTA .*

Parents' Knowledge on Medication Administration and Adverse Drug Events When Treating Children at Home in Balaummahara Suburb, Sri Lanka

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Introduction: Safe use of medicines for children is of paramount importance when it comes to safety and quality of child healthcare. In many low-income countries like Sri Lanka, much of the medicines are purchased bypassing the official healthcare system. Prescription medicines are often acquired without a prescription from local pharmacies. This situation is associated with high-risk consequences like adverse drug events. The purpose of this study is to identify the relationship between parents' knowledge level on pediatric medication administration and medication errors which lead to adverse drug events.

Methodology: A descriptive, cross-sectional study with 150 parents in the Balaummahara Suburb was done with a validated self-administered questionnaire. Data analysis was done using SPSS version 25.

Results and Discussion: Participants reported that they purchased and administered over-the-counter medication to the children out of which 68% was antipyretics, 29.3 % expectorants, and 24.7% cough medication. Apart from the doctor's instructions, the major source of medication information was instruction sheets according to 23% participants. 19% were not confident about the method of administering the medication. Another 19% was unsure about the administered dosage.

Furthermore it was evident that monthly income also had a significant relationship with their knowledge regarding ADEs ($P=0.011$). No relationship between religion and understanding of ADEs and/or medication errors was detectable ($P=0.172$).

Conclusion: Medication errors and related adverse effects were common in pediatric home care settings. Misunderstanding of correct dose and use of incorrect dosing methods could be identified as the main sources of medication errors. The problem is significant in low income families and it could be due to the education being directly affected by income.

Key Words: *Medication Administration, Adverse Drug Events.*

Knowledge and Practices in relation to Modifiable Risk Factors for Non-communicable Diseases among 18 to 70 age population in Ragama MOH Area, Sri Lanka

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Introduction: The proportion of deaths due to Non-Communicable Diseases (NCDs) has increased during the past three decades. Mortality rate from NCDs are currently 20-50% higher in Sri Lanka than in developed countries. The aim of this study was to assess the level of knowledge and practices in relation to common risk factors for major NCDs among 18-70 age population in Medical Officer of Health (MOH) area, Ragama, Sri Lanka.

Methodology: A descriptive cross-sectional study within the Ragama MOH area using two-stage random cluster method by administration of a validated self-administered questionnaire. Data was analyzed using Microsoft Excel software.

Results and Discussion: Out of 150 subjects, a higher percentage of 63% were females, 50 % were older than 50 years and 68% were married. Out of all, 61.8% were having at least one NCD and from them, diabetes mellitus (25%), hypertension (22%) and ischemic heart disease (6%) were prevalent. Almost all the participants (99%) showed good overall knowledge regarding NCDs. Majority of the participants hasn't been doing any physical activity and only 12% did moderate exercise for more than 5 days per week. In addition, only 18% consumed more than 5 spoons of cooked vegetables daily. Only 17% consumed fruits daily and 36% two to three days per week. Finally, 35% smoked daily whereas only 1% consumed alcohol daily.

Conclusion: The practices related to NCDs were below average when considering physical activities, consumption of vegetables and consumption of fruits. However, even though a significant number of people smoked, consumption of alcohol was minimal.

Key words: *Knowledge, Practices, Non-Communicable Diseases, NCDs.*

Assessment of Knowledge and Practices on Medication Adherence among Hypertensive Patients at Medical Wards in Kalutara District, Sri Lanka

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Introduction: Hypertension is a one of the major chronic disease conditions which should be managed using prescribed medication and regular clinical follow-up. The effective management of hypertension requires an individual to be knowledgeable on the medication adherence and maintained good practices. The main objective of the study was to assess the knowledge and practices regarding adherence to medications among hypertension patients in medical wards in Kalutara District.

Methodology: A descriptive cross-sectional quantitative survey was conducted on a study sample of 196 hypertensive patients using a self-administered questionnaire. Data was statistically analyzed using SPSS.

Results and Discussion: Overall knowledge on medication adherence was 69.4%. The socio-demographic characteristics of the hypertensive patients in relation to their knowledge of medication adherence were not statistically significant except for educational level ($p<0.05$) and duration of suffering from hypertension ($p=0.002$). Participants with higher academic qualifications (0.86) and who have been attending to the medical clinics more than 3 years (0.44), showed greater knowledge on medication adherence than the other categories. Overall, practices of medication adherence were poor (62.2%) and it was shown that the majority were unaware on the essentiality of anti-hypertensive medication regime.

Conclusion: Knowledge on medical adherence was poor among hypertensive patients. Patients with higher academic qualifications and who have been attending to the clinics regularly for more than 3 years, have showed better knowledge and practice compared to others. This study is a call for action to improve knowledge and practice of medication adherence. It will bring awareness to policy makers to fund more hypertension-education programs in Sri Lanka.

Key Words: *Medication Adherence, Hypertension, Anti-hypertensive Drugs.*

Assessment of Knowledge, Attitudes and Practices regarding Oral Health among Teenagers in Colombo District, Sri Lanka.

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Introduction: Oral health is important for appearance, sense of well-being and also overall health. Teenagers in Sri Lanka face many challenges regarding oral health. The objective of this study was to assess the level of oral health knowledge, attitudes and practices among teenagers in Colombo District, Sri Lanka.

Methodology: A descriptive cross-sectional quantitative study and it was conducted in 3 secondary schools in Sri Lanka, through an interviewer-administered questionnaire. A total stratified sample of 200 teenagers was included in the study. Data was analyzed using SPSS version 22 and descriptive statistics were used to describe data. The Likert scale was applied to give marks for each question. The person correlation test was performed to assess the relationship between knowledge and attitude score.

Results and Discussion: There was a statistically significant positive correlation between knowledge and attitude of oral health ($r=0.36$, $n=200$, $p=0.00$). There was no statistically significant positive correlation between knowledge and practice of oral health ($r=-0.16$, $n=200$, $p=0.03$). There was no statistically significant positive correlation between practice and attitude of oral health. ($r=-0.07$, $n=200$, $p=0.34$). Mean \pm SD knowledge score for males was 12.4 ± 2.9 and females 12.5 ± 3.23 . A Student t-test did not show a statistically significant difference of knowledge scores between males and females ($p=0.91$). Mean \pm SD of attitude score for male was 9.93 ± 1.67 and female was 10.04 ± 1.68 . A Student t-test did not show a statistically significant difference of attitude scores between males and females ($p=0.64$). Mean \pm SD of practice score for male was 14.55 ± 2.31 and female was 14.40 ± 1.92 . A Student t-test did not show a statistically significant difference of practice scores between males and females ($p=0.62$).

Conclusion: Knowledge, attitudes and practice on oral health among teenagers was not satisfactory and insufficient knowledge, poor attitudes and practices of oral health were detected among teenagers of Colombo District, Sri Lanka. The knowledge of oral health showed a linear relationship with attitudes. In general, oral health knowledge, attitudes and practices scores have not changed according to gender. There is a need to improve the oral health knowledge, attitudes and practices among teenagers in Colombo District, Sri Lanka with the emphasis on improvement of oral hygiene.

Key Words: Oral Health, Hygiene, Teenagers.

Prevalence of Cannabis Use among Patients with Schizophrenia

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Introduction: Cannabis is the most used illegitimate substance in the world. The main objective of the study was to find out the prevalence of Cannabis use in patients with Schizophrenia. Apart from that, the study was aimed to find out the association of Cannabis and relapse rate as an outcome measure and to identify the patterns of Cannabis use.

Methodology: A descriptive cross-sectional quantitative survey study was conducted on conveniently selected 100 Schizophrenic patients. Data collection was conducted through an online questionnaire and data analysis was done using Microsoft Excel.

Results and Discussion: Among 100 participants, 52 were males. Out of the sample majority (45%) were between the ages of 20 to 29 years while very few participants were above 60 years. From the sample, 37% of patients had a family history of psychiatric illness. Among the total subjects, 7% had taken grass-marijuana type Cannabis from before they were diagnosed with Schizophrenia. Out of them, 4% of the patients had taken less than one packet and 2% while 1% patients had taken 3-5 packets. 1% had taken other substances such as heroin.

Conclusion: It has been identified from this study that Cannabis use could be one of the pre-disposing factors for Schizophrenia. Further studies are needed to verify the effects of cannabis in increasing psychotic symptoms.

Key Words: *Cannabis, Schizophrenia, Illegitimate Substance.*

Social Investigation of Housemaids in Western Province-Sri Lanka

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Introduction: The majority of Sri Lankan women who have low educational background are working as housemaids because it is the easiest way of earning money with low educational level, lack of facilities and etc. There are so many circumstances when it comes to employments of housemaids, such as sexual harassments, abuse, child labor, family problems hence to their employment. The aim of this study was to investigate sociological, psychological and physical aspects of housemaids in Western province-Sri Lanka.

Methodology: This was a one-to-one, in-depth interview-based qualitative study design and the study population in this research was housemaids in Western province. The research was based on a sample until the saturation was reached, 15 housemaids were interviewed. Data was analyzed by using thematic analysis; it emphasized pin pointing examining and recording patterns or themes within data.

Results and Discussion: Four major themes were identified. Majority have gone to school but only had primary education, others have up to ordinary levels. Majority are satisfied with their job but there are some which are really not happy with it but because of no option of earning money they do this job. Majority mentioned they are hoping to have a balanced life with the job and that they expected more positive out comes to them as well as their work place and minor people are use different methods to cope with stress such as listening to the radio while working. Most of them are fed up of discrimination from the society. Majority of them are not aware of rules and legislations regarding housemaids but there are few people who know about rules and legislations and what to do when they caught up in to unfair cases.

Conclusion: Physical aspects of housemaids were better than expected, but sociological, psychological aspects required more attention.

Key Words: *Housemaids, Physical, Psychological, Sociological.*

Cultural Skill of Student Nurses in Sri Lanka

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Introduction: Cultural skill is the ability to collect relevant cultural data regarding the clients' health histories and presenting problems as well as accurately performing a culturally specific physical assessment. Cultural skill is an essential need to provide culturally competent care for the diverse patients. The purpose of this study was to investigate the level of cultural skill among third-year nursing students in Government Schools of Nursing in Sri Lanka.

Methodology: A descriptive cross sectional study design was performed to conduct a study among nursing students in Jaffna and Kurunegala Districts as a cohort sample in Sri Lanka. Random sampling technique was used to select participants from the two Districts. A validated self-administered questionnaire was used. Data were analysed using SPSS version 22. Ethical approval was taken from the Ethical Committee of International Institute of Health Sciences (IIHS).

