

URS 2020



Proceedings of the 3rd Undergraduate Research Symposium

*Together today for a safe and healthy
tomorrow*

**Faculty of Medicine &
Faculty of Allied Health Sciences
University of Jaffna
January 19, 2021**

**Proceedings of the
3rd Undergraduate Research Symposium 2020**

Faculty of Medicine & Faculty of Allied Health Sciences

University of Jaffna

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Message from the Vice Chancellor of the University of Jaffna

The university is a knowledge centre. The basic functions of a university are imparting and disseminating knowledge through teaching and learning, research and the conduct of seminars, symposia and extension programmes. The University of Jaffna, since its inception, has supported and sustained a quality research culture. This is reflected in the vision of the university to become a center of excellence in research. Over the decades, the university has produced many scholars with great reputation. The research culture at the University of Jaffna is enhanced by the research conferences and symposia hosted by its different departments and faculties.

The University of Jaffna is also strongly committed to cultivating an interest in and yearning for research among its undergraduates. The 3rd Undergraduate Research Symposium, co-hosted by the Faculty of Medicine and Faculty of Allied Health Sciences, under the theme “Together today for a safe and healthy tomorrow,” is an important event in this regard. As we confront the COVID-19 pandemic, it is critical that we encourage our students to collaborate across disciplinary boundaries in their collective pursuit of knowledge.

I am indeed proud that the budding healthcare professionals produced by the University of Jaffna possess a strong foundation in research, and are provided opportunities, such as this annual symposium, to demonstrate the research skills they have acquired during their undergraduate years. I congratulate the staff of the Faculties of Medicine and Allied Health Sciences on their initiative to organize this student research symposium.

I wish the student researchers the very best at the 3rd Undergraduate Research Symposium and hope that other faculties will conduct similar collaborative research symposia in the future.

Prof. S. Srisatkunarajah
Vice Chancellor
University of Jaffna

Message from the Dean of the Faculty of Medicine

It is indeed a pleasure to send this message for the proceedings of the 3rd Undergraduate Research Symposium (URS2020).

The Undergraduate Research Symposium is an annual event at the Faculty of Medicine, University of Jaffna. This year it is being held as a joint effort between the Faculty of Medicine and Faculty of Allied Health Sciences, a timely initiative considering the importance of interprofessional collaboration in public health and clinical practice.

The 3rd Undergraduate Research Symposium will provide a platform for undergraduates of both faculties to share their research findings, and discuss them with fellow colleagues, academics, and clinicians. Recognizing the role of research in evidence-based medicine, I urge the students of both faculties to work towards developing their abstracts into journal articles in the future.

I sincerely thank Prof. S. Srisatkunarajah, Vice Chancellor, University of Jaffna, and Dr. C. S. Nachinarkinian, the Chief Guest, for gracing this occasion. I also thank the URS2020 Organizing Committee of the Faculty of Medicine and Faculty of Allied Health Sciences, for organizing this event in the midst of the COVID-19 pandemic.

Lastly, I extend my heartiest congratulations to the student researchers and wish them a fruitful and rewarding experience at the 3rd Undergraduate Research Symposium.

Prof. S. Raviraj
Dean
Faculty of Medicine
University of Jaffna

Message from the Dean of the Faculty of Allied Health Sciences

I am very pleased to give my message to the Proceedings of the Undergraduate Research Symposium 2020 jointly organized by the Faculties of Medicine and Allied Health Sciences.

This symposium is in line with the vision of our university to be a centre of excellence in research and scholarship. The faculties of Medicine and Allied Health Sciences have come forward in fulfilling this vision by organizing this research symposium.

This research symposium will provide a great opportunity and a platform to the students of the two faculties to engage in and carry out fruitful research and to present their research findings with their peers. I am sure that this research symposium will definitely take the talents of our students a step ahead of others. Further, research symposia like this provide an ideal platform for undergraduate students to develop their critical thinking skills, analytical skills, and communication skills, which are all essential for a highly skilled professional in the modern world.

I am very sure that our students will make this a good opportunity to enhance their skills further and be first in line to compete with the world. My wholehearted congratulations and wishes to our students for a successful symposium.

*Mrs. Deivy Thabotharan,
Dean
Faculty of Allied Health Sciences,
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Panel of Evaluators

Oral Presentations

Dr. V. Ambalavanar, Department of Microbiology, Faculty of Medicine

Dr. R. Gajanthan, Teaching Hospital Jaffna

Prof. T. Kumanan, Department of Medicine, Faculty of Medicine

Dr. C. S. Nachinarkinian, formerly Department of Community & Family Medicine, Faculty of Medicine

Dr. S. Premakrishna, Teaching Hospital Jaffna

Dr. S. Rajendra, Department of Surgery, Faculty of Medicine

Dr. K. Sanchayan, Department of Pharmacology, Faculty of Medicine

Dr. S. Sivaganesh, Office of the Provincial Director of Health Services - Northern Province

Poster Presentations

Dr. A. Arasalingam, Department of Medicine, Faculty of Medicine

Dr. B. Balagobi, Department of Surgery, Faculty of Medicine

Dr. R. Gajanthan, Teaching Hospital Jaffna

Dr. S. Homathy, Department of Pathology, Faculty of Medicine

Dr. S. Raguraman, Department of Obstetrics and Gynaecology, Faculty of Medicine

Dr. K. Sanchayan, Department of Pharmacology, Faculty of Medicine

Dr. B. Sayanthan, Department of Surgery, Faculty of Medicine

Dr. S. Sivaganesh, Office of the Provincial Director of Health Services – Northern Province

Abstracts of Oral and Poster Presentations

Oral presentations
Theme 1: Mothers and Children

OP1

Knowledge and attitudes towards adverse events following immunization (AEFI) and associated sociodemographic factors among mothers with young children in the paediatric wards of Teaching Hospital Jaffna

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Background and objective: All vaccines in the National Immunization Schedule are safe and effective, but adverse events may occur. It is important that parents have good knowledge and favourable attitudes towards immunization. This study aims to assess knowledge and attitude towards AEFI and their association with sociodemographic factors among mothers with young children in the paediatric wards of Teaching Hospital Jaffna.

Methods: A descriptive cross-sectional study was conducted among 410 mothers having children below 5 years, selected by systematic sampling, from the paediatric wards of Teaching Hospital Jaffna. Period of research was from December 2018 to February 2020. Data were collected using an interviewer-administered questionnaire and analyzed using the chi-square test. Knowledge was categorized into good, moderate, and poor according to a scoring system. Attitudes were measured by using a Likert scale.

Results: Almost two-thirds of the sample (62%) had good knowledge on AEFI; a large majority were able to correctly identify symptoms of AEFI such as fever (99%), and swelling, redness and pain at the injection site (80.2%). Most mothers disagreed that they feared getting medical advice when their child experienced AEFI (78%); over 90% disagreed they would omit their child's next vaccination if an AEFI was experienced. A large majority (95.1%) agreed they would seek medical advice if their child had persistent fever. Knowledge was significantly associated with number of children ($p=0.007$) and family income ($p<0.001$).

Conclusion: The majority of mothers visiting the paediatric clinics of THJ know about AEFI. Number of children and family income influence knowledge on AEFI, but not attitude.

Keywords: AEFI, Expanded Programme on Immunization, Knowledge, Attitudes, Mothers

Oral presentations
Theme 1: Mothers and Children

OP2

Knowledge on child developmental milestones, developmental stimulation and associated sociodemographic factors among parents attending child welfare clinics in MOH Karaveddy

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Background and objective: Developmental milestones are age-specific tasks that most children can do at a certain age range. It is essential to understand normal development and acceptable variations in normal developmental patterns to recognize possible developmental disabilities in children. This study aims to describe the knowledge on child developmental milestones, developmental stimulation and associated socio-demographic factors among parents attending the child welfare clinics in MOH Karaveddy.

Methods: A descriptive cross-sectional study was carried out on parents (mother or father) of one- to thirty-six-month-old infants and toddlers attending the child welfare clinics in MOH Karaveddy between October and November 2019. Stratified sampling was used to select participants. An interviewer-administered questionnaire was used to assess knowledge on child developmental milestones and developmental stimulation. Data were analyzed using SPSS (v22) software. In scoring knowledge, 15 points were allocated for knowledge on child developmental milestones (11-15 Good, 06-10 Average, 0-5 Poor), and a total of 05 points for knowledge on developmental stimulation (2.5-5 Good, 0-2.4 Poor).

Results: In total, 352 parents participated in the study. Over half (57%, n=200) had good knowledge on child developmental milestones, with 40% (n=139) and 3% (n=13) having average and poor knowledge, respectively. A large majority (95.5%, n=336) had good knowledge regarding developmental stimulation. Knowledge on child development milestones was significantly correlated with parental age ($r=0.1$, $p=0.001$). Knowledge on child developmental milestones was significantly higher in parents who had completed O/L ($p=0.017$).

Conclusion: There is an association between age and educational qualifications of parents and their knowledge on child developmental milestones.

Key words: Child Developmental Milestones, Parents, Medical Officer of Health, Jaffna

The factors associated with anaemia among pregnant women in the first trimester attending antenatal clinics at Teaching Hospital Jaffna

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Background and objective: Empirical evidence suggests a high prevalence of anaemia among pregnant women in Jaffna. The objective of this study was to determine the factors associated with anaemia among pregnant women in the first trimester attending the antenatal clinics of Teaching Hospital Jaffna.

Methods: This descriptive cross-sectional study was conducted among 204 pregnant women in their first trimester attending antenatal clinics at Teaching Hospital Jaffna between October and November 2019, using an interviewer-administered questionnaire. Convenient sampling method was used to collect data. The data were entered in EpiData and SPSS software was used to perform descriptive and inferential statistical analysis.

Results: Mean age of the sample was 27.8 years (range, 21 to 30 years). Mean haemoglobin level was 11.3 g/dL, ranging from 6.8 g/dl to 15.8 g/dl. The proportion of women with anemia (haemoglobin level <11g/dl) was 40.7% (95% CI: 34.1 to 47.5). Over two-thirds (68.1%) of the sample were between 21 to 30 years and among them 44.6% were anaemic. In the sample, 17.6% were underweight and among them 44.4% were anaemic. Just below half (49.5%) were primi mothers and among them 65.1% were anaemic. Only 12.3% women had heavy menstrual bleeding and among them 60% were anaemic. Age, BMI, parity, and a past history of heavy menstrual bleeding were associated with anaemia during pregnancy.

Conclusion: Anaemia among first trimester pregnant women attending antenatal clinics at Teaching Hospital Jaffna was around 40%. Anaemia in pregnancy is associated with age, BMI, parity, and a past history of heavy menstrual bleeding.

Keywords: Anaemia, Pregnancy, Iron Deficiency, Maternal Morbidity

Breastfeeding practices and its associated factors among female schoolteachers in the Jaffna Education Zone

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Background and objective: The rate of exclusive breastfeeding is low in Jaffna (64.4%) compared to the national average (75%) (2014 data). Studies reveal that mothers who return to work tend to abandon breastfeeding partially or completely for many reasons. Limited research has been done to assess breastfeeding practices among working mothers in Sri Lanka. This study aims to describe breastfeeding practices and their associated factors among female schoolteachers with children under 3 years of age in the Jaffna Education Zone.

Methods: This was a school-based descriptive cross-sectional study carried out among all female schoolteachers with children under 3 years of age in the Jaffna Education Zone. The study was carried out between December 2018 and February 2020. No sampling methods were used as the estimated sample size exceeded the study population. A self-administered questionnaire was used to collect data. Data entry and analysis were done with SPSS 21.