Results and Discussion: According to the findings, response rate was 100%. All the participants (n=171) were in 20-30 years age group. Most of the participants were female (n=156, 91%), Sinhala (n=154, 90.1%) and Buddhist (n=151, 88.3%). Overall mean score on cultural skill was 3.5 (SD±0.7). Student nurses had moderate cultural skills and they did not feel confident in cultural assessment of clients.

Conclusion: These results have provided a support for the schools to consider when revising the nursing curriculum to integrate cultural skills at each level and include cultural components into the student competency evaluation tool.

Key Words: Cultural Skill, Student Nurse, Cultural Competent, Diverse Patients.

Patients' Perspectives regarding Diseases Prognosis (Severity), Information, Quality of Health Care, and Quality of Life among Advanced Cancer Patients

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Introduction: This study was to describe the patients' perspectives related to the disease prognosis, information, quality of health care and Quality Of Life (QOL) on advanced cancers.

Methodology: A cross-sectional descriptive study was conducted among 200 advanced cancer patients above 21 years with stage IV cancer at the Oro-Maxillary-Facial (OMF) units and palliative care units in North Western Province. An administered questionnaire was used and analyzed using SPSS software.

Results and Discussion: Most of the study participants were aged between 35 to 39 years (n=34, 18.0%) followed by 50 to 54 years (n=31, 16.4%). More than half (n=110, 58.0%) were female patients. Forty nine (25.9%) of study participants were homemakers, while 42 (22.2%) being engaged in the government service. Most (n=85, 45.0%) belonged to the lower middle economic status and more than half (n=112, 59.3%) of the study participants being educated less than 13 years. Nearly half (n=91, 48%) of the patients obtained treatment as outpatients. Out of 79 male patients, oral cancer (49%) is more common followed by lung (19%) and colorectal (14%) carcinoma. When considering the general well-being, most of the study participants feel very much ill (n=84, 44.4%), sad (n=82, 43.4%), nervous ((n=83, 43.9%), worry about dying (89, 47.1%) and worry about the condition get worse (n=90, 47.6%) intensity. Most (n=76, 40.2%) of the study participants were unable to cover the cost of the treatment. However, a lesser (n=38, 20.1%) number of study participants were able to take care of daily needs and able to buy luxury goods. Among 189 cancer patients, 77 (40.7%) were in the category of below average QOL score, yet very few (n=5, 2.5%), had a high QOL score. Out of the 189, most (n=151, 80.0%) of the study participants discerned recently that they had cancer and most (n=116, 61.4%) were informed by the doctor. It is evident that there is a statistically significant association between actual decision making and patient's desires on decision making (p=0.036).

Conclusion: Improving the Quality of Health Care will expand the QOL, thus, improving the palliative care and monitoring the service delivery will lead to increase the outcome of the advanced cancer patients. Further, strengthening the community level palliative care is recommended while strengthening the hospital in-service care for the advanced cancer patients. The qualitative research will be recommended to identifying the in-depth details among advanced cancer patients.

Key Words: *Advanced cancer, Quality of health care, Quality of life (QOL).*

Knowledge, Attitudes and Practices on Vaccination among Young Mothers in Polgahawela MOH Area

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Introduction: Vaccines are widely used for prophylactic purposes. It is the most effective method of preventing from infectious diseases. Vaccination habits of the mothers directly affect their children's health and wellbeing.

Vaccines are widely used for prophylactic or therapeutic purposes. It is evident to be the most effective method of preventing from infectious diseases. It helps children to stay away from serious childhood diseases. Thus, immunization is considered as the key to being healthy. There is a specific set of vaccines to be taken during childhood. Vaccination habits of mothers directly affect their child's health and wellbeing. Therefore, it is necessary to assess mothers' knowledge, attitudes and practices regarding vaccinating their child in order to have a healthy childhood.

Methods: A descriptive cross-sectional study was done among 150 mothers of pre-school children in Polgahawela MOH area using convenient sampling. Data collection was done using a self-administered questionnaire including 24 closed-ended questions.

Results and Discussion: Majority (54.6%) of mothers belonged to the age group of 30-39. Only 43% of mothers were educated up to the Advanced Level. Majority of the participants were aware that vaccines are essential for their children's health and wellbeing. Majority (62%) of the participants believed that there are no side effects when using vaccines. Nearly all (98%) of the mothers knew the importance of the vaccinations. Moreover, 56.7% participants never delayed getting the vaccinations. Furthermore, majority of mothers read the instruction on the vaccination card and kept records of all the vaccines. However, only 19.3% of the participants knew that vaccines are not valid throughout lifetime. According to the study, most of the mothers believed that multiple vaccines within a short period can weaken the child's immune system. This shows that the attitudes and knowledge can have a greater impact on children's immunization. These misconceptions can lower the child's immunization.

Conclusion: The results of this study indicate that most of the mothers have adequate level of knowledge regarding the vaccination and also a positive practice toward the vaccines. However, few areas such as gaps in specific knowledge regarding vaccines and misconceptions need to be addressed.

Key Words: Vaccination, Immunization, Child Health, Knowledge.

PP11

Public Awareness on Accidental Falls among Elderly People in Kelaniya Area, Sri Lanka

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Introduction: Sri Lanka has the fastest growing trend of aged population in South East Asian Region. By 2041, it is projected that one in every four Sri Lankans would be elderly and one of the major concerns arising with that would be accidental falls. Many Sri Lankans are unaware of the prevalence of falling and the risk factors; thus the mobility impairments among the elderly are increasing. It is important, thereby, to raise public awareness to reduce risk of falling among elderly people. The purpose of this study was to assess the awareness of accidental falls among the elderly.

Methodology: A descriptive cross-sectional study was done on 150 elderly individuals in Kelaniya area, Sri Lanka, using convenience sampling through a self-administered questionnaire.

Results and Discussion: Among the 107 eligible participants, when asked whether they were aware of risk factors for falls, 59.8% responded yes, whereas only 16.8% deemed to be actually aware. 40.1% of them were completely unaware of the conditions or risk factors of falling. A higher percentage of 85% of the respondents had a history of falls and out of them, 21% had resulting complications. When inquired on whether they have sought information on preventing falling, none of them had a positive response.

Conclusions: Research findings demonstrate that majority of elderly are ignorant of the safety measures for preventing falls and it is causing other complications. Further steps need to be taken in order to raise awareness among the elderly on this matter.

Key Words: *Accidental Falls, Awareness, Elderly, Public.*

Expected Clinical Competencies of General Nurses in Private Hospitals in Western Province, Sri Lanka

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Introduction: Nurses play a key role in the provision of healthcare. Patient satisfaction is a significant indicator of the quality of care. In order to provide quality care, nurses must know what patients expect from them. Society and the needs of people have been changing gradually. Therefore, it is essential to identify the expected clinical competencies to plan and deliver quality nursing care and to examine the views of stakeholders on nursing competencies of general nurses.

Methodology: A descriptive cross-sectional design with probability random sampling method was used for this quantitative study. As the data collection tool, a self-administered questionnaire was used for 219 nurses and an interviewer-administered questionnaire for 45 clients in 5 private hospitals in Western Province, Sri Lanka. SPSS was used for data analysis.

Results and Discussion: Of the sample (n=264), majority was Buddhist (97 %), female (91%) and Sinhalese (97%) in the age group of 31-40 (50%). Nurses, clients and other stakeholders agreed for competency of self-caring (65%), administering medication (63%) and communication (63%), and disagreed for competency of safety precautions (70%), legal and ethical competencies (67%) and professional development (72%). The results illustrate strong disagreement for personal hygiene (80%), rehabilitation (84%), problem solving (79%), teaching and coaching (80%), and documentation and technical skills (85%).

Conclusion: According to the findings, there were four main areas identified as important skills that nurses should develop, which are: Patient-centered care, communication and teamwork, professionalism and self-development, and critical thinking.

Key Words: *Clinical Competence, General Nurses, Quality Care.*

A Study on Awareness and Knowledge regarding Cervical Cancer and Pap Smear Test among Women between age 20 to 50 in Kalutara District, Sri Lanka

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Introduction: Cervical cancer, one of the most common cancers worldwide, is preventable if detected early due to its long pre-invasive stage. It can be detected by Pap smear test – a microscopic examination of cells taken from the uterine cervix. Although cervical cancer ranks 4th in both incidence and mortality in the world, in Sri Lanka it is the 2nd leading cancer among females. The presence of such incidence in the context of the availability of Pap smear screening tests led to this study.

Methodology: This descriptive cross-sectional study was conducted, through a interviewer-administered questionnaire distributed among a total of 176 women between age 20 and 50 in six Grama Niladhari Divisions in Dodangoda.

Results and Discussion: Of all the participants interviewed, only 32.95% had knowledge regarding cervical cancer symptoms and 32.38% had knowledge regarding risk factors. Furthermore, 44.31% had knowledge regarding prevention methods. Only 28.98% was aware about Human Papilloma Virus (HPV) as a main risk factor and 43.18% was aware about the preventive vaccines. Awareness about Pap smear test could be seen among 67.04% and only 45.4% have had a Pap test. It was identified that 22.72% of women are at risk of cervical cancer due to early sexual exposure, 16.47% are at risk due to family history of cancer and 7.38% are at risk due to long term use of birth control pills. Among these women, only 59.65% shared positive attitudes towards Pap smear test. Two main reasons for negative responses were lack of time to get the test done (59.15%) and shyness (32.39%).

Conclusion: It appears that awareness and knowledge regarding cervical cancer and awareness regarding Pap smear test overall is poor. Most of the participants did the test without knowing the signs and symptoms or risk factors of cervical cancer. Research indicated that they have not been made aware of those at the government clinics they attended, before or after the test. It also revealed that if they had been made aware, many more would have taken part in the test as well as encouraged those they knew to take part in it.

Key Words: *Cervical Cancer, Pap Smear Test, Early Sexual Exposure, Birth Control Pills, HPV, Preventive Vaccines.*

Dietary Habits, Exercise Patterns and Health Status among Bank Workers in Malabe Area, Sri Lanka in 2017

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Introduction: Non-Communicable Diseases (NCD) are the leading causes of death annually. The most important risk factors for NCDs are increased blood pressure, high cholesterol concentrations, inadequate consumption of fruits and vegetables, obesity, physically inactive and tobacco/alcohol use. The purpose of this study was to assess the dietary habits, exercise patterns and health status among bank workers.

Methodology: A descriptive cross-sectional study was done using systematic sampling on bankers working in Malabe (government and private) who are over 20 years of age. Data was collected using a self-administered questionnaire and analysis was done via SPSS version 20.

Results and Discussion: Among 384 participants, 51% of the bankers believed that breakfast was the most important meal. Majority of them consumed rice and curry for all three meals and took food from outside rarely. Bankers were well aware of the need to exercise but only 13.8% exercised and walking was the most prominent exercise with a pattern of 2-4 days a week. 92% of the bankers also engaged in house work, mainly laundry and cleaning. From the participants, 53.9% slept for 4-6 hours per day. Diabetes mellitus was the most prevalent disease. However, only 6.25% were smokers.

Conclusion: The high prevalence of sedentary behaviors, physical inactivity and unhealthy dietary habits among bankers was the major concern which leads to other health problems associated with obesity such as diabetes mellitus.

Key Words: *Dietary Habits, Exercise Pattern, Health Status.*

Knowledge and Practices on Maintaining BMI as a Preventive Strategy for Non-Communicable Diseases among Advanced Level Students in Mawanella MOH Area, Sri Lanka

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Introduction: Behaviors established during the adolescence have lifelong consequences to the onset of Non-Communicable Diseases (NCDs) in later life. Obesity is one of the major risk factors for a number of chronic diseases including diabetes, cardiovascular diseases and cancer. The purpose of the study was to assess knowledge and practices on maintaining BMI as a preventive strategy for NCDs among Advanced Level students in Mawanella MOH area, Sri Lanka.

Methodology: A descriptive cross-sectional study was conducted amongst 150 Advanced Level students at an institute using a validated, self-administered questionnaire and height and weight was also measured.

Results and Discussion: From the sample, 52% were male students and 48% were female students. Out of the participants, majority were overweight (37.8% males and 23.61% females). Majority of the students (61.9%) overall had poor knowledge regarding obesity and NCDs. It was identified that 46% of the overall students were not involved in any physical activity and from them, 33.3% were due to lack of time, 13% didn't know why, 23.19% thought it wasn't necessary and 30.44% had no opportunity. Furthermore, 34% consumed fast food regularly.

Conclusion: Knowledge on obesity and NCDs were poor among Advanced Level students. Lack of knowledge about healthy and unhealthy behaviors highlights the importance of carrying out regular surveillance of increased BMI as a risk factor for NCDs and initiating programs for the prevention of NCDs among adolescents.

Key Words: *Non-Communicable Diseases, Adolescents, Obesity, Body Mass Index.*

Assessment of Immunization Practices among Urban Mothers in Sri Lanka - 2017

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Introduction: Although vaccine coverage in Sri Lanka is close to 100%, with the widely spreading vaccine rejection trend reaching South Asian regions, it is essential to understand whether Sri Lankans are being misinformed from the common misconceptions regarding vaccines. The purpose of this study is to assess the immunization practices and prevalence of trends related to anti-immunization among urban community in Sri Lanka.

Methodology: A descriptive cross-sectional quantitative study on 323 participants was done using convenient sampling technique. Both self-administered questionnaires (213) and online questionnaires (110) were distributed.

Results and Discussion: While majority seek information regarding immunization from reliable sources, 30% also referred to unreliable sources such as online communities. 31% of study population had not been vaccinated for Japanese encephalitis. 73% of the study population had encountered side effects of vaccination such as fever and 47% believed that such side effects are rare. 52% of the population had hostile attitudes regarding the administration of several doses of multiple vaccines within the child's first year. The most popular misconception about vaccines, popular among the study population, was that of MMR vaccine being a possible cause of autism and bowel disease.

Conclusion: Alarmingly, a large proportion (22%) of the study population believed that vaccines are useless in preventing diseases now-a-days.

Key Words: *Anti-vaccination, Immunization, Infectious Diseases, Pediatric Health.*

Knowledge, Attitudes and Practices regarding Breast Cancer among Women in Galle District, Sri Lanka

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Introduction: Breast cancer is the commonest type of cancer among women and the second commonest leading cause for deaths in the world, if not detected in the early stages. The objective of this study was to assess the knowledge, attitudes and practices related to breast cancer among women near and in middle age in Galle District, Sri Lanka

Methodology: A descriptive cross sectional quantitative study using convenient sampling technique was done among 100 women (30-60 years) in Galle District. Data were collected online using an online data collection form.

Results and Discussion: Among 100 participants, majority were from 30-39 years (38%), 92% of the responders were married and 50% were unemployed. From the participants, 33% did not have sufficient amount of knowledge on breast cancer and 60% had poor knowledge on the breast cancer symptoms. The majority of the respondents agreed that they don't practice on preventive methods because they lack awareness and knowledge on breast cancer, or they are anxious and/or embarrassed.

Conclusion: It was revealed that women in Galle District have poor knowledge, attitudes and practices on breast cancer.

Key Words: *Breast Cancer, Knowledge, Attitudes, Practices, Symptoms, Prevention*

Reasons for High Life Expectancy at Birth of Males in Hambantota District, Sri Lanka

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Introduction: Statistics suggest that the Hambantota District has the highest life expectancy in the male population. This study is focused on finding and identifying reasons for people in Hambantota District to have high life expectancy at birth.

Methodology: Research was carried out in both qualitative (with 60 face-to-face interviews) and quantitative phases in five MOH divisions in Hambantota District. The study was basically focused on three age categories. Key information areas were Life Style and Social Behaviours, Food Consumption and Diet, Familial Trait and Physical and Mental Health.

Results and Discussion: Majority (45%) of the participants had studied up to grade 5 and most were engaged in the agriculture (36.7%) while others were engaged in occupations such as fishery, self-employment etc. Almost everyone reached their workplaces by foot (48.3%) or by bicycle (28.3%). Many of them worked less than six hours. They spent their free time with their family members and watched TV. Most were non-alcoholics and did not smoke (68.3%). Almost everyone took part in social activities. Majority (68%) ate red rice for all three meals. Everyone ate fish every day. This area was abundant with neem trees. They all had a good physical and mental health condition. These males spent a happy and relaxed lifestyle.

Conclusion: Healthy diet, low alcohol consumption and smoking, physical activeness, and their social wellbeing affected the high life expectancy within this male population. They had a free and happy lifestyle. The abundance of neem trees in this area also might have affected their high life expectancy.

Key Words: Life Expectancy, Quantitative, Qualitative.

Exploration of Factors Affecting Nutritional Status among Nursing Students in Sri Lanka 2018

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Introduction: Nutrition is one of the most important aspect of healthy living. While Nurses are equipped with skills and qualities, dietary health of a nurse is a must but is a neglected side. We conducted a study to check the factors affecting nutritional status among nursing students. Our main objective is to assess the availability of nutrition according to where the nurses are accommodated and also to assess how the time factor affects their level of nutrition consumption.

Methodology: A descriptive study was done on 103 nursing students selected using convenience sampling from Sri Lanka, using self-administered questionnaire and statistical analysis through SPSS software.

Results and Discussion: Out of 103 participants 77% were females. When focusing on the satisfaction of the nutritional value 58% are satisfied while 35% were unsatisfied. When Body Mass Index (BMI) was compared with number of meals per day 52 participants who ate 3 times a day had an average Body Mass Index of 18.5 -25 while 18 participants who ate once a day had a Body Mass Index below 18.5.

Conclusion: Results of the conducted test proved that nursing students who showed less interest in their meal habits for example having a meal once a day reduced their nutritional value and had a very low Body Mass Index. Also students who had less time for meals because of the academic schedule. Body Mass Index and nutritional value proving that it is important for nurses to allocate time for their foods and good dietary practices for good nutritional status.

Key Words: *BMI (Body Mass Index), Nutritional Status, Non-Vegetarian, Vegetarian*

A Study on the Impact of Mobile Phones on Student Nurses' Learning, Sri Lanka-2018

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Introduction: Use of mobile phones has become a vital part of lives. Mobile phones can be used for number of purposes including education. Purpose of this study was to assess the impact of mobile phones on student nurses' learning.

Methodology: A descriptive cross-sectional quantitative survey study was conducted through a self-administered online questionnaire with conveniently selected student nurses from Ratnapura, Ampara, and Wavuniya Districts in Sri Lanka.

Results and Discussion: Majority of the total participants were females (86.4%). Among them, majority (80.8%) belonged to the age group of (23–25 years). From the total population, 98.4% stated that they use smart phones for social media or internet. Majority of the participants mentioned that they use smart phones for educational purposes (81.7%). Among the total participants, majority 85.2% stated that they use dictionary apps for the educational purposes while a considerable amount (42.3%) stated that they use BNF (British National Formulary) app since they prefer softcopies.

Conclusion: The study showed that the nursing students use mobile phones for both personal and educational purposes. Nursing students preferred softcopies over books or printed materials to refer, and thereby they use mobile phones to refer educational materials. Therefore, the use of mobile phones had a positive impact on nursing students' education.

Key Words: *Mobile Phones, Impact, Nursing Student, Education.*

Assessment of Nutritional Status among Children under 5 years of age in Ratnapura Division, Sri Lanka

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Introduction: Malnutrition under five year children is one of the biggest problems still in Sri Lanka. Malnutrition is the medical condition resulting from inadequate or excessive intake of energy and other nutrients. Worldwide, about half of deaths in children is directly or indirectly related to malnutrition. Globally, more than one-third of the annual 7.6 million child deaths is attributable to malnutrition and it is not an easy task for developing countries to reduce this as expected.

Methodology: A community-based, cross-sectional study was conducted in Ratnapura Division. Three hundred children were selected using random sampling technique. Data were collected by well-trained midwives using standardized measurement techniques and a pre-tested questionnaire for a period of three months. Anthropometric measurements were used to determine if the children were underweight (weight-for-age), stunted (height-for-age) or wasted (weight-for-height) based on World Health Organization (WHO) reference. Data were analyzed using SPSS version 16 and Microsoft Excel software.

Results and Discussion: A significant number of children in the study sample were either underweight (26.2%) or with some stunting (6%) or wasting (7.8%). According to age groups, prevalence of malnutrition status was highest in 49-60 months of age (13.9%) and lowest in 37-48 months of age (3.2%). Socioeconomic status was an important factor associated with stunting, wasting and underweight in this study.

Conclusion: There was a significant relationship between number of family members, monthly income and nutritional status of children. However, maternal education, low birth weight and minimum dietary diversity were not associated with nutritional status in Ratnapura Division.

Key Words: *Underweight, Stunting, Wasting, Nutritional Status.*

Study on Assessment of Knowledge regarding Oral Medication among Nursing Students in Sri Lanka

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Introduction: The administration of medicines is an important aspect of nurses' professional practice. Preparing medications and administering medication to patient are part of the daily routine of all nurses who are working in direct care settings. The purpose of the study was to assess the knowledge regarding oral medication among student nurses in Sri Lanka.