Results: Among 126 teachers, 50.8% (n=64) practiced exclusive breastfeeding for 6 months, and 24.6% (n=17) teachers continued breastfeeding beyond 2 years. The majority reported reduced breast milk after returning to school (77.8%, n=98) and used formula milk for their children (86.5%, n=109). More mothers from nuclear families (60.0%) practiced exclusive breastfeeding compared to mothers from extended families (42.4%) and this difference was statistically significant ($p < 0.05$). Age, educational qualification, religion, monthly family income, teaching activities at school during weekends, maternity leave, isolated nursing room facility in school, refrigerator facility in school, and adjustment of timetable during school hours were not associated with the breastfeeding practices of teachers.

Conclusion: Most teachers in Jaffna are not practicing exclusive breastfeeding for six months. Exclusive breastfeeding is influenced by the type of the family of the teacher.

Keywords: Exclusive Breastfeeding, Formula Milk, Nuclear Families, Maternity Leave

Pre-pregnancy Body Mass Index and gestational weight gain among pregnant women admitted to Teaching Hospital Jaffna

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Background and objective: Pre-pregnancy Body Mass Index (BMI) and gestational weight gain is an important predictor of perinatal outcomes and even long-term health and wellbeing of mothers and children. This study aimed to determine the association between pre-pregnancy BMI and gestational weight gain and its correlates among pregnant women admitted to Teaching Hospital Jaffna.

Methods: This descriptive cross-sectional study was conducted among 427 pregnant mothers who had delivered babies in the obstetrics wards of Teaching Hospital Jaffna during October and November 2019, using an interviewer-administered questionnaire. Convenient sampling was used to select the study sample. Data were entered in EpiData software and analyzed using SPSS software. Descriptive and inferential statistics were performed.

Results: Median age of the participants was 29 years (IQR 26 to 33). Of the 427 participants, 13.8% (n=59) had BMI<18.5 kg/m², 48.5% (n=207) had BMI between 18.5 and 25 kg/m² and 30.2% had BMI>25 kg/m². The majority of mothers had insufficient weight gain (54.8%, n=234), while 31.4% (n=134) and 13.8% (n=59) of mothers gained adequate and excess weight, respectively. Gestational weight gain was significantly associated with pre-pregnancy BMI (p<0.001), having gestational diabetes mellitus (p<0.001), hypertension (p<0.001), extent to which diet was affected by the pregnancy (p=0.034) and number of antenatal field clinic visits (p=0.005).

Conclusion: Majority of pregnant women attending antenatal clinics at Teaching Hospital Jaffna have insufficient weight gain during pregnancy. Gestational weight gain is associated with pre-pregnancy BMI, gestational diabetes mellitus, hypertension, extent to which diet was affected by pregnancy and number of antenatal clinic visits. Measures should be taken to improve maternal weight gain.

Keywords: BMI, Gestational Weight, Antenatal Care, Jaffna

Oral presentations
Theme 1: Mothers and Children

OP6

Participation in pre-pregnancy counselling among primi women attending antenatal clinics at Teaching Hospital Jaffna

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Background and objective: Preconception counselling is an important component of reproductive healthcare. Preconception care includes the provision of biomedical, behavioural, and social health interventions to women and couples before conception occurs. This study aimed to describe participation in pre-pregnancy counselling and determine the factors associated with participation among primiparous women attending the antenatal clinics of Teaching Hospital Jaffna.

Methods: This descriptive cross-sectional study was conducted among all primiparous women (n=338) who attended the antenatal clinics at Teaching Hospital Jaffna from October to December 2019. Data were collected using an interviewer-administered questionnaire. Data were entered in EpiData software. Descriptive and inferential statistical analysis was performed using SPSS software.

Results: The response rate was 85% (288/338). Mean age of the participants was 25.7 (± 4.4) years. Majority were housewives (84.4%, n=243), Hindus (76.7%, n=221) and not educated beyond GCE O/L (59.4%, n=171). In the sample, 160 (55.6%) participants had received pre-pregnancy counselling, and 112 (38.9%) had been registered in the Eligible Couple Register before pregnancy. Being registered in the Eligible Couple Register was associated with a greater likelihood of participation in pre-pregnancy counselling (p=0.009), pre-pregnancy folic acid supplementation (<0.001), and pre-pregnancy anthropometric measurement (p<0.001). Women with an educational level above GCE O/L were more likely to participate in pre-pregnancy counselling (p=0.004) and receive pre-pregnancy folic-acid supplementation (p<0.001).

Conclusion: Participation in pre-pregnancy counselling is suboptimal and needs more attention in Jaffna. Being registered in the Eligible Couple Register and having a higher education level is associated with a greater likelihood in participating in pre-pregnancy counselling. Measures should be taken by medical officers of health to improve the rate of registration of eligible couples.

Keywords: Preconception Counselling, Primiparous Women, Antenatal Care, Pregnancy Registration, Teaching Hospital Jaffna

Knowledge and attitude on autism spectrum disorder among public health midwives of Jaffna District

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Background and objective: Autism Spectrum Disorder (ASD) is a neurodevelopmental disorder characterized by persistent deficits in social communication and interaction, and restricted, repetitive patterns of behavior. A rising prevalence of ASD has been demonstrated globally; in Sri Lanka, 1 in 93 children are known to be affected. Adequate knowledge and favourable attitudes of public health midwives (PHM) regarding ASD may facilitate early detection of ASD and reduce complications. This study was conducted to assess the knowledge and attitude on ASD among PHM in the Jaffna district.

Methods: A descriptive cross-sectional study was conducted among all PHM working in the Jaffna district. Data were collected using a self-administered questionnaire and analyzed by SPSS (v23). The questionnaire included 12 questions on knowledge. A Likert ranking scale was used to measure attitude. Knowledge and attitudes were categorized based on pre-defined cutoff values.

Results: A total 176 PHM participated. Among them 49.4% had good knowledge on ASD; 35.2% and 15.3% had moderate and poor knowledge, respectively. The majority (92%) of participants correctly identified ASD as a neurodevelopmental disorder. About two-thirds (66.5%) believed that ASD was completely curable if detected early. Very few (1.1%) were aware of the Modified Checklist for Autism in Toddlers (M-CHAT) screening tool. A majority had good knowledge on signs and symptoms of ASD related to social interaction (79%), communication (98.3%), and behavioral patterns (88.7%). Many were not aware of the ASD centers existing in Sri Lanka (54%) and Jaffna (46.6%). In this study, all participants had favourable attitudes towards ASD.

Conclusion: A large proportion of PHM working in the Jaffna district do not have good knowledge on ASD. However, their attitudes are favourable towards ASD.

Keywords: Knowledge, Attitude, Autism Spectrum Disorder, Public Health Midwives, Jaffna

Preference of mode of delivery and associated factors among pregnant mothers attending antenatal clinics of Teaching Hospital Jaffna

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Background and objective: There has been an increase in the rate of caesarean deliveries globally. Maternal knowledge, attitudes, sociodemographic and other factors are known to influence preference of mode of delivery. This research aims to assess preference of mode of delivery and its association with knowledge, attitude and socio-demographic factors among pregnant mothers attending antenatal clinics of Teaching Hospital Jaffna.

Methods: This is an institution-based descriptive cross-sectional study among pregnant women who attended the antenatal clinics of Teaching Hospital Jaffna between November and December 2019. Data related to sociodemographic factors, maternal knowledge, and attitudes towards modes of delivery were collected by using an interviewer-administered questionnaire. Chi-square test was used to analyze the association between variables. $P < 0.05$ was considered significant.

Results: Among 427 participants, 359 (84.1%) preferred vaginal delivery and 68 (15.9%) preferred caesarean section as their mode of delivery. Advanced age ($p=0.003$), parity ($p < 0.001$), previous mode of delivery ($p < 0.001$), income ($p=0.036$) and maternal knowledge on modes of delivery ($p < 0.045$) were significantly associated with preference of mode of delivery. Older, multiparous, and mothers representing the higher income group were more likely to prefer caesarean delivery, while mothers with good knowledge were more likely to prefer vaginal delivery. Most mothers preferred their previous mode of delivery as their delivery method.

Conclusion: Preference of mode of delivery is influenced by past experiences as well as a range of sociodemographic and obstetric factors. Noteworthy is that good knowledge on mode of delivery is associated with a preference for vaginal delivery, suggesting that maternal health literacy may help to reduce the incidence of unnecessary caesarean sections.

Keywords: Maternal Preference, Mode of Delivery, Antenatal Clinic, Jaffna

Asymptomatic bacteriuria, sensitivity patterns of isolated bacteria, and influencing factors in pregnant women attending antenatal clinics of Teaching Hospital Jaffna

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Introduction and objective: In pregnancy, asymptomatic bacteriuria could lead to maternal and foetal complications. Antimicrobial resistance (AMR) remains a challenge in treatment. This study aimed to determine the prevalence of asymptomatic bacteriuria, antibiotic sensitivity patterns of isolated bacteria and associated factors among pregnant women attending antenatal clinics of Teaching Hospital Jaffna.

Methods: This was an institution-based cross-sectional study. Midstream urine specimens were collected from 5th February to 5th March 2020 and inoculated onto appropriate culture media. Sensitivity patterns were tested according to the Laboratory Manual in Microbiology of the Sri Lankan College of Microbiologists. Data were analyzed using chi-square test and Fisher's exact test in SPSS (v23).

Results: Of the 180 samples, 29 (16.1%) yielded significant growth. *Escherichia coli* were most common (48.3%), followed by coagulase negative Staphylococcus (31%), *Pseudomonas aeruginosa* (17.2%) and *Klebsiella pneumoniae* (3.4%). The antibiotic sensitivity pattern of *E. coli* isolates was: nitrofurantoin 85.7%, norfloxacin 92.9%, nalidixic acid 21.4% and ampicillin 64.3%. Coagulase negative staphylococci were mostly sensitive to cefoxitin, nitrofurantoin and norfloxacin, and resistant to penicillin and gentamicin. *Pseudomonas aeruginosa* were mostly sensitive to meropenem, cefepime and netilmicin, and resistant to amikacin, aztreonam, ceftazidime and norfloxacin. *Klebsiella pneumoniae* were mostly sensitive to nalidixic acid and norfloxacin, and resistant to nitrofurantoin and ampicillin. Higher culture positivity was observed in multiparous women, <20 years of age, in the third trimester, having at least GCE O/L, but these associations were not statistically significant.

Conclusion: The observed prevalence of asymptomatic bacteriuria is relatively high compared to reported studies in Sri Lanka. The predominant uropathogens were *E. coli*, coagulase negative Staphylococcus, *Pseudomonas aeruginosa* and *Klebsiella pneumoniae*. Although the majority were sensitive to nitrofurantoin and norfloxacin, AMR remains a problem.

Keywords: Asymptomatic Bacteriuria, Antimicrobial Resistance, Pregnancy

Knowledge and practice regarding parental self-medication among parents of paediatric patients at Teaching Hospital Jaffna

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Background: There seems to be a common belief amongst parents that some childhood illnesses are minor and that they do not require a doctor's consultation. Inappropriate parental self-medication may lead to an increase in hospital admissions and morbidity. This study aimed to determine the knowledge and practice regarding parental self-medication and the influence of selected sociodemographic factors among parents of paediatric patients admitted to Teaching Hospital Jaffna.

Method: This was a hospital-based descriptive cross-sectional study carried out among 173 parents of patients admitted to paediatric wards of Teaching Hospital Jaffna. Systematic sampling was used to select the participants. Data were collected by using an interviewer-administered questionnaire and analyzed using SPSS 23 with the significance level set at 0.05. Chi-square test, Fisher's exact test and Mann-Whitney U-test were used to determine the relationship between parental self-medication and other variables.

Results: In total, 173 parents participated with a response rate of 94%. Mean age of the sample was 32 (± 5.5) years; most were mothers (92.8%) and housewives (73%). Among the respondents, 87.7% had self-medicated their children. Previous experience with drugs (99.3%) and mild illness (96.5%) were the most common reasons for self-medication. The most common condition for self-medication was fever (99.3%). A significant association was observed between knowledge on parental self-medication and highest educational qualification ($p < 0.001$) and occupation ($p < 0.001$). With respect to practice, older children were more likely to be self-medicated than younger children ($p < 0.001$).

Conclusion: The study revealed that parental self-medication is widespread. This indicates the importance of providing health education to prevent harmful parental self-medication practices.

Keywords: Parental Self-Medication, Knowledge, Practice.

Knowledge, attitude, and practice of breast self-examination among female staff in selected divisional secretariats of the Jaffna district

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Background and objective: Breast cancer is the most common cancer affecting women in Sri Lanka with a relatively high incidence in the Jaffna district. Though mammography is the gold standard for screening, 'breast self-examination' is helpful in early detection where mammography is not widely available. The purpose of this study was to describe the knowledge, attitude, and practice of breast self-examination and their associated factors among female staff in selected divisional secretariats in the Jaffna district.

Methods: This descriptive cross-sectional study was carried out among 275 female staff in Nallur, Vadamaradchi South-West and Jaffna Divisional Secretariats in the Jaffna district using a self-administered questionnaire. Scores were assigned to individual questions related to knowledge and a composite score was developed. Data were entered in Epidata and analyzed using SPSS software.

Results: The majority of participants were 35 years or above (55.3%, n=152), married (78.5%, 216), premenopausal (92.7%, n=255) and had not attended an awareness programme on breast cancer (53.5%, n=147). Among the participants, 60.7% had knowledge about breast self-examination and 38.6% were aware of the suitable period for breast self-examination. Forty percent of the sample performed breast self-examination monthly. Attendance of participants in awareness programmes was associated with positive attitudes towards breast self-examination (p=0.013).

Conclusion: This study shows that although women in the Jaffna district know about breast self-examination, few are aware of the details or perform breast self-examination monthly. Awareness programmes on breast self-examination may be helpful to motivate the public.

Keywords: Breast Self-Examination, Knowledge, Attitude, Practice

Nasal carriage of Methicillin-resistant *Staphylococcus aureus* (MRSA) among healthcare workers at selected units of Teaching Hospital Jaffna

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Introduction and objective: Approximately 30% of humans act as asymptomatic nasal carriers of *Staphylococcus aureus*. Healthcare workers may carry MRSA between the hospital setup and patients. This study aimed to determine the prevalence of nasal carriage of MRSA among healthcare workers at selected units of Teaching Hospital Jaffna.

Methods: Nasal swabs were obtained during a one-month period from healthcare workers from the neonatal, obstetric, medical, surgical, and accident/trauma intensive care units, Coronary Care Unit, Dialysis Unit, and operation theatres. Swabs were inoculated onto 7.5% NaCl nutrient broth, and, after overnight incubation, sub-cultured on to Blood Agar and Mac Conkey Agar. Catalase and coagulase (slide and tube coagulase) tests were carried out. Antibiotic disks gentamicin (10µg), clindamycin (2µg), ciprofloxacin (5µg), and erythromycin (15µg) were tested for sensitivity.

Results: Of 269 healthcare workers, 97 participated (response rate 36%). The sample consisted of doctors (13.4%), nursing officers (55.7%), health assistants (29.7%), and physiotherapists (1%). Among them, 70 (72.2%) showed culture growth. Within this group, 10 (14.3%) were nasal carriers of *Staphylococcus aureus*. Among them, 2 (20%) participants were carriers of MRSA, both nursing officers, one from the Neonatal Intensive Care Unit, and the other from the Coronary Care Unit. The overall MRSA nasal carriage rate was 2.8%. Nursing officers demonstrated the highest carriage rates (*Staphylococcus aureus* 18.5%, MRSA 3.7%). Both MRSA and Methicillin-sensitive *Staphylococcus aureus* (MSSA) isolates showed a high degree of resistance to erythromycin (60%). All MRSA and MSSA strains were sensitive to ciprofloxacin (100%); most were sensitive to gentamicin (90%) and clindamycin (70%).

Conclusion: Two nasal swabs obtained from nursing officers were positive for MRSA. The high non-response rate may have influenced the results.

Keywords: MRSA, Healthcare Workers, Nasal Swabs

Bacteria causing ear canal infections (otitis externa) and their antibiotic sensitivity from mobile phone headsets used by Allied Health Sciences students of University of Jaffna

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Background and objective: Sharing of headsets among university students is common practice. Headsets may be a source for bacterial contamination and infection, especially otitis externa. This study aimed to determine the prevalence of bacteria that predominantly cause ear canal infections and their antibiotic sensitivity patterns from mobile phone headsets used by Allied Health Sciences students of University of Jaffna.

Methods: This was an institution-based cross-sectional study of students of Faculty of Allied Health Sciences, University of Jaffna. Participants were selected by stratified proportionate to population random sampling based on batches and courses. Data on influencing factors were collected using a self-administered questionnaire. Bacteria were identified according to the Laboratory Manual in Microbiology of the Sri Lankan College of Microbiologists and ABST was done according to the Clinical Laboratory Standards Institute method (Edition 26).

Results: Of 246 headsets tested for bacterial growth, 195 (79.3%) were contaminated with bacteria. Among them, 159 headsets were contaminated with ear canal infection causing bacteria, most commonly *Staphylococcus aureus* (46.3%), followed by Enterobacteriaceae (8.5%), *Pseudomonas* (7.7%) and β -haemolytic streptococci (2.0%). Most strains of *Staphylococcus aureus* were sensitive to chloramphenicol 106 (89.8%), norfloxacin (89.0%), and ciprofloxacin (90.7%). Notably, MRSA strains were identified in 14 (12.3%) samples. Headsets of students who follow hospital postings were more likely to be contaminated (64.5%) than others; those of students who used headsets daily were more likely to be contaminated (69.1%). Shared headsets were more likely to be contaminated (71.5%) ($p < 0.001$).

Conclusion: A substantial proportion of mobile phone headsets used by Allied Health Sciences students of University of Jaffna are contaminated with ear canal infection causing bacteria. Attending hospital postings is associated with contamination of headsets.

Keywords: Bacteria, Ear Infections, Antibiotics Sensitivity, ABST, Headsets

***In vitro* antiurolithic effect of Siddha drugs with and without adjuvant on oxalate stones**R.M. Liyanawaduge¹, S. Sivagnanam², V. Arasaratnam³*Faculty of Allied Health Sciences, University of Jaffna**Department of Medical Laboratory Sciences, Faculty of Allied Health Sciences, University of Jaffna**Unit of Siddha Medicine, University of Jaffna**Department of Biochemistry, Faculty of Medicine, University of Jaffna*

Background and objective: Siddha drugs are indicated for the management of urolithiasis and coconut water is used as the adjuvant in indigenous medicine. This study was carried out to evaluate the *in vitro* antiurolithic effects of Siddha drugs *Silasaththu paspam*, *Nandukkal paspam* and *Venkara paspam* with coconut water (as the adjuvant) on oxalate stones collected by the Department of Biochemistry, Faculty of Medicine, University of Jaffna.

Methods: This is a laboratory-based experimental study design. Constituents in the Siddha drugs, adjuvant (coconut water) and their mixtures were analysed for calcium, magnesium, oxalate, uric acid, inorganic phosphate and citrate. For the *in vitro* antiurolithic activity evaluation, the oxalate stones were treated three times with each Siddha drug, adjuvant (coconut water) and their mixtures. Deionized water with the stone was used as the control. The solutions were decanted after 24 hours and fresh solutions were added into each tube. Soluble ions in every solution were calculated each day for 6 consecutive days.

Results: Without adjuvant, *Silasaththu paspam* had the best *in vitro* antiurolithic activity on calcium solubility [1.888 (\pm 0.95) mg] ($p < 0.05$). *Nandukkal paspam* had the best *in vitro* antiurolithic effect on oxalate solubility [1.167 (\pm 0.71) mg]. *Venkara paspam* had the lowest *in vitro* effect on both calcium [1.129 (\pm 0.55) mg] and oxalate [0.954 (\pm 0.55) mg]. Drugs with adjuvant had better *in vitro* antiurolithic activity than deionized water, Siddha drug and adjuvant (coconut water) alone. *Silasaththu paspam* with adjuvant gave the best *in vitro* effect on calcium [2.297 (\pm 1.25) mg] and oxalate solubility [1.869 (\pm 1.00) mg] ($p < 0.05$).

Conclusion: *Silasaththu paspam* with adjuvant (coconut water) demonstrates the best *in vitro* antiurolithic effect on both calcium and oxalate solubility on oxalate stones.

Keywords: Antiurolithic, Coconut Water, Oxalate Stone, Siddha Drugs

Serum uric acid level, fasting blood glucose and HbA_{1c} among type 2 diabetes mellitus patients with and without diabetic retinopathy attending the Diabetic Centre, Teaching Hospital Jaffna

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Background and objective: Diabetic retinopathy leads to onset of blindness, especially at advanced age. An increased serum uric acid level is commonly associated with alterations in retinal capillary permeability. This study was carried out to compare the serum uric acid (SUA) level and other biochemical and demographic parameters (fasting blood glucose (FBG), HbA_{1c}, age and duration of diabetes) among type 2 diabetes mellitus patients with and without diabetic retinopathy (DR) attending the Diabetic Centre, Teaching Hospital Jaffna.

Methods: A total of 96 type 2 diabetes mellitus patients attending the Diabetic Centre, Teaching Hospital Jaffna, were recruited. Patients with and without DR were selected by reviewing recent patient records issued by the Diabetic Centre, Teaching Hospital Jaffna. FBG and SUA levels were measured by standard enzymatic methods. Statistical analysis was done using student t test and Pearson correlation.

Results: Out of 96 type 2 diabetes mellitus patients, 43 (44.8%) had DR while 53 (55.2%) did not have DR. Among patients with and without DR: mean age was 67.2 (± 4.8) and 54.8 (± 10.2) years, respectively ($p < 0.001$); mean duration of diabetes was 13.4 (± 3.5) and 7.7 (± 6.1) years, respectively ($p < 0.001$); mean SUA level was 5.42 (± 1.43) and 4.79 (± 1.08) mg/dL, respectively ($p = 0.015$); mean FBG level was 160.6 (± 47) and 140.7 (± 43.9) mg/dL ($p = 0.021$), respectively; mean HbA_{1c} level was 8.06 (± 1.36) % and 8.01 (± 1.16) %, respectively ($p = 0.842$). There was a significant positive relationship between SUA level and age ($r = 0.315$, $p = 0.04$).

Conclusion: SUA level is significantly higher among patients with DR. It is recommended to carry out routine SUA level testing in diabetic patients for early identification of retinal complications.

Keywords: Diabetic Retinopathy, Serum Uric Acid, Type 2 Diabetes Mellitus

Delayed presentation of symptomatic breast cancer and associated factors among patients referred to Tellippalai Trail Cancer Hospital

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Background: Breast cancer is the commonest female malignancy in Sri Lanka. Late presentation is not uncommon, leading to poor survival outcomes. Delayed presentation of breast cancer is multifactorial. Hence, the present study aims to describe the factors influencing delayed presentation among patients with breast cancer referred to Tellippalai Trail Cancer Hospital.

Methods: This was a descriptive cross-sectional study conducted from 01st December 2018 to 31st January 2020. Data were collected using an interviewer-administered questionnaire. Delay was defined as more than 3 months from the recognition of symptoms to presentation to a medical professional. The questionnaire consisted of questions assessing socio-demographic factors, tumour-related factors, knowledge, and psychosocial factors.