Methodology: A descriptive cross-sectional quantitative study was conducted on conveniently selected 100 Sri Lankan nursing students who had at least completed pharmacology part one module. Data collection was done through an online questionnaire.

Results and Discussion: Among 100 participants, 88% were female and majority was third year nursing students. Majority of the subjects (65%) did not follow any external pharmacological course. Moreover, when asked what the most preferable method of learning is, majority highlighted the self-study method (46%) and stated that internet is the most useful method of gaining knowledge (44%). Furthermore, 93% respondents stated that staff nurse will be notified if any mistake occurs during administration. However, almost half of the population mentioned that, the knowledge they have is not sufficient.

Conclusion: It was revealed that the knowledge related pharmacology among selected population is in satisfactory level but, majority mentioned that it needs to be updated.

Key Words: *Oral medication, Assessment, Nursing Students*

A Study on the Dietary Pattern among 10-year-old School Children in Sri Lanka, 2018

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Introduction: Foods is essential for the growth and the development of children. Improper dietary pattern leads to long term health problems as well as impaired academic performance.

Methodology: Descriptive cross-sectional quantitative study was conducted using a self-administered questionnaire with conveniently selected 100 10-year old school children in Gampaha, Badulla, Mathale, Polonnaruwa and Ratnapura Districts.

Results and Discussions: Among the participants, 92% consumed rice as the main meal while 3% consumed bakery products. 46% of the subjects regularly missed at least one main meal; especially the lunch. Among them, 50.7% intentionally skipped their meal while 25.4% had to skip the meal due to attending for the extra classes. Among the subjects, 40.4% took junk foods concerning that junk food are rich with nutrition. Majority of subjects were attending to extra classes after school time therefore they did not have time to consume rice as a meal for their lunch.

Conclusion: 10-year old school children skipped the main meals but consumed junk food as a supplementary. Attending to extra classes after school time had a direct effect on skipping the lunch.

Key Words: *Junk Foods, Dietary Pattern, Growth and Development, School Children.*

Sociological Perspectives of Urban Three-Wheel Drivers in Western Province, Sri Lanka

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Introduction: With the increase of urbanization, population and industrial development, demand for urban transport services is increasing and demand for comfortable yet affordable public transport is becoming inevitably high. Three-wheelers are the most visible Informal Public Transport (IPT) mode in urban and suburban areas in Sri Lanka. The aim of this study was to understand the socio-economic profile, health status and working conditions of urban three-wheel drivers in Western Province, Sri Lanka.

Methodology: A qualitative study was done on 25 three-wheel drivers who are above 18 years and having more than 3 years' experience in Western Province in Sri Lanka, until the point of saturation was achieved, using convenience sampling through one-to-one, in-depth interviews.

Results and Discussion: Most of them had back and leg pains and they said it is due to sedentary lifestyle and they revealed that gastritis is due to irregular meal habits. Some did not know whether they have non-communicable diseases due to lack of medical checkups, unless they get an illness, because for them their family's hunger elimination is important than their health. All married drivers were the sole income providers to the family. Most of them earned 30,000 LKR to 50,000 LKR every month. All were happy with their occupation, yet disapproves that their children do it because of the typical third-class stereotypical society image.

Conclusion: It was understood that their economic stability is adequate, however, require significant health education and they believe that they deserve a better social status.

Key Words: *Three-Wheel Drivers, Socioeconomics.*

Study on Job Satisfaction among Teachers in Government Schools of Western Province, Sri Lanka

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Introduction: Sri Lanka has a free education system. The responsibility for education in Sri Lanka is shared by the government as well as the provincial council. However, the success and failure in achieving quality education lies primarily on teachers. The aims of the study were to assess the job satisfaction among the government school teachers, to identify the factors influencing on the job satisfaction, to assess the satisfaction level of the teachers and to identify the methods which can enhance the job satisfaction

Methodology: Population of the study involved the teachers in Sri Lanka and the target population of study consisted of teachers in Colombo, Gampaha and Kalutara Districts in Western province of Sri Lanka. A sample of 180 teachers participated. A self-developed questionnaire was used for data collection. Data was analyzed using simple descriptive statistics.

Results and Discussion: Out of 180 participants 98 (54%) were satisfied with their job. 17% of the subject were satisfied with salaries and bonus. 41.7% of subjects were satisfied with promotions while 65% satisfied with rules and regulations in the job. 40% satisfied with welfare facilities for family members. Majority of 91% were satisfied with the leaves. 78% were satisfied with the respect and cooperation gained from the society. 88% were satisfied with responsibilities and duties of the job. 68% of the subjects suggested to increase the salaries.

Conclusion: Majority (54%) of government teachers in Western province were satisfied with their job. Among teachers indicating complete job satisfaction, 54% expressed they loved their occupation. Salary increments were cited as an improvement to job satisfaction.

Key Words: *Job Satisfaction, Teachers*

Determining the Level of Critical Thinking Skills and Investigating Associated Factors Affecting on Critical Thinking Skills among Nursing Students in Colombo

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Introduction: Critical thinking is essential in nursing practice. Promoting critical thinking competence in nursing students is an important way to improve problem solving and decision-making competence to further improve the quality of patient care. The purpose of the study was to determine levels of critical thinking among nursing students, assessing factors affecting on critical thinking skills of students, and provide strategies to the up lift of critical thinking skills among nursing students in practice.

Methodology: A descriptive cross-sectional quantitative survey study was conducted with 240 nursing students. "Socio-demographic Information Form" and "Evaluation of Factors Affecting Critical Thinking Form" were developed based on the literature and "California Critical Thinking Disposition Inventory Questionnaire" was used to collect data.

Results and Discussion: According to Pearson's correlation analysis, a significant correlation was found between the total critical thinking and the role of the clinical environment, ($p = 0.047$, $P < 0.05$). One-way ANOVA showed significant differences between the years of education for the critical thinking ($P < 0.05$). One-way ANOVA showed significant differences between the family income for the critical thinking ($P < 0.05$). The levels of critical thinking in their nursing training period were found to be low. The most important factors affecting critical thinking skills in student nurses were insufficient length of clinical practice and inadequate clinical conferences.

Conclusions: Nursing students' level of critical thinking was found to be low. There is a positive correlation between years of study and the level of critical thinking. Nursing teaching methods should be revised to ensure the nursing students to develop critical thinking skills during nursing training period.

Key Words: *Critical Thinking, Nursing, Nursing Students.*

Prevalence and Correlated Factors of Chronic Wide-Spread Pain among Loaders in Pettah, Sri Lanka

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Introduction: Chronic widespread pain (CWP) is a cardinal symptom of fibromyalgia, which is a non-inflammatory condition of the musculoskeletal system. It has become a highly prevalent condition and a major health problem within the community and working population. Musculoskeletal pain in multiple sites of the body is one of the common problems identified among the loaders in Pettah area, Sri Lanka. Furthermore, they may have psychological distress with their busy and heavy work accompanying this body pain which have not been studied systematically. Therefore, this study was conducted to identify the prevalence and the lifestyle and occupational risk factors of CWP and its association with psychological distress.

Methodology: This study was carried out among a convenience sample of 174 loaders in the main bazaar, Pettah, Sri Lanka. A criterion given in the “Manchester Definition” for CWP was used for the identification of CWP. Data was collected using a self-administered structured questionnaire.

Results and Discussion: 174 loaders were participated in the study. The mean age of the study sample was 42.65. Most (61.5%) had an education up to grade 6 to 11. The mean value of the number of working years as a loader was 20.84 and the mean weight that the participants carry per turn was 62kg.

18.4% of loaders were found to have CWP. Lower back pain was the most prevalent (64%) individual problem. 88% participants were currently using substances and among them 29.6 % were using substance to relieve pain. High perceived stress was found in 51.7% of loaders in this study.

Conclusion: 18.4% of loaders were found to have CWP and had association between increasing trend in ascending order of age group and with the level of stress which is consistent with previous research studies.

Key Words: *Prevalence, Correlated factors, Chronic wide spread pain*

Assessment of Attitudes, Behaviors and Prevalence of Alcohol Consumption among Teenagers in Gampaha District

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Introduction: Adolescence is marked by considerable existential conflicts as well as exposure and vulnerability to substance abuse. Young people have greater problems regarding alcohol intake. Moreover, early initiation in alcohol use is one of the most important predictors of future health, socio- cultural and economic problems. The purpose of this study is to assess the attitudes, behaviors & prevalence of alcohol consumption among teenagers in Gampaha district.

Methods: Descriptive cross-sectional quantitative study done on 210 teenagers in Gampaha district, Sri Lanka selected using convenient sampling using a self-administered online questionnaire.

Results and Discussion: 62.2% of the 210 participants were males. 78.8% of the participants have consumed alcohol at least once in their life and 12.6% of them consumed alcohol beverages every day. Majority of the 42.4% have drunk alcohol for the first time in the age of 15 – 19 and 51.1% of them has got it from friends. 26.6% of them had got their first experience from a family member. Majority of 39.1% have consumed alcohol at friends' houses and most of 46.2% them purchased those at Bar/Club. Most of the youth consumed wine (62.3%) and beer (60.7%), while least of 25.1% were consuming tonic. 51.7% of the participants felt sleepy after drinking alcohol and they were also going through headaches and vomiting which was 38.4% and 36.6%.

Conclusion: It was shown that most of youth get into consume alcohol by the influence of friends or family members.

Key Words: *Alcohol, Youth, Consumption.*

Knowledge regarding Hepatitis Disease and Vaccine among General Public in Sri Lanka

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Introduction: Hepatitis disease is causing severe conditions and a considerable amount of deaths due to its complications in Sri Lanka as well as globally. Majority of the public population in Sri Lanka are still unaware of these facts. Therefore, it's important to educate them about the hepatitis disease and its prevention vaccine and provide a control for this scenario. The aim of this study is to assess the awareness of the hepatitis disease and hepatitis vaccine among general public in Sri Lanka.

Methodology: A descriptive, quantitative study was done on 150 urban Sri Lankan individuals using convenience sampling through a self-administered online questionnaire.

Results and Discussion: Out of 106 eligible participants, only 15 (14.1%) were actually aware of hepatitis. Only 21 (19.8%) of them have got the vaccination and that is because it was compulsory according to their profession while 8.4% stated that they received it due their parent's advice. In contrast, 56.6 % out of the whole study population have not been vaccinated. Majority of the participants who didn't take the vaccine was due to the belief that it was not necessary whereas 15 were unaware of the vaccine, 11 were allergic to it, 9 didn't know the vaccine was available in the county and a very few (13.3%) had financial issues. Only 13% knew exact types of hepatitis disease and only 37% know exact risk factors for hepatitis disease.