Results: In total, 151 patients participated in the study. Mean age of participants was 57 years. Majority of the patients were married (77%, n=116) and diagnosed with stage II disease (61.5%, n=93). Over half (53%, n=80) had consulted a medical professional three or more months after noticing the first symptom. Lack of knowledge about breast cancer (p=0.019), lack of knowledge on available treatment facilities (p=0.039), cultural beliefs (p=0.047) and past experiences of loved ones with cancer (p=0.017) were significantly associated with delayed presentation.

Conclusion: Lack of knowledge and cultural beliefs may lead to delayed presentation of breast cancer in Northern Sri Lanka.

Keywords: Breast Cancer, Delayed Presentation, Jaffna

Distribution of ABO and Rh D blood groups among diabetic and non-diabetic patients attending medical clinics at Teaching Hospital Jaffna

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Background and objective: Diabetes mellitus is a major health concern worldwide. ABO and Rh D blood type is known to be associated with certain diseases. The genetic and immunological basis of diabetes mellitus suggests that the condition could be linked to blood type. This study aimed to determine the distribution of ABO and Rh D blood groups among diabetic and nondiabetic patients attending medical clinics at Teaching Hospital Jaffna.

Methods: A hospital-based descriptive cross-sectional study was conducted among 335 diabetic and 285 nondiabetic patients between February and March 2020. ABO and Rh D grouping was done by the tube agglutination method. Data were analysed by Statistical Package of Social Science and $p < 0.05$ was considered as statistically significant.

Results: Rh D negative blood group was significantly less common among diabetics (9.3%) than nondiabetic population (16.2%) ($p < 0.05$). O Rh D negative blood group was significantly less common in diabetics (2.5%) than nondiabetics (8.9%) ($p < 0.001$). Blood group A was more common in diabetics (24.1%) than non-diabetics (21.4%). Blood group B was more common in diabetics (28.5%) than nondiabetics (23.6%), and blood group O was more common in nondiabetics (45.8%) than diabetics (38.1%). However, these findings were not statistically significant ($p > 0.05$).

Conclusion: The present study shows that Rh D negative and O Rh D negative are less frequent in the diabetic population. However, ABO blood types do not show a significantly different distribution among the two populations. These findings may contribute towards research on the genetic relationship between the Rh D gene and the diabetogenic gene.

Keywords: ABO Blood Group, Rh D Blood Group, Diabetes Mellitus

Knowledge on management of intercostal drainage and factors associate with knowledge among nursing officers of Teaching Hospital Jaffna

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Background and objective: Ineffective nursing care of ICD may lead to life threatening complications. This study assessed the knowledge on management of ICD and the factors associated with knowledge among nurses working in Teaching Hospital Jaffna.

Methods: A descriptive cross-sectional hospital-based study was conducted among all nurses working in Teaching Hospital Jaffna. Self-administered questionnaires were used to collect data. Analysis was done using SPSS 25 and chi-square test was performed to find out the association. Ethics approval was obtained from the Ethics Review Committee, Faculty of Medicine, University of Jaffna.

Results: Mean age of the participants was 32.12 (\pm 7.17) years; 70% were female with the majority working in medical, surgical wards or intensive care units (ICU). More than half (51.2%) had <3 years' experience in the current unit. Only 15.3% had good knowledge, while 46.4% and 38.3% had moderate and poor knowledge, respectively. Knowledge had a significant association with education level ($p < 0.001$), special training ($p = 0.015$), student experience ($p = 0.034$), present working unit ($p < 0.001$), years of experience in the working unit ($p < 0.001$), nursing grade ($p = 0.001$), staff support ($p = 0.028$) and number of patients managed with ICD ($p < 0.001$). Participants with a diploma, who had special training or had experience with ICD in the student period or worked in ICU, at nursing grade 3, with <6 years' work experience in the current unit, and had managed a greater number of patients with ICD and had received staff support, were more likely to have good knowledge.

Conclusion: Knowledge on ICD is unsatisfactory among nurses at Teaching Hospital Jaffna. Pre- and in-service training may help to address this gap in knowledge.

Keywords: Intercostal Drainage, Chest Drain, Nurses, Knowledge, Teaching Hospital Jaffna

Delayed radioactive iodine therapy and patterns of failure and survival among differentiated thyroid cancer patients

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Background and objective: The optimal time to initiate radioactive iodine (RAI) therapy after surgery for differentiated thyroid cancers remains unclear. Guidelines recommend commencement of adjuvant RAI treatment for differentiated thyroid cancers within 12 weeks of surgery. In Sri Lanka, the average delay in offering RAI therapy varies from 3 to 24 months. This study aimed to measure the delay and describe treatment delays by patterns of treatment failure and survival.

Methods: An institution-based cross-sectional descriptive study was carried out among all patients with thyroid cancer referred to Tellippalai Trail Cancer Hospital between 1st April 2012 and 31st October 2019. Data were collected from patient records and analyzed using SPSS (Statistical Package for Social Science 23rd Version). Kaplan-Meier curves for overall survival and disease-free survival were calculated from which 5-year event-free rates were determined.

Results: A total of 150 patients were included in the study. Mean age of the sample was 43.6 years, 21 (14%) were males and 129 (86%) were females, and 128 (85.3%) patients were diagnosed with papillary carcinoma and 22 (14.7%) with follicular carcinoma. Thirty patients (20%) had lymph node metastasis; 87.3%, 10.7% and 2% were categorized as having low, intermediate, and high-risk disease, respectively. Only 27 (18%) received RAI within 12 weeks; just over half (51.3%) within 6 months; 34 (22.7%) within one year; and 11 (7.30%) after one year. Only 3 (2%) patients experienced recurrence; two had local recurrence and one had regional recurrence. Among those who had recurred locally, one received RAI therapy 3 to 6 months after surgery, and the other, a year after surgery. The patient who had recurred regionally received RAI therapy 3 to 6 months after surgery. None died of thyroid cancer.

Conclusion: This study suggests that the treatment failure rate is very low in spite of considerable delays in receiving iodine treatment.

Keywords: Thyroid Cancer, Radioactive Iodine Therapy, Treatment Delay, Jaffna

Pattern of upper gastrointestinal diseases in patients presenting with upper gastrointestinal symptoms to the Endoscopy Unit, Teaching Hospital Jaffna

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Background and objective: Digestive disorders affect millions of people worldwide with a significant impact on healthcare systems and quality of life. The aim of this study was to describe the pattern of upper gastrointestinal diseases among patients referred for upper gastrointestinal endoscopy (UGIE) to the Endoscopy Unit, Teaching Hospital Jaffna.

Methods: This was a descriptive cross-sectional study carried out among 300 patients with upper gastrointestinal symptoms who were referred for UGIE to the Endoscopy Unit, Teaching Hospital Jaffna, during the data collection period. We used a pretested interviewer-administered questionnaire to collect data. Frequencies and proportions were used to summarize the data.

Results: Among the participants (n=300), 172 (57.3%) were male and 128 (42.7%) were female. The mean age of the sample was 52.4 years (± 16.8 years), and the majority (89%) were in the over 40 years age group. With respect to common presenting symptoms, almost two-thirds (66.2%) presented with upper abdominal pain, followed by heart burn (61.4%), bloated stomach (61.1%) and nausea (54.9%). Gastritis was the commonest UGIE finding (23.8%), followed by peptic ulcer (21.5%), the latter comprising gastric (15.6%) and duodenal (5.9%) ulcers. Reflux oesophagitis was encountered in 11.4 %, hiatus hernia in 6.9%, and portal hypertensive gastropathy in 6.6%. No abnormalities were found in 14.5 %.

Conclusion: The diagnostic yield of UGIE with respect to gastritis, peptic ulcers, and reflux oesophagitis is considerably high, although a substantial proportion have normal findings.

Keywords: Upper Gastrointestinal Endoscopy, Dyspeptic Symptoms, Gastritis, Peptic Ulcer Disease, Jaffna

Knowledge, attitude, and self-reported practice related to healthy cooking among non-academic female staff of University of Jaffna

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Background and objective: Healthy cooking refers to cooking food without losing nutrients, using minimal amounts of sugar, salt, spice, and saturated fat, and also preventing formation of harmful substances during cooking. Healthy cooking may be a challenge for working women. We aimed to determine the factors associated with knowledge, attitude and self-reported practice related to healthy cooking among non-academic female staff of the University of Jaffna.

Methods: This descriptive cross-sectional study was conducted among all 427 eligible female non-academic staff in the Jaffna Campus of the University of Jaffna, from October to November 2019, using a self-administered questionnaire comprising sections for participant characteristics, knowledge, attitude, and self-reported practice in relation to healthy cooking. Descriptive and inferential statistics were computed using SPSS software.

Results: Response rate was 73.3% (313/427). Mean age of the participants was 32.4 (± 8.1) years. Of 313 participants, majority were Tamil (91.4%), Hindu (86.3%), married (52.7%), degree holders (55%). Knowledge items for which a smaller proportion scored correctly were “boiling of vegetable is better than steaming” (39.6%), “cutting vegetables into large pieces is not good for health” (30.4%) and “boiling vegetables using small amounts of water is better than over boiling them” (66.1%). The vast majority (93%, n=291) had gotten cooking knowledge from their families. Around a third (32.3%, n=101) indicated a preference for food prepared by frying. Nearly half reported washing vegetables after cutting (47.3%) and washing rice more than twice (47.3%) as routine practice. There was a statistically significant association between educational status and knowledge ($p=0.014$), and between age and attitude ($p=0.002$) and self-reported practice ($p=0.024$).

Conclusion: Knowledge and practice related to healthy cooking among female university staff needs improvement. Health promotion interventions to improve healthy cooking practices among staff should be implemented.

Keywords: Healthy Cooking, Knowledge, Self-Reported Practice, Attitude, University of Jaffna

Instrumental activities of daily living and associated factors among patients with lower limb fractures followed up at the orthopaedic clinics of Teaching Hospital Jaffna

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Background and objective: Fracture is a type of musculoskeletal injury that hinders performance of daily activities. Several factors influence the ability to engage in instrumental activities of daily living (IADL) among fracture patients. This study aims to assess IADL and the factors influencing it among adult patients with lower limb fractures attending the orthopaedic clinics of Teaching Hospital Jaffna.

Methods: This hospital-based descriptive cross-sectional study was carried out among 292 adult patients with lower limb fractures selected by systematic sampling from the orthopaedic clinics of Teaching Hospital Jaffna. Demographic details, fracture details, and existing medical conditions were obtained using an interviewer-administered questionnaire and data extraction sheet. The Lawton's Scale was used to assess IADL. Data were analyzed and processed with SPSS 21. Various statistical analytical tools were used, including percentages, contingency tables, and the chi-square test.

Results: IADL were severely affected in 68.5% of participants, while in 20.9% and 10.6%, respectively, IADL were moderately and mildly affected. There was a significant association between IADL and anatomical site of fracture ($p=0.001$), type of fracture ($p=0.035$), total number of fractures ($p=0.042$) and number of co-morbidities. With respect to anatomical site, IADL were most severely affected in participants with femoral and tibiofibular fractures. Other factors such as age, sex, marital status, and highest educational qualification were not significantly associated with IADL.

Conclusion: The ability to perform IADL was severely impaired among the majority of participants. Anatomical site of fracture, type of fracture, number of fractures and number of co-morbidities were associated with the ability to perform IADL. Early treatment and rehabilitation are required to improve the IADL of patients following lower limb fractures.

Keywords: Instrumental Activities of Daily Living, Lower Limb Fractures, Rehabilitation, Jaffna

Fall risk status and its associated factors among elderly patients attending medical clinics at Teaching Hospital Jaffna

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Background and objective: Falls, among the principal causes of morbidity in the elderly population, are predictable and preventable. This study aims to assess fall risk status and its associated factors among elderly patients attending medical clinics at Teaching Hospital Jaffna.

Methods: A hospital-based descriptive cross-sectional study was done among 197 elderly patients attending the medical clinics at Teaching Hospital Jaffna using systematic sampling. An interviewer-administered questionnaire was used to collect details on socio demographic factors, diseases, medications, cognitive status and fall risk. The Montreal Cognitive Assessment (MoCA, Tamil version) and Fall Risk Assessment Tool (FRAT) were used to assess the cognitive status and the fall risk status, respectively. The results of the MoCA were used in the cognitive assessment part of FRAT. Chi-square test, t-test and Pearson correlation were used to describe the association of different variables.

Results: Of 197 participants, only 24.4% had normal cognitive status while others had mild (55.3%), moderate (19.8%) and severe (0.5%) impairment. Over three-quarters (78.2%) had low fall risk, while 17.3% and 4.5% had medium and high fall risk, respectively. Fall risk was significantly higher in patients above 75 years ($p=0.001$) and in patients taking antihypertensives ($p=0.024$), hypolipidaemics ($p=0.025$) and diuretics ($p=0.009$). There was a statistically significant association between fall risk status and using alcohol and smoking ($p=0.047$), and having asthma/COPD ($p=0.047$). The Pearson correlation was significant at the 0.01 level between the FRAT score and number of comorbidities and number of drugs.

Conclusion: The fall risk status of elderly patients attending medical clinics of Teaching Hospital Jaffna is statistically significantly associated with age, use of antihypertensive, hypolipidaemics, diuretics, alcohol, smoking, having asthma/COPD, the number of comorbidities and number of drugs.

Keywords: Cognitive Status, Elderly, Fall Risk Status, Jaffna

Online video gaming and associated personal and academic factors among G.C.E. A/L students of Jaffna Educational Division

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Background and objective: The prevalence of internet gaming disorder is known to be high in Asian countries and among male adolescents. This study aims to determine the prevalence of online video gaming and describe associated personal and academic factors among GCE A/L students in Jaffna Education Division.

Methods: This is an institution-based descriptive cross-sectional study done among G.C.E A/L (year 2021) students in Jaffna Education Division. Thirty-four classes from 13 schools were selected by cluster sampling. Data were collected using a self-administered questionnaire. Presence of internet gaming disorder was assessed by the Internet Gaming Disorder Scale 9 – Short Form (IGDS9-SF) that contains nine questions on a 5-point Likert scale according to DSM-5 diagnostic criteria. Mean, standard deviation, and percentages were used to summarize data. Chi-square test, t-test and Pearson correlation were used to test for significance ($p=0.05$).

Results: Among 821 participants, 31.4% ($n=258$) played online video games, spending, on average, 2.36 hours (± 2.13 hours) per day. Among them, majority were male (79%, $n=204$). Being male ($p<0.001$), residing in a boarding ($p=0.012$) and parents' or guardian's monthly income being over Rs. 80,000 ($p=0.021$), were significantly associated with online gaming. Those who played online games spent more time with friends ($t=3.09$, $p=0.002$) and on leisure activities ($t=2.38$, $p=0.018$), compared to those who did not play online games. Time spent on learning activities was significantly negatively correlated with online gaming ($r= -0.12$, $p=0.046$). According to IGDS9-SF, 5 students (0.6%) had internet gaming disorder.

Conclusion: Online video gaming is widely prevalent among male GCE A/L students in the Jaffna Education Division, although less than 1% have internet gaming disorder. Education authorities should raise awareness among parents and students regarding this public health issue to control time spent on online games by students.

Keywords: Online Video Games, Internet Gaming Disorder, High School Students, Jaffna

Sleep quality and its associated factors among nursing officers of Teaching Hospital Jaffna

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Introduction and objective: Sleep is vital for maintaining mental and physical health. Poor sleep quality among healthcare workers could compromise patient safety and quality of care. Teaching Hospital Jaffna operates with over half its nursing cadre positions vacant. This study aims to assess sleep quality and its associated individual and work-related factors among nursing officers of Teaching Hospital Jaffna.

Methods: A descriptive cross-sectional study was carried out among all 545 nursing officers in non-administrative positions at Teaching Hospital Jaffna. Data were collected in October and November 2019 using a self-administered questionnaire, which was distributed to the participants and collected the next day. Sleep quality was measured by the Pittsburgh Sleep Quality Index (PSQI). Measures of central tendency, frequencies, and percentages were used to describe sleep quality and its associated factors. Associations between sleep quality and selected factors were measured by using the chi-square test.

Results: In total, 320 nurses participated (response rate 65%). Among those who completed the PSQI section of the questionnaire (n=310), 56% had poor sleep quality, and the remaining 44% had good sleep quality. Mean sleep duration was 5 hours and 53 minutes (± 83 minutes). Mean time taken to fall asleep was 29 minutes (± 36 minutes). Tea consumption ($p=0.003$), having a chronic disease ($p=0.004$), moderate exercise ($p=0.015$), leave days per month ($p=0.029$) and double shifts per week ($p=0.033$) were associated with sleep quality at the 0.05 level.

Conclusion: Poor sleep quality is widespread among nursing officers of Teaching Hospital Jaffna. Urgent action is needed to fill vacant nursing cadre positions at the hospital. Lifestyle modification may also improve the sleep quality of nurses.

Keywords: Sleep Quality, Nurses, Pittsburgh Sleep Quality Index, Jaffna

Knowledge and attitude regarding garbage disposal and associated factors among Grade 9 and 10 students in Jaffna Educational Division

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Background and objective: Improper garbage disposal remains a challenge in Jaffna. This study aims to assess knowledge and attitudes towards garbage disposal and associated individual and school-related factors among Grade 9 and 10 students in Jaffna Educational Division.

Methods: A descriptive cross-sectional study was conducted among 854 students selected by stratified cluster sampling. Data were collected by a self-administered questionnaire during school hours. A knowledge score was computed based on 35 items with cutoffs ($\geq 80\%$ good, 50-79% average, $< 50\%$ poor). Attitudes were scored as favourable, unfavourable or neutral based on a Likert scale (mean score > 0 favourable, < 0 unfavourable, 0 neutral). Data were analyzed on SPSS. Frequencies, percentages, and the chi-square test were used in the statistical analysis.

Results: In total, 831 students participated (response rate 97%). About a quarter (24%, $n=202$) had poor knowledge and 12% ($n=101$) had unfavorable attitudes. Over a third (40%) were not aware of disposal methods, 30% did not feel responsible for garbage disposal and 23% felt waste segregation was a nuisance. Being female ($p<0.001$), younger ($p=0.001$), parental education level being O/L or above ($p<0.01$), having a monthly household income of $>Rs.50,000$ ($p<0.001$), being given instructions on garbage disposal by teachers ($p=0.021$), presence of school environmental clubs ($p=0.011$), being a member of such a club ($p=0.004$) and presence of colour-coded bins in school ($p=0.001$), were associated with good knowledge. Being given instructions by teachers ($p<0.001$), presence of school environmental clubs ($p=0.014$), being a member of a club ($p=0.005$) and presence of colour-coded bins in school ($p=0.031$), were associated with favourable attitudes.

Conclusion: School-based health promotion interventions, specifically those led by students, may help to improve knowledge and attitudes on garbage disposal of the school-going population.

Keywords: Garbage Disposal, Knowledge, Attitude, Secondary Schools, Jaffna

Socialization activities and quality of life among the elderly in Thirunelveli East PHM area

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Background and objective: Quality of life among the elderly is multifactorial. Socialization plays a crucial role in social and psychological wellbeing. This study aims to assess socialization activities, quality of life and the relationship between socialization activities and quality of life among the elderly in Thirunelveli East PHM area.

Methods: This was a community-based descriptive cross-sectional study. Participants were selected by simple random sampling. Data were collected from October to December 2019 with an interviewer-administered questionnaire. Quality of life was measured by CASP19 (Control, Autonomy, Self-realization, and Pleasure 19). Data were entered in SPSS (v21) and analyzed using descriptive and bivariate statistical methods.

Results: The mean age was 70.6 years (± 7.4) with female predominance (53.6%, n=150). Almost half (49.6%, n=139) gathered in public places with friends at least once a year. Reading was the most popular recreational activity. Over half (52.9%, n=148) used social media, among them Viber (65.5%, n=97) and WhatsApp (64.9%, n=96) use were prominent. Although 235 (44.3%) preferred to go to places of worship, among them, 70% engaged in individual prayers. In the sample, 145 (51.8%) had good quality of life, while 127 (45.4%) had average and 8 (2.9%) had poor quality of life. Although there was no statistically significant association between socialization activities and quality of life ($p=0.215$), engaging in recreational activities ($p<0.05$) and involvement with friends and family ($p<0.01$) were associated with better quality of life.

Conclusion: The majority of elders in Thirunelveli East PHM area engage in socialization activities. Most elders read for recreation. Although widespread spirituality is prevalent, socialization is lacking in engagement in religious activities. Participating in recreational activities and involvement with family and friends is associated with better quality of life among the elderly in Thirunelveli East.

Keywords: Elders, Socialization, Quality of Life, Spirituality, Jaffna

Facebook addiction and associated factors among science undergraduates who use Facebook at University of Jaffna

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Background and objective: Addiction to social media is an emerging social problem among young people. Among social media sites, Facebook is a popular social media platform. This study aims to assess levels of Facebook addiction and associated personal, educational, and Facebook-related factors among undergraduate Facebook users at the Faculty of Science, University of Jaffna.

Methods: This descriptive cross-sectional institution-based study was conducted among first to third year students of Faculty of Science, University of Jaffna. Proportionate stratified sampling was used to select participants across batches. Data were collected with a self-administered questionnaire. The Bergen Facebook Addiction Scale was used to measure Facebook addiction. Frequencies and percentages were used to summarize the data. Associations between Facebook addiction and selected factors were assessed by the chi-square test. Ethical clearance was obtained from the Ethics Review Committee, Faculty of Medicine, Jaffna.

Results: Of the 345 science undergraduates who participated in the study, 87 (25.2%) did not use Facebook. Among 258 Facebook users, 121 (46.9 %) were not addicted, 88 (34.1 %) lightly addicted, 42 (16.2 %) moderately addicted, and 7 (2.7%) highly addicted. Being male ($p=0.001$), Sinhala ($p=0.001$), Buddhist ($p=0.001$), from a higher income background ($p=0.003$), in the second year ($p=0.044$), spending more time on Facebook ($p<0.001$), checking Facebook often ($p<0.001$), using mobile phones to access Facebook ($p=0.003$), and belonging to fewer groups that use it for educational purposes ($p=0.011$), was statistically associated with addiction.

Conclusion: Over half of science undergraduates who use Facebook at the University of Jaffna have scores compatible with addiction. Among them, a fifth are moderately or highly addicted. Several factors are associated with Facebook addiction. The findings may be used to prevent Facebook addiction among undergraduates of the University of Jaffna.

Keywords: Facebook Addiction, Undergraduates, Science, Jaffna

Knowledge and practice of edible salt usage among female staff of the Jaffna Municipal Council

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Background and objective: Empirical evidence suggests that edible salt consumption is high in Jaffna. The objective of this study is to assess the knowledge and practice of edible salt usage and determine the factors associated with practice of edible salt usage among female staff working at the Jaffna Municipal Council.

Methods: This descriptive cross-sectional study was done using an interviewer-administered questionnaire among all female staff (n=255) working in the Jaffna Municipal Council during October and November 2019. Data were entered in EpiData and analysed using SPSS. Scores were assigned to individual knowledge components and a composite score was developed. Chi-square test was used at 5% critical level.