Conclusion: Research findings demonstrate that the urban public is ignorant of the hepatitis vaccine. Steps need to be taken to reduce this condition and prevent complications caused by this virus.

Key Words: *Hepatitis, Vaccine, Urban Public, Perception.*

Prevalence and Predictors of Poor Compliance among Cohort of Patients with Chronic Medical Conditions needing Long-Term Treatment in a Tertiary Care hospital in Sri Lanka

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Introduction: Chronic medical diseases are long lasting conditions, which cannot be cured, but can effectively controllable and most preventable problem by using proper medication and treatment methods. Poor compliance of patients is a major health problem, which may lead to death and elevated costs, both for patients and providers. This study was aimed at identify the prevalence and the associated factors of poor compliance among patients with chronic medical conditions needing long term treatment in Teaching Hospital Karapitiya (THK) and also to describe the factors which lead to poor compliance among these patients.

Methodology: This is a descriptive cross sectional study carried out in medical wards in THK involving 200 patients with pre diagnosed chronic medical conditions. Patients were selected using simple random sampling method. An interviewer-administered structured questionnaire was used to collect data.

Results and Discussion: The study population consisted of 120(60%) males and 80(40%) females. The mean age of the study population was 55.5 and ranges from 30 to 65 with a SD of 9.44. Among them the majority of the participants (75.5%) were between 50-65 years of age. 44.5% of this study population had education up to O/L or above. 54% patients were identified as poor compliance to prescribed medications. The reasons for poor compliance include poor knowledge (56%) followed by poor attitude (42%) and difficulty in access to clinics (26.6%). There were no association found between poor compliance and gender, age, monthly income, level of education, distance from home to THK, cost for clinic visit, time spend for clinic visit and frequency of clinic visits.

Conclusion: This study revealed 54% of patients with chronic medical conditions had poor compliance to prescribed medications. Strategies to be improved and multi factorial approach is needed to improve the drug compliance among patients.

Key Words: *Poor Compliance, Chronic Medical Conditions, Long-Term Treatment.*

**Assessment on the attitudes towards the Image of Government Nurses as Perceived by
General Public in Colombo District, Sri Lanka**

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Introduction: Nursing is a growing profession in Sri Lanka. Although nursing is one of the most valued professions, a gradual argument has been formed in the society mentioning, there are several positive and negative consequences from the nurses. The aim of the study was to assess the attitudes towards the image of government nurses as perceived by general public in Colombo district, Sri Lanka.

Methodology: A descriptive, cross-sectional quantitative online survey study was conducted on conveniently selected 200 government nurses. Data was analyzed descriptively using Microsoft Excel.

Results and Discussion: Among the subjects, 49.3% participants expected the nurses to obtain at least a Bachelor's level academic qualification. Only 35.8% subjects agreed to allow a male nurse to assess a female patient. However, 56.7% of the subjects stated that male nurses should be allowed to enter to the labor rooms equally with female nurses. Out of the respondents, only 44.8% stated that they will allow their children to choose nursing as a profession.

Conclusion: Most of the people did not prefer male nurses to assess female patients. However, majority believed that both male and female nurses should be treated equality. Although people appreciated nurse's role, majority of them did not want their children to choose nursing as a profession.

Key Words: *Nurse, Public Perception, Public Image*

A Study on the Patient Perspective of Fatigue and Lifestyle Difficulties in Patients with Severe Vision Impairment, Sri Lanka

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Introduction: Vision is one of the most important senses of living beings. However, vision can be impaired due to various reasons. Fatigue is a common symptom by patients with irreversible visual impairment. There is not much known about what fatigue means for visually impaired patient, therefore it is necessary to identify the fatigue among visually impaired patients and the lifestyle difficulties. The purpose of the study was to identify the influence of fatigue among severe visual impaired patients in Sri Lanka.

Methodology: A qualitative, one to one in-depth interview method was used to collect data until the point of saturation was reached (N=20) from severe visual impaired patients after direct visual examination. Thematic analysis was used to analyze data.

Results and Discussion: Majority of the participants stated that they were experiencing fatigue and they believed that it was due to visual impairment. Majority stated that they experienced lifestyle difficulties due to vision impairment and fatigue. Majority of participants were having sleep disturbances which lead to fatigue and lifestyle difficulties. Although the majority was having visual impairment-related fatigue and lifestyle difficulties, they were confident that they can cope up with the difficulties they face while the minority had no idea on how to manage it.

Conclusion: Patients with severe vision impairment were experiencing fatigue and lifestyle difficulties. Although it has caused many complications, majority of patients can cope up with the issues. Further studies are recommended to find out how vision impairment leads to fatigue and lifestyle difficulties.

Key Words: *Vision Impairment, Fatigue, Lifestyle Difficulties.*

A Study on Health Information Seeking through Mobile Phones among Middle Income Adults in Sub Urban Areas in Western Province, Sri Lanka

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Introduction: Mobile phones have become an important tool among youth and adults. People use mobile phones for multiple tasks including information seeking through online platforms. However, health information seeking through mobile phones is not much known. The aim of this study was to investigate the awareness of health-related information seeking through mobile phones among middle income people.

Methodology: A descriptive cross-sectional quantitative survey study was performed on 100 participants using an online questionnaire among middle income people aged 18 to 50. Data was analysed descriptively using Microsoft Excel.

Results and Discussion: Most of the people were using mobile phones as electronic devices (43%). 90% of the subjects were aware that they can receive health-related information through social media. 59% of the subjects used mobile phones to obtain health-related information through websites and apps. 44% of people used mobile phones to receive health information through E-channeling.

Conclusions: Majority of adults were aware that the mobile phones can be used to seek health-related information. However, it was not a widely popular mode of seeking health-related information.

Key Words: *Mobile Phones, Health Information Seeking, Middle income.*

A Study on Exposure to Stressors among Students in Gampaha District, Sri Lanka

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Introduction: Stress and associated complications among students is an emerging problem in Sri Lanka. Since there is a massive demand and competition in education, students are exposed to number of stressors throughout their study period. However, society's awareness on the stress factors is not greatly assessed. Therefore, it is important to assess the awareness on stressors and the purveyance of stressors. The aim of the study was to assess the exposure to stress factors among students in Gampaha District.

Methodology: A descriptive, cross-sectional, quantitative survey study was conducted on conveniently selected 200 urban Sri Lankan students in Gampaha District. Self-administered online questionnaire was used to collect data and Microsoft Excel was used to analyse and disseminate data descriptively.

Results and Discussion: Among 200 eligible participants, majority (35%) were from business studies field while 28% and 16% were from healthcare field and arts fields respectively. It was found that the major cause for the stress was related to academic factors where 40% of the subjects agreed to it. 20% of the subjects stated that life-style related factors were the major cause for stress while 18%, 15% and 7% stressors were health-related factors, social factors and environmental factors respectively. Among the respondents, 56% were experiencing mild level of stress while 36% were experiencing moderate level stress. Only 8% of the respondents were experiencing severe level of stress.

Conclusion: Stress was a very common health issue among students in Sri Lanka, mainly due to academic factors while life-style and social factors also lead to increase the stress level. Although majority of students were not experiencing severe stress level, it is important to implement strategies to manage the exposure to stressors during academic period.

Key Words: *Stress, Students, Education.*

The Study of the Evaluation of Self-Medication Practices among Nurses in Matara District, Sri Lanka

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Introduction: Self-medication is usually defined as intake of any type of drugs for treating oneself without professional supervision to relieve an illness or condition. The purposes of the study were to evaluate self-medication practices among nurses in Matara, to find out reasons for self-medication practices, to identify frequently used drugs, to identify for what illness/illnesses a particular drug or drugs are taken and to identify perception on seeking self-medication.

Methodology: Descriptive, cross-sectional study was conducted among 165 nurses. Data was collected using a self-administered questionnaire. Data were analyzed using IBM SPSS 20.

Results and Discussion: Prevalence of self-medication was 72.1%. Self-medication practice was found more in male (80%). The most common indications for self-medication were to relieve the fever (26.4%). Analgesics (32.1%) were the most common drugs used for self-medication. The major reasons for self-medication were knowledge about drugs and prior experience on use. The sources of the medicines are pharmacy, family, friend, leftover medications and ward. The sources of drug information were own theoretical and practical knowledge, previous prescriptions and pharmacist. 13.2% of the respondents had a positive attitude towards self-medication, stating that it was acceptable practice and no harm to follow.

Conclusion: Self-medication was a frequent practice among the nurses. Although self-medication is difficult to eliminate, interventions can be made to discourage this practice and ensure safer usage of drugs. For that it is paramount to have an active participation of health care professionals, specially physicians and pharmacist, besides the help from the pharmaceutical industry, government regulations and continuous inspection by the competent authorities.

Key Words: *Self-medication, Over-the-counter Drugs, Nurses.*

A Study on Oncology Nurses' Experiences on Providing Palliative Care for Children and their Families in the Pediatric Setting at a Government Hospital in Colombo District, Sri Lanka

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Introduction: The role of registered nurses is complex and involves the holistic provision of nursing care from the beginning till the end-of-life. Although pediatric palliative care is a specialty area, many nurses identify pediatric nursing as a field of interest and therefore, require the appropriate education and supports to ensure the best care is provided. The aim of this study was to explore the experiences of nurses caring for palliative children and families.

Methodology: A qualitative study was done on 8 nurses until the point of saturation was achieved in a Government Hospital using convenience sampling through one-to-one in-depth interview. Data analysis was done using thematic analysis.

Results and Discussion: The participants shared their stories with vivid detail and conveyed the richness and lasting influence of these experiences on them as nurses and as people. The caring they provided was influenced by who the nurses were, the knowledge they possessed, the context of their workplaces and societal beliefs about children dying, and the families to whom care was given. The relational practice abilities of the nurses proved to be an overarching theme, as regardless of the scenario the nurse was in, the ability to connect with a child and family was foundational.

Conclusions: Participants appeared to be deeply impacted by their early and more recent experiences with end-of-life care. Participants' descriptions of personal growth and development of coping strategies were seen as positive outcomes from their initial experiences with pediatric palliative care. The experiences of nurses were greatly influenced by their practice settings. The dichotomy between healing and dying was seen as particularly challenging in pediatric nursing and was influenced by society's common belief that children do not die. Nurses struggled to communicate with some families about topics that were perceived as difficult such as end-of-life care decision-making; and nurses did not feel confident and competent in their knowledge of pediatric palliative care.