Results: Response rate was 100%. Majority of the participants were aged over 40 years (56.5%, n=144), had studied up to A/L (64.7%, n=165), were Hindus (79.2%, n=202) and married (74.9%, n=191). Over 90% were aware that high salt is harmful to health (91.8%, n=234) and increases the risk of hypertension (92.9%, n=237). Over half (56.1%, n=143) did not look for the salt content in food labels. Age (p<0.001), educational level (p<0.001), marital status (p<0.001) and household size (<0.001) were associated with practices of salt usage.

Conclusion: Although awareness on harmful effects of salt is high among female staff of the Jaffna Municipal Council, nearly half do not check for the salt level in food labels. Age, educational level, marital status and household size are associated with practices of salt usage. Measures should be taken by public health authorities to motivate the public to check food labels before purchasing packaged food items.

Keywords: Salt Use, Jaffna Municipal Council, Knowledge, Attitude, Practice

Knowledge and practice in prevention of childhood obesity and factors associated with practice among mothers attending well-baby clinics in the Jaffna MOH Area

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Background and objective: In Sri Lanka, prevalence of overweight in children under 5 years is 2%. Parents play a critical role in shaping their children's dietary practices, physical activity, and sedentary habits. Assessing knowledge and practices in obesity prevention is important to reduce non-communicable diseases and complications during childhood and later in life. This study was conducted to assess the knowledge, practice, and influence of sociodemographic factors on practices in prevention of childhood obesity among mothers attending well-baby clinics in the Jaffna MOH area.

Methods: A field-based descriptive cross-sectional study was conducted among 197 mothers who attended well-baby clinics for vaccination during February and March 2020 in Jaffna MOH area. Consecutive sampling was used to recruit 197 mothers to the study. An interviewer-administered questionnaire was used to collect data. Data analysis was done using SPSS 25 and chi-square test was performed to analyze the results.

Results: Mean age of the participants was 31.79 (± 4.36) years; 64.4 % of participants were Hindus. Only 6.1% had good knowledge, 49.2% had average and the rest (44.7%) had poor knowledge. With respect to practice, a statistically significant relationship was found between family type and weekly fast-food ($p=0.003$), soft drink ($p=0.036$) and sweet ($p=0.049$) intake, where children belonging to nuclear families were more likely to consume unhealthy snacks. Parental educational level above O/L ($p<0.001$) and high monthly income ($p=0.02$) had a statistically significant relationship with weekly fried food intake.

Conclusion: Only 6.1% of mothers in the Jaffna MOH area had good knowledge regarding childhood obesity. Providing health education, conducting awareness programmes, and increasing the availability of healthy food options, may help to improve the knowledge and practice of parents in Jaffna.

Keywords: Knowledge, Practices, Childhood Obesity, Mothers

Oral presentations

Theme 4: Chronic illness/Misc.

OP31

Level of risk of pressure ulcers and influencing factors among elderly residents of the State Elders' Home, Kaithady

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Background and objective: Pressure ulcers are a common problem among patients who are bedridden and hospitalized for a long period. Elders are more prone to this problem. The development of pressure ulcers is influenced by many factors. This study aims to assess the influence of sociodemographic and health factors on the level of risk of pressure ulcers among elderly residents of the State Elders' Home, Kaithady.

Methods: This was a descriptive cross-sectional study among elderly residents of the State Elders' Home, Kaithady. Data were collected using an interviewer-administered questionnaire. Braden scale was used to assess the level of risk of pressure ulcers. The relationship between the level of risk of pressure ulcers and sociodemographic and health factors was analyzed using the chi-square test.

Results: In total, 204 elders, including 105 males and 99 females participated (response rate, 100%). In the sample, 9.8% had moderate to severe risk and 90.2% had mild to no risk of pressure ulcers. Elders over 75 years, had a higher risk of pressure ulcers (12.5%) compared to the 61 to 75 years age group (8.7%) but the association between age group and risk was not significant ($p=0.678$). There was a significant association between the risk of pressure ulcers and education level where elders who had not passed the Ordinary Level were at higher risk ($p=0.007$). Most participants with moderate to severe risk had impaired sensory perception and nutrition. Having hypertension ($p=0.03$), rheumatoid arthritis ($p=0.049$) and limb paralysis ($p=0.001$) showed a significant association with the level of risk of pressure ulcers.

Conclusion: Older age, low educational level, impaired sensory perception, and nutrition are associated with higher risk of pressure ulcers. Comorbidities such as hypertension, rheumatoid arthritis, and limb paralysis also have an influence on the risk of pressure ulcers.

Keywords: Pressure Ulcers, Elders, Sociodemographic Factors, Health Factors

Knowledge on pre-surgical informed consent and associated factors among patients undergoing general surgery in Teaching Hospital Jaffna

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Background and objective: Lack of knowledge on pre-surgical informed consent increases the likelihood of patient dissatisfaction with surgical care. The objective of our study is to assess knowledge on pre-surgical informed consent and describe the influence of patient and cultural factors on this knowledge among patients undergoing general surgery in Teaching Hospital Jaffna.

Material and Method: This descriptive cross-sectional study was carried out using an interviewer-administered questionnaire among 429 patients undergoing general surgery in Teaching Hospital Jaffna selected by systematic sampling from October to November 2019. Between group analysis was performed among those who had and did not have adequate knowledge. Data were analyzed using SPSS. Chi-square test was used at 5% critical level.

Results: More than half the sample comprised females (52.2%, n=223). A little less than half the participants had studied at least up to GCE O/L (48.7%, n=208) and 29.5% (n=126) had studied beyond GCE O/L. Majority were Hindus (92.5%, n=395) from Jaffna (80.1%, n=342). In the sample, 53.6% had inadequate knowledge on pre-surgical informed consent. Female sex (p=0.003), being middle-aged (30 and 60 years) (p=0.016), being a white-collar worker (p=0.001), higher education level (P<0.001), willingness to converse with the doctor (P<0.001) and reading the consent form completely (P<0.001), were associated with adequate knowledge.

Conclusion: Less than half the patients awaiting general surgery at Teaching Hospital Jaffna have adequate knowledge on informed consent. Improving the communication skills of healthcare workers and giving adequate time for patients to make an informed decision may help to improve the patients' knowledge on informed consent.

Keywords: Informed Consent, Knowledge, General Surgery, Teaching Hospital Jaffna

Usage of electronic resources for academic purposes among the medical students of University of Jaffna

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Background and objective: Medical education is coupled with the use of electronic resources. We aimed to assess the use of electronic resources for academic purposes and the factors associated their use among medical students of University of Jaffna.

Methods: This descriptive cross-sectional study was conducted among 427 medical students selected using stratified sampling from the 36th, 37th, 38th, 39th, 40th, and 41st batches at the Faculty of Medicine, University of Jaffna, using self-administered questionnaire. Data were analyzed by using SPSS (version 21). A composite score was developed to measure electronic resource use.

Results: Among the 427 participants, 365 students from 36th, 37th, 38th, 39th, 40th and 41st batches responded to our questionnaire with a response rate of 57%, 67%, 97%, 98%, 85% and 100%, respectively. Electronic devices used by medical students included mobile phone (98.1%, n=358), laptop PC (61.6%, n=225), tablet PC (45.8%, n=167), desk top PC (14.2%, n=52) and Kindle (4.7%, n=17). Purpose of electronic device use included downloading pdf materials (n=340, 79.6%), clearing doubts through internet (n=272, 63.7%), online dictionary (n=248, 58%), atlas on pdf or app (n=238, 55.7%), lecture video (n=227, 53.2%), use of e-book (n=214, 50.1%), taking pictures of specimens (n=195, 45.7%) and for 3D specimens (n=124, 29%). Electronic resource usage was associated with batch (p<0.001) and there was no evidence of association with sex and ethnicity.

Conclusion: Almost all medical students at the University of Jaffna use electronic devices, at least smartphones. Predominant uses included downloading pdfs, clearing doubts through the internet, and online dictionaries. Extent of electronic resource use varies by academic year.

Keywords: Electronic Resources, Jaffna, Medical Students

Oral presentations
Theme 4: Chronic illness/Misc.

OP34

Articular distribution, associated socio-demographic factors and the pattern of co-morbidities among rheumatoid arthritis patients attending the Rheumatology Clinic at Teaching Hospital Jaffna

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Background and Objective: Rheumatoid Arthritis (RA) is a chronic systemic disease affecting the joints, connective tissues, muscles, tendons, and fibrous tissue. It tends to strike during the most productive years, between the ages of 20 and 40 years, and is a chronic disabling condition often associated with pain and deformity. This study aims to describe articular distribution, associated socio-demographic factors and the pattern of co-morbidities among RA patients attending the Rheumatology Clinic, Teaching Hospital Jaffna.

Methods: An institution-based descriptive cross-sectional study was conducted at the Rheumatology Clinic, Teaching Hospital Jaffna, on 409 known RA patients selected by systematic sampling. An interviewer-administered questionnaire was used and data were analyzed by SPSS software (v21). Percentage, tables, and graphs were used to describe data. Chi-square test was used to analyze the association between variables.

Results: Mean age distribution was 50.7 ±14.56 years. The sample comprised mostly females (80.2%, n=328). Among participants, 66.3% (n=271) were housewives, and 72.9% (n=298) received financial support from a caregiver. Most lived in single-storey homes (94.4%, n=386) and used squatting toilets (58.9%, n=241). The majority had involvement of the wrist joint (78.3%, n=380), fingers (77.7% n=318) and knee joint (76.8%, n=314). About a quarter (26.4%, n=108) had a family history. In the sample, 20.8% (n=85) had diabetes mellitus, 23% (n=94) hypertension, 10.3% (n=42) hypothyroidism and 8.6% (n=35) dyslipidaemia. There were no significant associations between the pattern of RA and socio-demographic factors.

Conclusion: RA affects housewives, the working population, and elders, all of whom depend on caregivers, creating a burden on the family as well as the economy. In addition to involvement of joints, essential to carryout activities of daily living, RA patients suffer from co-morbidities, with implications for socioeconomic status.

Keywords: Rheumatoid Arthritis, Socio-Demographic Factors, Articular Distribution, Co-Morbidities

Teachers' attitudes towards maintaining discipline and related practices in schools of the Uduvil Education Division in the Valikamam Educational Zone

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Background and objective: Using punishment to correct disobedience is understood to mean discipline. Students are punished in various ways, including by corporal punishment, verbal abuse, and psychological aggression. This study aims to describe teachers' attitudes towards maintaining discipline, their disciplinary practices, and assess the factors associated with the use of disciplinary methods in secondary schools of the Uduvil Education Division.

Methods: This was a school-based descriptive cross-sectional study. Data were collected from 405 teachers using a self-administered questionnaire which included demographic data, questions about attitudes towards positive and negative disciplinary methods and questions about disciplinary practices. Descriptive statistics were used to achieve the study objectives.

Results: In total, 405 teachers participated; 71.6% were female and 28.4% male. Mean age of the sample was 42.1 ± 8.7 years. The study revealed, 92.6% of teachers agreed that teachers should discipline students in a calm manner. Most (45%) disagreed with using corporal punishment as a disciplinary method, and about half (50.9%) agreed that good teachers do not use corporal punishment. Over half (54.3%) agreed on the legal abolition of corporal punishment in Sri Lanka, and 86.4% agreed there are sufficient structures within schools to deal with disciplinary issues. With respect to practice, 59.8% of teachers reported using positive methods for maintaining discipline in schools. Teachers had received training on disciplinary methods at seminars (42.7%), training programmes (13.3%), and workshops (17.5%). There was no significant association between socio-demographic factors and the disciplinary method used by teachers.