Key Words: *Palliative Care, End-of-life Care.*

Isolation and Determination of the Efficiency of Azo Dye Degrading Microorganisms

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Introduction: The current dye removal methods based on chemical, physical and biological methods and several factors determine the technical and economic feasibility of each signal dye removal technique: dye type, waste water composition, dose and cost of chemicals, operation cost, environmental fate and handling cost of generated waste products. Biological dye removal techniques are based on microbial bio transformation of dyes. As dyes are designed to be stable and long lasting colorants they are not easily biodegradable. Investigation to bacterial dye bio transformation have so far mainly been focused to most abundant chemical classes, that of the azo dyes.

Methodology: Sterilized enrichment media was prepared and Azo dye (Remazol yellow) was dissolved in sterile water then dye was added into sterilized enrichment media in a conical flask. Waste water sample was introduced into enrichment medium containing dye in the conical flask. Then it was incubated with continuous shaking. Un-inoculated growth medium was used as the control. Azo dye degrading microorganisms were enriched by repeating the above procedure for several days. Azo dye was introduced into autoclaved Lb agar medium and it was poured into sterilized plates. Then plates were allowed to solidify the agar at room temperature. Then enriched microbes were spread on the agar plates and incubated. Absorbance values were measured at filter 42 (340nm – 550nm) by using a colorimeter for three samples including blank sample.

Results and Discussion: Control sample absorbance was given as 0.73 which is the highest value, since there is no microorganisms in this sample and microbial degradation is not occurred and added azo dye remain as it is. Since absorbance is recorded as intensity, highest color intensity can be seen in the control sample due to the absence of discoloration. Azo dye plus microorganism sample absorbance was 0.70. It is lower than that of the control, which indicates the presence of azo dye degrading microorganisms in the waste water sample. Sample that contains other dye and microorganisms given the absorbance value as 0.68. That is much lower than that of the azo dye.

Conclusion: Electron withdrawing nature of the azo linkage abstracts the susceptibility of azo dye molecules to oxidative reactions. In the mechanism of azo dye reduction chromophoric groups that contain azo bonds are disrupt and the absorption in the visible region is therefore lowered heading to the removal of the dye color. Since reduced aromatic amines do not absorb light in the visible spectrum, the azo dye reduction represents a discoloration process.

Key Words: *Environmental Pollution, Azo Dyes.*

A Study on Health Knowledge for Identifying Allergic Conditions among Residents in Nuwara-Eliya District, Sri Lanka

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Introduction: An allergy is a hypersensitive reaction due to the hyperactivity of one's immune system to certain substances like dust, cold air and is more prone to occur in cold areas, due to favorable microbial growth environment. The objective of this research was to assess the health knowledge to identify allergic conditions among residents in Nuwara Eliya District, Sri Lanka.

Methodology: A descriptive cross-sectional study was done on 116 residents in Nuwara Eliya District, selected using purposive sampling, data collection was done using a self-administered questionnaire.

Results and Discussion: Among the 116 participants, majority were males and within the age group of

19-30 (60%, n=70). 85.3% (n=99) stated they don't have any allergic conditions but 78% (n=77) of them had difficulties in breathing in a cold environment. 66% (n=77) stated that they do not have any allergic reactions caused due to cold weather but 45% (n=35) of them showed allergic reactions to dust and pets. 80% (n=93) said they get a cold every time they get caught in a rain and 75% (n=70) of them showed allergic reactions related to the respiratory tract. 40% (n=46) of the candidates showed allergic reactions when they were exposed to dust particles and from them 96% (n=40) did not take immediate actions on their allergic condition.

Conclusion: It was revealed that most of the residents in cold areas have allergies due to cold weather. Their knowledge regarding identifying allergic conditions were not sufficient and they were not taking any actions to control these allergic reactions.

Key Words: *Allergies, Cold Weather Allergies, Health Knowledge.*

Assessing the impact of Mobile Phones on Students' Academic Performance in College of Nursing, Ampara

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Introduction: With the development of modern technology, mobile phones have become an essential part in the lives of people all around the world. Mobile phones can be used as an empowering tool for student nurses in keeping up-to-date knowledge about clinical practices and modern nursing if they do not misuse it. Objective of the study was to analysis the impact of mobile phones on students' academic performance in College of Nursing, Ampara.

Methodology: A quantitative, descriptive cross-sectional study was done using a convenience sampling. The information was gathered using a structured self-administered questionnaire. 230 nursing students from four nursing batches in College of Nursing, Ampara was used as the sample. Data was analyzed using Microsoft Excel software.

Results and Discussion: Among 230 participants, 91% have actively used mobile data to surf and browse the internet. Most of the students use the mobile phone for more than 1-3 hours daily (73%) and majority of them used internet for browsing and social media (56%) than educational purposes. Most of them (53%) have used mobile phone during lectures and clinical setup only for study purposes. They have used mobile phones during clinical practices as they can improve their knowledge without delay and noting down new information is easier with mobile phones. When considering their attitudes towards mobile phone usage for education, more than half (67.59%) had agreed that mobile phones play a vital role in achieving study targets. 88.69% students had agreed that there are possible health risks when using mobile phones while, 7.82% are strongly disagreeing to that statement.

Conclusion: Majority of the student had a positive attitude towards using mobile phones and agrees they are beneficial for educational purposes. Students were using mobile phones while clinical practices to improve their knowledge. However, at the same time, it can be concluded that they waste so much of their time by on social media and other e-entertaining facilities.

Key Words: *Mobile phones, Internet, Education.*

Analysis of the Impact of Advertising on the Healthcare Training Industry: Case Study on ABC Healthcare Training Institute

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Introduction: This research will identify the actual research gap through view of different persons who are into healthcare training programs and who are not interested in this program. The purpose of this study was to identify the relationship between advertising and the decision of selecting healthcare training programs as a professional career pathway.

Methodology: The research design, effectively addressing research problem, represents the blueprint of data collection, analysis and recommendations. The primary data were collected from ABC institute students. Secondary data were based on journal articles, research, and publications.

Results and Discussion: Collected 118 feedbacks analyzed and presented the findings. The data were selected within the ABC healthcare training institute and from four different disciplines. All responses were analyzed through SPSS software. According to the responses it was evident that the majority were interested in the study program. As per the feedback, majority of the students were after Advanced Level examination and they have selected Nursing as their future carrier. Further, they have got the information about industry through their family and friends which were 100% true and accurate. Advertising also provided information about industry and about the organization.

Conclusion: When it comes to decision-making behavior, according to the analysis, it has influenced in various ways. Mainly, once they saw the advertisement about the organization, they have changed their decisions. As per the records, it may not influence in majorly and in some occasions it influenced in an average percentage.

Key Words: *Education, Advertisement, Healthcare, Branding.*

A Study on Awareness on Oral Hygiene and Practices among Patients Attending the Outpatient Department in a Government Hospital in Rathnapura District, Sri Lanka

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Introduction: Oral diseases are a major public health concern owing to the high prevalence and effects on quality of life of an individual. The purpose of this study is to assess the awareness on oral hygiene and practices among patients who attend the outpatient department in government hospitals in Rathnapura District.

Methodology: A descriptive cross-sectional study was done on 75 adults, between 30-60 years of age who attended the outpatient department of a government hospital in Rathnapura District, Sri Lanka. Random sampling method was used and a predesigned questionnaire was used to collect data. Data was analyzed using Microsoft Excel software.

Results and Discussion: Out of the participants, 10% stated that they do not clean their tongues and also 16% stated that they brush their teeth just once a day. 53% of the participants stated that they do not have adequate knowledge regarding dental health; however, the rest of the population had adequate knowledge given by government hospitals. 55% of the participants have never been into an oral health clinic and 89% has never done an oral cancer screening test. 32% of the participants consumed sweets more than twice a day and 22% washed their mouths after consuming sweets. 59% stated that the reasons for oral cancers are by tobacco/areca and 11% of the participants stated that they consume them while 33% chew betel. 79% stated that calcium is a vital nutrient for oral health.

Conclusion: It was evident that majority of the participants do not have adequate knowledge on oral hygiene. The major factor for this could be because the attendance for the oral health clinics is low.

Key Words: *Oral Hygiene, Awareness, Outpatient Department.*

Assessment of Awareness and Practices on Waste Management Methods among Student Nurses in College of Nursing, Ampara

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Introduction: The problem of waste management has become a serious issue of concern. Hence the objectives of this study were to assess the awareness and practices on waste management methods among student nurses.

Methodology: A descriptive cross-sectional study was done among 305 student nurses using a self-administered questionnaire and analyzed using Microsoft Excel software.

Results and Discussion: Among participants, 91% were aware of proper waste management. With regards to waste disposal methods, majority (58%) used public bins while 2% of students used open areas at NTS to dispose waste. 9 % used street sides and 31% used a separate place to dispose waste. The majority of respondents (54%) were aware of the color codes on waste disposal bins.

Conclusion: It was evident that student nurses do have a considerable amount of knowledge on proper waste management methods and use of color codes. However, practices of proper disposal methods are relatively low. Hence, it is important to implement methods to improve proper waste management practices among nursing students.

Key Words: *Waste Management, Student Nurses, Color Code.*

Assessment of Agrochemical usage by Vegetable Farmers in Dambulla, Sri Lanka

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Introduction: Agrochemicals have become a vital part in vegetable cultivation. Agrochemical usage in Dambulla is relatively high especially due to the highly favourable conditions for rapid spread infections. Recently public concern related to health risks associated with agrochemical residues in vegetables has been increased. The purpose of this research was to assess agrochemical usage practices and knowledge among farmers in Dambulla, Sri Lanka.

Methodology: A descriptive cross-sectional study was done on 50 vegetable farmers in Dambulla area using a self-administered questionnaire.

Results and Discussion: The most commonly used type of agrochemicals were insecticides (95.7%). 53.2% of the farmers who applied agrochemicals before appearance of symptoms have had education only up to O/L's or below. A majority of farmers (50%) who applied agrochemicals at post-harvest stage had a maximum of 15 years of experience. 28.3% of participants did not adhere to the 2-week pre-harvest interval. Out of the 50, 38 (80.9%) farmers read the information on the label. A majority of 70.2% of farmers used the recommended dosage while 55.3% made agrochemical mixtures. 71.7% of farmers wore protective garments when spraying agrochemicals and 25% of the participants applied the surplus solutions to the same crop. Out of the 37 farmers who were aware of biological pest management methods only 23 (62.2%) used them.

Conclusion: Most of the issues in practices can be related to lack of knowledge due to poor education. Therefore, knowledge among farmers should be increased.

Key Words: *Agrochemicals, Dambulla, Vegetable farmers.*

Assessment of the Nature of Stress among Teenage Students in Colombo District, Sri Lanka

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Introduction: Stress plays a major role in causing depression and thereafter has a potential to initiate suicidal ideation in susceptible groups of people due to the over reactivity of the body stress mechanism. The purpose of this study was to assess the nature of stress among teenage students in relation to their education, personal relationship, economy and environment in the Colombo District, Sri Lanka.

Methodology: Descriptive cross-sectional study was done on 179 participants from Colombo District, selected using purposive sampling, using a self-administered online questionnaire.

Results and Discussion: Among the 179 participants, 82% feel both worried a lot and frightened. 56.4% gets a reduced or an increased appetite when they are stressed. 64% do not plan on having a balanced meal when they are stressed. 35% see repeated bad dreams when they are asleep. 58% experiences both an inability to control anger and a difficulty to cooperate with new people. 68% of them like to spend time alone than with families. Majority (65.4%) have stated that feel they stressed for both tuition and stationary costs. 55.3% have a problem in remembering things. 40% stutter when they talk to other people.

Conclusion: It was revealed that most of the teenage students experience high levels of stress in relation to their education, personal relationships, economy and environment.

Key Words: *Stress Levels, Teenage Students.*

Study on Knowledge, Attitudes and Practices on Handling Healthcare Waste in Clinical Setting among Student Nurse

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Introduction: The modern medical sector has been producing a high volume of clinical waste. This will gradually increase health and safety hazards. Hence, it is necessary for a student nurse have proper knowledge on that in order to adhere to the relevant methods of disposing each category of healthcare waste. This study was conducted to assess the knowledge, attitudes and practices on healthcare waste in clinical setting among student nurses.

Methodology: A descriptive cross-sectional study was done among student nurses in Ampara District. Data collection was done via a self-administered questionnaire from 100 student nurses. Results were analyzed using Microsoft Excel Software.

Results and Discussion: From the total population, 88% had proper knowledge regarding identification of the type of healthcare waste. 91% of the participants had good knowledge regarding color code of clinical waste. Furthermore, 80.3% had good practices regarding and 86.8% had good attitudes towards management of clinical waste.

Conclusion: The results of this study shows that majority of the nursing students had good knowledge, attitudes and practices regarding healthcare waste management. However, it is necessary that all the nursing students have the same knowledge and practices. Hence, there should be a proper review and ongoing monitoring in order to maintain proper safety levels.

Key Words: *Healthcare Waste Management, Knowledge, Attitudes, Practices.*

Pain Assessment on Basketball Players in Colombo District, Sri Lanka: A Pilot Study

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Introduction: Sports related injuries and associated pain are common consequences of participating in sports. Sport related injuries can be divided into three main types; acute injuries which can either allow the player to continue playing or a condition such as a severe ankle sprain which would prevent the player's participation for a short period of time; players who will not be able to play for the entire season; and career-ending injuries. The aim of this pilot study was to identify the prevalence of pain among basketball players. The results will be taken to develop an island-wide study on pain assessment for basketball players.

Methodology: A descriptive study was conducted on conveniently selected 18 recreational basketball players residing in the Colombo District. Data collection was conducted using an interviewer-administered questionnaire. Data was analyzed using Microsoft Excel to disseminate results descriptively.

Results and Discussion: All basketball players who were taken into the study were suffering from musculoskeletal pains mainly in shoulder region, elbow region, wrist-to-hand region, upper back to lower back region, and knee, ankle and foot region. Most of the pains lasted at least for 2 days. 60% of the players complained that they were having pain while engaged in the game. However, only 40% of the respondents complained that the pain remained constant even after the game. It was identified that the pain and discomfort decreased gradually when they stopped playing or practicing for at least one week (73.3%). Although they were suffering from multiple musculoskeletal pains, they were not willing to stop engaging in the game.

Conclusion: Basketball players were suffering from multiple musculoskeletal pains. Most of the pains were experienced while they were engaged in play; however, pain symptoms gradually reduced. Although pain and discomfort could affect their day-to-day life activities, they were not willing to stop playing basketball. Further studies are recommended with a larger sample to find the prevalence and risk factors for pains among basketball players.

Key Words: *Pain, Basketball, Musculoskeletal.*

Determination of Salmonella Infection Induces ER Stress Responses on Proteins or Chaperons Utilizing Western Blot

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Introduction: Endoplasmic reticulum (ER) is found in all eukaryotes and it is responsible for a large number of biosynthesis, such as the folding of membranes, secretion of proteins, synthesis of lipids and steroids and storage of free calcium ions. Physiological stresses such as high level of secretory load or pathological stresses can lead to a disproportion between the demand for protein folding and the capability of the ER for protein folding, thereby causing ER stress. These stress distinguishing proteins will either protect the cell or cause apoptosis by its own signals. In order to identify and react to ER stress, eukaryotic cells have a special set of signal transduction pathways, together known as Unfolded Protein Response (UPR). UPR consists of a group of trans-membrane ER-resident proteins, including Inositol-Requiring Protein 1 (IRE1), Activating Transcription Factor (ATF)-6 and PKR-like Endoplasmic Reticulum Kinase (PERK). The aim of the study was to investigate whether the salmonella infection induces stress on ER by using proteins or chaperons using western blot.

Methodology: Hela cells were infected with salmonella typhimurium and the samples were collected and extracted post infection. The infection was identified by counting colonies by using colony forming unit (cfu). Then the proteins were quantified by using SDS PAGE Electrophoresis and transferred to nitrocellulose membrane. The nitrocellulose membranes were incubated with primary antibodies GAPDH, CHOP and α -KDEL. The primary antibodies were then treated with secondary antibody HRP (Horse Radish Peroxidase) to detect the primary antibodies and detected by western blot system. And the procedure have been performed with ER stress inducing drugs Tunicamycin and Thapsigargin

Results and Discussion: The GAPDH, α -KDEL and CHOP were expressed on this experiment when the ER stress stimulating drugs were used. During the CHOP expression it has raised and its functions were mediated to programmed cell death. The experiment with salmonella infection samples showed a light and unclear band. This could be due insufficient antibody. The antibodies may have lost their activity or insufficient protein on the sample. In the final experiment it was treated with high-sensitive detecting substrate and the signals were observed but the results could not be confirmed as it showed lots of dense bands.

Conclusion: The link between bacterial infection and ER stress has not been widely experimented or not yet been fully understood the mechanisms. The studies have not been widely connected to bacterial infections. The further studies on this sector have to be done with different control drugs at different time points.

Key Words: *ER Stress, Niche of Salmonella Infection, Protein, Chaperons.*

Study on the Perception of Benefits and Barriers of Exercising in Diabetic Population in Colombo District, Sri Lanka

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Introduction: Diabetes is a widespread condition that has caused many disabilities in people and exercising is a major factor in controlling the condition. However, there seems to be many barriers as well as benefits of engaging in physical activities. The aim of the study was to assess the benefits and barriers for exercises in diabetic patients, the relationship between physical exercises and diabetes and the awareness regarding physical exercises for diabetes.

Methodology: A descriptive cross-sectional quantitative survey study was conducted on conveniently selected 200 adults in Colombo District, Sri Lanka. Data collection was done using an interviewer- administered questionnaire.

Results and Discussion: A majority (63%) of participants agreed that exercising improves their overall body functioning. However, on the other hand a majority (43.5%) agreed that the greatest barrier for exercising was because they did not have a convenient schedule to exercise. A majority of the population (71%) were aware that they are living at a risk of diabetic complication and were also motivated to exercise. Yet, from the participants who were diagnosed with diabetes for more than 5 years, only 21.2% were engaged in physical activities for more than 45 minutes per day.

Conclusion: The majority of the people who have been diagnosed with diabetes were aware that participating in physical activities is beneficial for them, yet only a few were actually participating in adequate physical activities.

Key Words: *Exercises, Perception, Benefits, Barriers, Diabetes Mellitus.*

A Study on Assessing the Knowledge and Practices Regarding Dental Fluorosis and its Prevention among the People of Habarana, in Anuradhapura District, Sri Lanka

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Introduction: Dental Fluorosis is a restorative condition that affects the teeth. It is caused by overexposure to fluoride amid the initial eight years of life. The sole objective and purpose of doing this research is to find out how knowledgeable people are and what are the practices regarding dental fluorosis among the people of Habarana in Anuradhapura District, Sri Lanka.

Methodology: A descriptive cross-sectional study using a convenient sampling technique was taken place and data was collected by via an interviewer-administered questionnaire from people above 18 years in Habarana.

Results and Discussion: Out of 100 participants, 51% were from the age range 35-59, and 88% were females. From the participants, 24% had dental fluorosis, 65% brushes teeth twice a day, and 59% get water from private water tanks. 32% of the participants were not satisfied with the water they drink and 24% agreed that there is hardness in the water. 51% of the participants stated that they are boiling water after getting from private water tanks. 65% of them knew that when they get dental fluorosis it can be cleaned and 42% of the participants agreed that for a person with dental fluorosis, it would be cosmetic issue as well as a psychological burden. Majority (85%) are visiting a dentist only when they get toothaches. They further stated that now they are getting filtered water which doesn't have hardness.

Conclusion: According to the results, these people were aware about dental fluorosis. A significant proportion of population didn't know that it could be cleaned. Recently, they have started using filtered water. Even though they were not satisfied before, most of them are satisfied now with the quality of water they are getting.

Key Words: *Dental Fluorosis, Fluoride, Cosmetic.*

Assessment of Risk Perception on Sports Injuries among School Cricketers in Western Province, Sri Lanka

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Introduction: Cricket is a popular sport in Sri Lanka. It is even more popular among the sports curriculum of schools. Many school children engage in cricket during their school life. However most students are unaware of the risks involved and the right management that needs to be taken when an injury take place. In this study we have focused on the risk perception of school cricketers and the health education and management awareness of sports injuries. The purpose of this study was to assess the risk perception of school cricketers and their awareness of management to prevent and steps following sports injury.

Methodology: A descriptive study was done among 200 school children doing cricket as sports and selected using convenience sampling from schools in the western province, using an interview administered questionnaire.

Results and Discussion: Majority of the players are between 15-17 years of age and have experience of over 2 or more years. Almost 90% of the players are aware of the risks and injuries that can be sustained during the sport. Many players wear protective equipment and clothing only during matches and avoid them during practice. 67% of the players who wore all protective equipment when playing only sustained sprains and small wounds and it healed within a few days. Batsman and ballers who did not wear helmets or gloves and cricket pads sustained head and wrist injuries. Only 45.8% of schools provided a physiotherapist or a healthcare professional and routine checkups were done but rarely.

Conclusion: Most school cricket players are aware of the risks but take very few protective measures to sustain from them. They only wear protective clothing during matches and avoid them during practice. Also a warm down session is very rarely done leaving more chance for sprains and soreness after a practice session. Proper health education and management of risks must be given to school cricket players.