Conclusion: The majority of teachers disagree with using corporal punishment as a disciplinary method and use positive rather than negative disciplinary action. Teachers could be involved in advocating for the eradication of corporal punishment from the education system.

Keywords: Attitudes, Practice, Discipline, Teachers, Secondary School, Jaffna

Vancomycin resistance in *Enterococcus* isolates from clinical samples received at the Microbiology Laboratory, Teaching Hospital Jaffna

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Background and objective: *Enterococcus* species are a common causative organism of nosocomial infections, which are difficult to treat due to antibiotic resistance. This study aimed to determine the prevalence of vancomycin resistance in *Enterococcus* isolates and the association of known risk factors in clinical samples received at the Microbiology Laboratory, Teaching Hospital Jaffna.

Methods: An institutional-based cross-sectional study was carried out on 49 *Enterococcus* isolates collected from the Microbiology Laboratory, Teaching Hospital Jaffna, in February/March 2020 and August/September 2020. *Enterococcus* isolates were sub-cultured on MacConkey agar and confirmed by biochemical tests. Vancomycin sensitivity was determined by Kirby-Bauer and E-Test methods. Isolates which showed resistance to vancomycin E-test strip (≥ 32 mm zone diameter and no zone) were categorised as vancomycin resistant. Data were analysed with SPSS (v25) and described as means and percentages. Fisher's exact test was used to measure associations.

Results: In total, 49 *Enterococcus* species isolates were collected from 48 patients with a mean age of 47.4 (± 24.3) years; 24 (50%) were male. Isolates were collected from urine, blood, pus/wound swab, bronchoalveolar lavage, tissue, knee joint aspiration, high vaginal swab and catheter tip. The prevalence of vancomycin resistance in *Enterococcus* species isolates was 14.3%; all were hospital-acquired infections. The distribution of vancomycin resistance by known risk factors was: over 40 years (71.4%), hospitalized >2 days (85.7%), having diabetes mellitus (71.4%), canula (100%) or catheter (57.1%) used during hospitalization, undergone pelvic/abdominal surgery (28.6%) and antibiotic usage prior to sample collection (71.4%). These associations were not statistically significant.

Conclusion: The observed prevalence of vancomycin resistance in *Enterococcus* species isolates was comparatively higher or similar to prevalence rates reported in Sri Lanka. Associated factors need to be studied with larger samples.

Keywords: *Enterococcus* Species, Antimicrobial Resistance, Vancomycin, Jaffna

Patients' perceptions on the attire of medical students and its associated factors in the medical wards of Teaching Hospital Jaffna

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Background and objective: Attire, crucial to personality building, affects the doctor-patient interaction. This study aims to describe perceptions on the attire of medical students and the factors associated with these perceptions among patients in medical wards of Teaching Hospital Jaffna.

Methods: A descriptive cross-sectional study was conducted among 426 patients (≥ 18 years) selected using stratified random sampling from 3 medical units of Teaching Hospital Jaffna from September to November 2019. Data were collected using an interviewer-administered questionnaire, consisting of images to assess perceptions. Responses were recorded on a Likert scale (1 very inappropriate – 5 very appropriate) and 'I like it', 'I don't like it' and 'no idea' options were added to obtain a composite score. Descriptive and inferential statistics were performed using SPSS.

Results: Mean age of participants was 39.1 (± 15.4) years; 49.3% were females. The majority assigned 'I like it' for official shoes, clean shave, plain shirt, light coloured shirt, closed upper buttons, and tucked in shirts for males; sandals and braided hair for females; and name tag for both. The majority marked 'I don't like it' for unbuttoned coats, tucked out shirt, open upper buttons, shiny colour shirts, unruly beard, slippers, and high heels. Attires with white-coats scored higher than similar attires without white-coats across the various types of attires. Majority ranked shirt and trousers with white coat for males and sari with white coat for females as very appropriate. Similarly, t-shirts and jeans for males and skirt and blouse for females were ranked as very inappropriate by the majority. Composite scores for attire, and responses for selected aspects of attire were associated with age group, past encounter with medical students, and sex.

Conclusion: Age group, past encounter with medical students and sex influence patients' perceptions of medical student attire. White coats were preferred irrespective of attire.

Keywords: Medical Students' Attire, Patient Perceptions, Jaffna

Prevalence and associated factors of myopia among grade 10 students in the Karaveddy Education Division

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Background and objective: There is an increasing trend in the prevalence of myopia worldwide, linked with changing patterns of visual input, in turn, associated with changing educational media and tools, and increased usage of digital devices. This study aimed to determine the prevalence of myopia and its associated factors among grade 10 students in the Karaveddy Education Division in the Jaffna district.

Methods: A descriptive cross-sectional study was carried out among grade 10 students of Karaveddy Education Division using simple cluster sampling. Data were collected from September to November 2019. A self-administered questionnaire was used to elicit data on the factors associated with myopia and the Snellen chart was used to measure visual acuity. Chi-square test was applied to measure associations between variables, wherever applicable.

Results: The prevalence of myopia was 12.7% (n=64). Although more females (13.4%, n=36) were affected than males (11.9%, n=28), the association between sex and the presence of myopia was not significant (p=0.598). The majority of students used digital devices (97.8%, n=493), and engaged in sports (73.6%, n=371) and other outdoor activities (78.8%, n=397). The prevalence of myopia within possible groups at risk was as follows: students who used digital devices 12.4% (n=61); those who did not engage in sports activities 15.8% (n=21); those who did not engage in other outdoor activities 17.8% (n=19); those who did not have enough natural lighting in their homes 15.4% (n=6); and those whose siblings wore spectacles 27.1% (n=16). The association between the presence of myopia and the above-mentioned factors was not significant except with respect to having siblings who wore spectacles (p<0.05).

Conclusion: Prevalence of myopia among Grade 10 students of the Karaveddy Education Division is 12.7%. Its association with having siblings who wear spectacles, suggests that family history plays a role.

Keywords: Myopia, Secondary School Students, Visual Acuity, Jaffna

Knowledge and practices of hand hygiene and associated factors among registered patient care assistants in government hospitals in Jaffna district

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Background and objective: Effective hand hygiene is essential to reduce nosocomial infections. Compliance of patient care assistants with hand hygiene guidelines are reportedly poor. This study aims to determine the influence of socio-demographic and work-related factors on knowledge and practices of hand hygiene among registered patient care assistants in government hospitals in Jaffna district.

Methods: An institution-based descriptive cross-sectional study was carried out among all 109 patient care assistants working in five government healthcare institutions in Jaffna district, using an interviewer administered questionnaire. Data were analyzed with SPSS 21 software. Data relevant to sociodemographic and work-related factors, knowledge and practice were summarized as percentages. Chi-square test was used to analyze associations between variables.

Results: All patient care assistants currently working in Jaffna district participated in the study; just over half the sample comprised males (52.3%, n=57). Mean age of the sample was 46.8 years. Less than half (45%) of the sample had good knowledge. Only 27.5% knew the standard steps of handwashing, although 70.6% knew about alcohol hand rub. With respect to gender, 45.6% of males and 46.2% of females had good knowledge (p=0.96). A larger proportion of the over 34 years age group had good knowledge (54.8%) compared to the proportion with good knowledge among below 34-year-olds (30.8%) (p=0.018). With respect to practice, 34 (31.2%) patient care assistants reported not washing their hands as they were too busy, and 42 (38.5%) reported forgetting to wash their hands.

Conclusion: Although knowledge levels are reasonably good among patient care assistants in government hospitals, hand hygiene practices are unsatisfactory. Periodic in-service training and effective monitoring may help to improve hand hygiene among patient care assistants.

Keywords: Nosocomial Infections, Hand Hygiene, Patient Care Assistants, Jaffna

Satisfaction with radiology services and associated factors among patients visiting the Radiology Department of the Jaffna Teaching Hospital

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Background and objective: Patient satisfaction is a measure of the extent to which patients feel their needs and expectations are met by the service provider. Patient satisfaction is an important indicator of quality of care. This study aims to assess satisfaction with radiology services and associated sociodemographic factors among patients accessing services at the Radiology Department, Jaffna Teaching Hospital.

Methods: This is a descriptive cross-sectional hospital-based study of 427 patients attending the Radiology Department of Teaching Hospital Jaffna. Consecutive sampling was used to recruit participants during afternoon sessions at the Radiology Department. An interviewer-administered questionnaire and data extraction form were used to collect data from patients after the radiological investigation. Patient satisfaction was measured using a 5-point Likert scale. Frequencies and proportions were used to describe patient satisfaction and its associated factors. The chi-square test was used to assess the association between patient satisfaction and sociodemographic factors. Ethical clearance was obtained from the Ethics Review Committee, Faculty of Medicine, Jaffna.

Results: Among the participants, 375 (88%) expressed overall satisfaction with radiological services. Majority of patients were satisfied with the overall friendliness of staff (98.4%), testing area (78.9%), staff interaction (73.3%), instructions given (67.7%), waiting area (67.7%), waiting time at the Radiology Department (58.8%) and waiting period from the day the test was ordered (56.0%). Participants with higher skilled occupations expressed less satisfaction with services; the association between patient satisfaction and occupation was statistically significant ($p=0.04$). There was no evidence of association between patient satisfaction and other sociodemographic factors.

Conclusion: Although the majority of patients expressed overall satisfaction with radiological services, there is room for improvement, particularly in relation to waiting time, waiting period, waiting area and the instructions given about the tests.

Keywords: Patient Satisfaction, Radiology, Jaffna

Poster presentations
Theme 1: Patient empowerment

PP1

Knowledge, attitude, and practices relating to nutrition and their associated factors among pregnant mothers in the Chankanai MOH area

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Background and objectives: Nutrition plays a major role in maternal and foetal wellbeing. Nutritional deficiencies such as protein-calorie malnutrition and other micronutrient deficiencies are common among pregnant mothers in Sri Lanka. The aim of this study was to describe the knowledge, attitude and practices, and other factors influencing nutrition during the antenatal period among pregnant mothers attending antenatal clinics in Chankanai MOH area.

Methods: A descriptive cross-sectional institution-based study was conducted from December 2018 to February 2020 among 281 pregnant mothers attending antenatal clinics in Chankanai MOH area. Data were collected using an interviewer-administered questionnaire.

Results: Among 281 participants, 18.9% (n=53) had good knowledge, 73.3% (n=206) had satisfactory knowledge and 7.8% (n=22) had poor knowledge. With regards to beliefs and practices, attitudes of pregnant mothers were found to be satisfactory. With respect to dietary diversity, consumption of additional meals, and avoidance of certain food items, they had satisfactory nutritional practices. When factors associated with knowledge on nutrition were considered, level of education was found to be significant (p=0.001).

Conclusion: This study showed that knowledge, attitude, and practices on nutrition among pregnant mothers in the Chankanai MOH area were satisfactory, irrespective of the differences in demographic, socioeconomic and maternal factors.

Keywords: Antenatal Period, Pregnancy, Nutrition, Knowledge, Attitude, Practice

Factors associated with contraceptive prevalence among staff of the District Secretariat Office Jaffna

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Background: Sri Lanka has impressive family planning practices among people, which has led to reductions in maternal and infant mortality, and improvements in socioeconomic conditions. However, there are still unmet needs in family planning services in Sri Lanka. This study was designed to assess the factors associated with contraceptive prevalence among the staff of the District Secretariat Office, Jaffna.

Methods: This was an institution-based descriptive cross-sectional study. A self-administered questionnaire was used for data collection. Data were analyzed using SPSS version 21. Mean, standard deviation, percentages, graphs, and proportions were used to summarize the data. The t-test was used to analyze the association between the factors and contraceptive prevalence.