Key Words: *Risk Perception, Cricket, HCP, Healthcare Professional.*

Knowledge and Attitudes of Blood Donation among Nursing Students in Ampara District, Sri Lanka

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Introduction: Blood donation is a self-directed volunteer service which provides safe blood and it requires optimal fulfillment of strict selection criteria. Education had positive influence on attitudes towards blood donation. The main purpose of this study to assess the level of knowledge and attitudes of Nursing Students and identify barriers to donate blood.

Methodology: A descriptive cross sectional study was conducted among 200 Nursing Students in College of Nursing, Ampara which was selected through stratified random sampling. Self-administered questionnaire was used for data collection.

Results and Discussion: Majority of respondent were Buddhist 74%, mean age of respondents was 19 - 28 years and majority were female 87%. Knowledge is higher in who had never donated blood (72.5 %). But 27.5% of the participant had donated blood. Majority of the participant (36%) had positive attitudes but lack of knowledge regarding blood donation. 24% of the participant had positive attitudes and they are knowledgeable. 18% participants were knowledgeable but they had negative attitudes. Similarly majority of respondents (22%) had negative attitude and lack of knowledge. Among respondents, Pain and fear about cannulization (27%) and Physical changes and body image changes (27%) were the most common barriers for donation. Other reasons were transmission of infections (10%), Doubt of donation procedure (14%) ,other causes(22%).

Conclusion: It was revealed that the figures on Knowledge and Attitude towards donation of blood in College of Nursing, Ampara, required to be improved and empowered. The implementation of educational programs in educational sessions, Media presentations will help to improve their knowledge and attitudes towards blood donation.

Key Words: *Blood donation, Young age group, Knowledge, Attitude.*

A Study on Relationship between Common Sleep Problems and Academic Performance among Allied Health Sciences Students of selected Universities in Sri Lanka

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Introduction: University students are increasingly recognized as a population group that is greatly affected by sleep difficulties. Recent studies have found out consequent academic performances are particularly dependent on sleep patterns. The aim of this study was to assess the relationship between common sleep problems and academic performance among Allied Health Sciences students of selected universities in Sri Lanka.

Methodology: This descriptive cross sectional and comparative study was conducted with 292 Allied Health Sciences students in University of Ruhuna and University of Peradeniya. All students except first year students and new comers were invited for the study. Data was collected using a pre-tested self-administered questionnaire.

Results and Discussion: According to frequencies, excessive daytime sleepiness displayed as the commonest sleep problem and sleep walking was least common and specifically 84.9% of the population was having at least one sleep problem. 69.2% of the population had excessive daytime sleepiness. Furthermore, it was evident that the participants with a sleep problem were more prone to have low grades at the exam than who did not have any sleep problem.

Conclusion: More than one third of this population was having at least one sleep problem and having a sleep problem has affected negatively on academic performance.

Key Words: *Academic Performances, Allied Health Sciences Students, Sleep, Sleep problems.*

A Study on Awareness on Causes for Suicides and Suicide Prevention Strategies among Youth in the Colombo District, Sri Lanka, 2018

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Introduction: Suicide is taking one's own particular life. Suicide awareness is a proactive effort to raise awareness around suicidal behaviour. It is focused on reducing social stigmas and vagueness by bringing attention to suicide statistically and sociologically and encouraging positive discussion and commitment as to prevent suicide. The general objective of this study was to evaluate the awareness on causes for suicides and suicide prevention strategies among youth in the Colombo District.

Methodology: A descriptive cross-sectional study was done among youth in Colombo District, Sri Lanka. A self-administered questionnaire was given for data collection to 155 participants between aged 15 to 25 years.

Results and Discussion: Majority of participants were aged between 18 to 20 years (51%). Participants with Advanced Level qualification have the highest awareness of suicide (54%). 54% of the participants have agreed that counselling would help in preventing suicide. 63.7% of the participants were aware about the prevention strategies of suicide. Majority (81.2%) of the participants were aware about the risk factors of suicide. A/L students have agreed that mental health stigma can cause individuals to attempt suicide (40.9%). 62% of the participants have agreed that depression leads to suicide. 49.6% of participants were aware about the suicidal behaviour patterns. 59% of participants have agreed that people with negative perspectives of life have more risk to attempt suicide. Participants (49%) aged that 18-20 years have agreed that depression leads to suicide. Majority of the participants' (92%) both of the parents were alive and they have agreed that talking to family members can prevent suicide (70%). Participants who were single agreed that grief, shame and afraid could result in suicide attempts (71.3%).

Conclusion: It is revealed that the majority of the participants were aware about the causes for suicides and suicide-prevention strategies.

Key Words: *Suicide, Awareness, Prevention.*

A study on Healthy Lifestyle related to Nutrition among Individuals in the Slums in Colombo, Sri Lanka

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Introduction: Sri Lanka is a country with more than 20 million people in population. The population density is the highest in the Colombo District, which also serves as the industrial, business and economic hub in Sri Lanka. Although Colombo is a fast-growing city, there are slums where the standard of health is below average. The purpose of the study was to understand the nutritional aspects of the slum dwellers in Colombo District in relation to BMI.

Methodology: A qualitative study accompanied with one-to-one, in-depth interviews and quantitative BMI measurements among randomly selected 20 people was done. Qualitative data was analyzed and disseminated thematically while BMI measurements were taken to support the study.

Results and Discussion: Majority of the participants were either obese or overweight, based on their BMI. Background of most of the individuals were low income with extended families, with a minimum number of 3 children. It was explored that food patterns of majority were routine consumption of high carbohydrate and sugar containing foods and use of excessive amounts of palm oil when preparing food. The awareness among these communities about their health and food patterns were poor.

Conclusion: Majority of slum dwellers in Colombo District were either overweight or obese. They did not engage in healthy food practices. Therefore, it is important to introduce awareness programs on nutrition and healthy lifestyle. Large scale studies are recommended to find out specific issues in the nutrition and health in slum dwellers.

Key Words: *Slum, Nutrition, Diet, Lifestyle.*

Experimental Study on Recycling Plastic to Build Paving Stones

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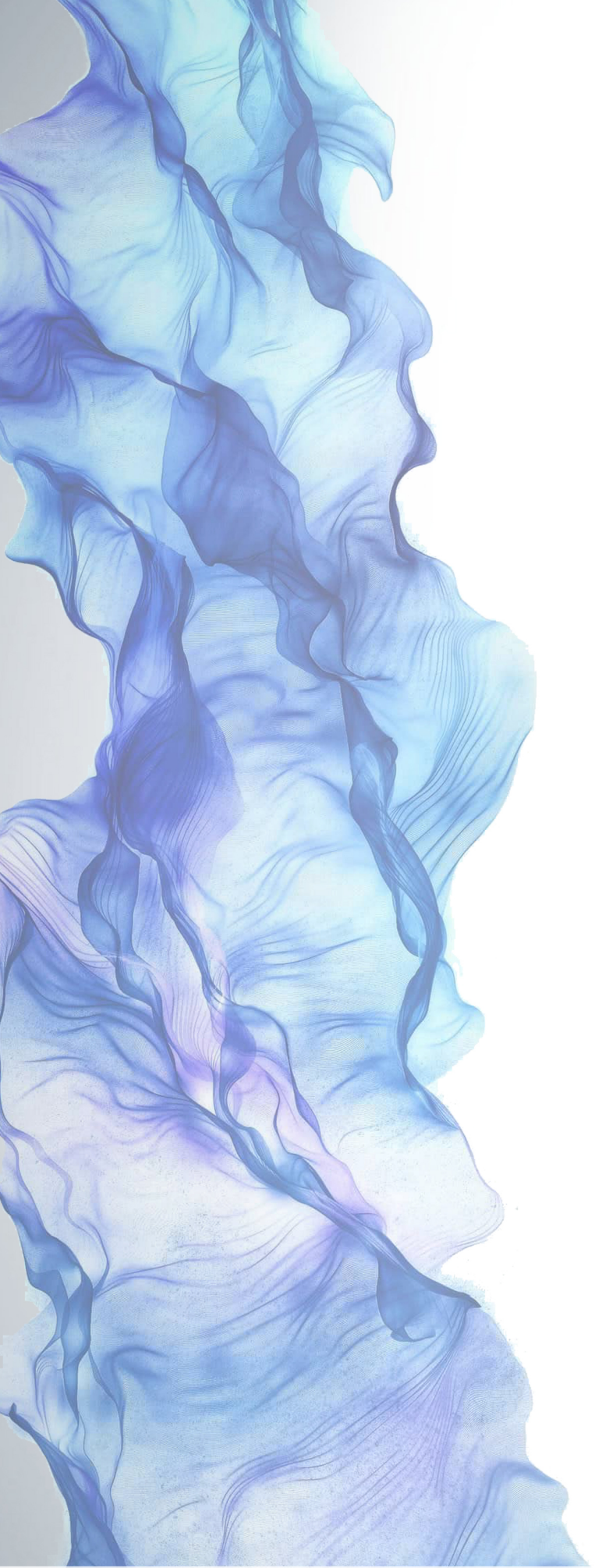
Introduction: Solid waste is considered as an urban issue and is described as materials generated from the result of human daily activities. At present, rate of urbanization is increasing rapidly. This increases the challenges to waste disposal. The purpose of the study was to introduce a new method of plastic recycling through making paving stones.

Methodology: Concrete used in this test was developed from modifying the gross weight of concrete by replacing 150g- 200g fine aggregate with the plastic and sand. 40 empty 1L-plastic bottles were crushed and cut into pieces were molten and mixed with sand and ordinary cement, 2.589kg of quarry dust and 150g sand into 3 separate samples. Block samples in the size of 10cm×10cm×10cm (length×width×thickness) were produced using a hollow wooden mould of 10cm inner diameter and the mechanical and physical properties of them, such as compressive strength were tested.

Results and Discussion: Due to the addition of plastic materials, the weight of the block was significantly reduced. The weights of the concrete blocks in the age of 7 days correspond to cement block, sand block and quarry dust block were 0.726 kg, 0.556 kg and 0.524 kg respectively. It can be seen that, the compressive strength of the block decreased with the increased proportion of plastic. For the concrete block with plastic, the early compressive strength develops slowly due to the decrease of cement consumption.

Conclusions: The compressive strength of the 3 blocks tended to decrease with increases in the plastic proportion in respective raw materials and with the increased proportion of plastic material, the energy consumption capacity of all 3 blocks has been improved. Further studies are recommended to check the durability of the paving stones.

Key Words: *Plastic, Waste Management, Recycling, Paving Stones.*



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