Results: In total, 367 staff participated, response rate was (94.6%) Among them, 81.7% were married, and 52.6% were female. Contraceptive prevalence was 37.3% in line with national prevalence (32.4%- 42.2%). Among the participants, the most prevalent methods were implants and calendar method (19.9%), followed by condom (15.8%) and withdrawal method (13.9%). IUCD use was low (2.2%), and none of the participants used vasectomy. Main reasons for not using any kind of contraception were: wanting to become pregnant (28.6%) and infrequent sex (22.1%). There was a significant association between contraceptive prevalence and age ($p<0.001$), number of children ($p=0.018$), convenience of use ($p<0.001$), any underlying disease condition ($p<0.001$), and spousal opinion ($p=0.001$).

Conclusion: The contraceptive prevalence rate among staff of the District Secretariat Office Jaffna was similar to the national average. There is a need for further improvement by popularizing reproductive education among youth, encouraging Public Health Midwives (PHM) to focus more on educating people on contraception, and in particular, encouraging the public to use IUCD by correcting their misbeliefs.

Keywords: Contraceptive Prevalence, Implants, Condom, Vasectomy, IUCD

Knowledge and practices regarding antenatal care and factors associated with practice among pregnant mothers attending antenatal clinics in the Nallur MOH Area

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Background and objective: Antenatal care refers to the care women receive throughout pregnancy in order to ensure the wellbeing of both mother and baby. Good maternal knowledge and practices regarding antenatal care are necessary to improve pregnancy outcomes. This study was conducted to assess the knowledge and practices regarding antenatal care and the factors influencing antenatal care practices among pregnant mothers attending antenatal clinics in the Nallur MOH Area.

Methods: A field-based descriptive cross-sectional study was conducted among 244 participants who attended antenatal clinics in the Nallur MOH Area from February to March 2020. Consecutive sampling was used to recruit the participants. An interviewer-administered questionnaire was used to collect data. Predetermined cutoffs were used to assess knowledge and practice. Data were analyzed using SPSS version 25 and the chi-square test was performed to measure the association between variables.

Results: The respondent rate was 95.6%. Majority of the participants (82%, n=200) had good knowledge regarding antenatal care. The percentage of participants who had good practice was lower at 68.9% (n=168). Practice was statistically associated with the type of family ($p=0.03$), health education received from antenatal clinic ($p=0.003$) and the approach adopted by midwives ($p=0.003$). Participants from nuclear families, mothers who received health education, and mothers who received care from a midwife with a friendly approach were more likely to have good practices of antenatal care.

Conclusion: Most of the participants had good knowledge, even though good practices were comparatively lower. These findings can be used by health programme planners to improve maternal health practices in Jaffna.

Keywords: Antenatal Care, Pregnant Mothers, Knowledge, Practice, Nallur

Knowledge and practice regarding the usage of corticosteroids and associated sociodemographic factors among patients at Teaching Hospital Jaffna

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Background and objective: Corticosteroids are widely prescribed for chronic illnesses. Good knowledge and practice regarding the usage of corticosteroids are fundamental to the safe and effective use of corticosteroids among patients. This study was done to assess the knowledge and practice regarding corticosteroids usage and the influence of sociodemographic factors among patients at Teaching Hospital Jaffna.

Methods: A descriptive cross-sectional study was conducted among 344 patients on corticosteroid therapy at Teaching Hospital Jaffna. Patients were selected by a population-proportionate systematic sampling method in each clinic. An interviewer-administered questionnaire was pretested and used to collect data. Data were analyzed using SPSS (v23). A score of >50% was considered as “Good” knowledge and practice. Chi-square test was performed to describe the influence of socio-demographic factors on knowledge and practice.

Results: Response rate was 100%. Mean age of the participants was 54 ±15 years, with ages ranging from 18 to 85 years. Among the participants, 239 (69.5%) were females. Majority of the participants (80.5%, n=277) had poor knowledge on usage of corticosteroids, but 72.4% (n=249) had good practice. Among sociodemographic factors, age (p=0.047), marital status (p=0.018), highest educational qualification (p=0.002) and employment status (p=0.028) had a statistically significant association with knowledge. Age (p<0.001), highest educational qualification (p=0.006), employment status (p=0.012) and monthly income (p=0.043) had a statistically significant association with practice.

Conclusion: The majority of patients on corticosteroids have poor knowledge on usage of corticosteroids. This situation needs to be improved by giving health education regarding the usage and side effects of corticosteroids to patients.

Keywords: Corticosteroids, Knowledge, Practice, Adverse Effects

Poster presentations
Theme 1: Patient empowerment

PP5

Adherence to glaucoma treatment and associated factors among patients with glaucoma attending the Eye Clinics at Teaching Hospital Jaffna

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Background and objective: Glaucoma is characterized by optic neuropathy resulting in progressive visual field loss. The number of patients receiving treatment for glaucoma has been increasing annually at Teaching Hospital Jaffna. This study aims to assess adherence to glaucoma treatment among patients with glaucoma attending the Eye Clinics at Teaching Hospital Jaffna.

Methods: This was a descriptive cross-sectional hospital-based study among 427 glaucoma patients selected by systematic sampling from the Eye Clinics of Teaching Hospital Jaffna. Data were collected from October to November 2019 by an interviewer-administered questionnaire and data extraction form and analyzed with SPSS version 21. The Morisky Medication Adherence Scale (MMAS) was used to assess treatment adherence. Chi-square test was used to measure associations and $p \leq 0.05$ was considered significant.

Results: All participants were Sri Lankan Tamil, and among them 414 (93%) were Hindus and the remainder were Christians (7%). According to the MMAS, 60.7% (n=270) of the sample adhered to glaucoma treatment. Being Hindu and having a higher monthly income (more than LKR 10,000) were significantly associated with treatment adherence. There was no evidence of an association with age, sex, educational level, occupation, or monthly medical expenses.

Conclusion: Over a third of glaucoma patients attending the Eye Clinics of Teaching Hospital Jaffna do not adhere to their treatment. Patients who are Hindus and have a higher monthly income, adhere more to their treatment than patients who are Christian and have a lower monthly income.

Keywords: Glaucoma, Treatment Adherence, Jaffna

Knowledge, attitude, practice and associated factors of fever management among mothers of children admitted to the paediatric wards of Teaching Hospital Jaffna

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Background and objective: Empirical evidence suggests a lack of awareness on fever management in children among mothers in Jaffna. This study aimed to determine the knowledge, attitude, practice, and associated factors in relation to fever management among mothers of children admitted to the paediatric wards of Teaching Hospital Jaffna.

Material and methods: This descriptive cross-sectional study was conducted among 407 mothers selected using systematic sampling in the paediatric wards of Teaching Hospital Jaffna in October and November 2019. Data were collected using an interviewer-administered questionnaire. KAP was assessed by composite scoring. Data were entered using EpiData and analyzed in SPSS. Descriptive and inferential statistics were used in the analysis.

Results: In total, 407 mothers participated with a response rate of 95.31%. An important source of information on fever management was healthcare staff (62%, n=261). About a fifth (21%, n=86) of the participants were not aware that clothing must be reduced during fever. The majority had positive attitudes towards using home remedies in uncomplicated fever (84%, n=343) and confirming fever with a thermometer (78.7%, n=314). Negative attitudes were present among the majority towards increasing the dose (55.8%, n=227) and frequency (53.4%, n=217) of antipyretics. With respect to practices, 82% (n=332) confirmed fever using a thermometer, 49% (n=200) used cold water for tepid sponging (49%, n=200), 43% (n=176) laid the child with fever in the left lateral position, and 23% (n=93) gave metal to grasp. Knowledge was associated with age (p=0.01) and education (<0.001). Attitude was associated with education level (<0.001). Practice was associated with education level (<0.001) and parenting experience (p=0.006).

Conclusion: Majority of mothers of children <3 years at Teaching Hospital Jaffna practice tepid sponging and administer antipyretics at home, although knowledge and practice vary.

Keywords: Fever, Home-Based Management, Knowledge, Attitude, Practice

Poster presentations
Theme 1: Patient empowerment

PP7

Hypoglycaemia prevention practices among diabetic patients attending the Diabetic Centre, Teaching Hospital Jaffna

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Background and objective: Wrong dose of hypoglycaemic agents, excessive exercise, inadequate food and other triggers result in hypoglycemia among patients with diabetes mellitus. This study aimed to assess the hypoglycaemia prevention practices and influencing factors among diabetes mellitus patients attending the Diabetic Centre, Teaching Hospital Jaffna.

Methods: This was a hospital-based descriptive cross-sectional study carried out among 283 Type 1 and Type 2 diabetes mellitus patients attending the Diabetic Center, Teaching Hospital Jaffna. Systematic sampling was used to recruit participants. Data were collected by using an interviewer-administered questionnaire. Data were analyzed by SPSS version 23. Mean, SD, and percentages were used to describe the data. Chi-square test was used to assess associations between variables.

Results: The response rate was 90% (n=255). The mean age of the participants was 58.4 (± 14.6) years; two-thirds (65.1%) were female. Most participants (80%) used oral hypoglycemic agents; only a few were on insulin therapy. A third had experienced hypoglycemia and, among them, two-thirds (66.6%) experienced hypoglycaemia at night. More than half (54.1%) had adequate hypoglycaemia prevention practices. The latter were significantly associated with duration of diabetes, currently taking oral tablets, and having a history of hypoglycaemic episodes ($p < 0.05$).

Conclusion: This study shows that a substantial proportion of diabetic patients visiting the Diabetic Centre, Teaching Hospital Jaffna, have inadequate hypoglycaemia prevention practices.

Keywords: Hypoglycaemia, Jaffna, Practice, Diabetes Mellitus

Knowledge on postpartum depression and its management and factors associated with knowledge among midwives in the Jaffna district

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Background and objectives: Postpartum depression (PPD) is a common complication of childbearing, affecting approximately 10-15% of women. Midwives should possess adequate knowledge regarding PPD and its management to identify and minimize complications among at risk mothers. This study was conducted to assess knowledge on PPD and its management and associated socio-demographic and service-related factors among midwives in the Jaffna district.

Methods: A field and hospital-based descriptive cross-sectional study was carried out among midwives in the Jaffna district. As the entire study population was included, no sampling technique was used. A self-administered questionnaire was used to collect data from 186 midwives working either in the field or at hospitals. Knowledge was categorized into three levels based on the Bloom's Test. Data analysis was done using SPSS version 25 and Chi-square test was performed to identify the influencing factors.

Results: Most of the participants (86.6%, n=161) had completed midwifery training with Advanced Level qualifications. Only a third (33.3%, n=62) had good knowledge regarding PPD and its management. Knowledge showed a statistically significant association with age (p=0.005), educational level (p=0.001), experience in midwifery (p=0.017), current working place (p=0.015), participation in in-service training programmes regarding PPD (p=0.015), and previous experience in managing a PPD mother (p=0.006). Participants in the 35-50 years age group, with diploma qualifications, ≤10 years midwifery experience, currently working in the field, who had received in-service training in PPD, and had previous experience managing PPD were more likely to have good knowledge.

Conclusion: Two-thirds of midwives in the Jaffna district did not have good knowledge on PPD and its management. Providing opportunities to update knowledge, such as through conferences or period in-service training on PPD, may be helpful to improve the knowledge among midwives in Jaffna.

Keywords: Postpartum Depression, Midwives, Knowledge, Jaffna.

Knowledge on antibiotic resistance and influencing factors among pharmacists and nurses in Teaching Hospital Jaffna

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Background and objective: Antibiotic resistance (ABR) is a major threat to the quality of healthcare in the 21st century. Pharmacists and nurses play an important role in giving drug information to patients. Thus, their knowledge towards ABR has the potential to impact patterns of antibiotic use in community and hospital settings. This study aimed to assess knowledge on ABR and its associated sociodemographic and work-related factors among pharmacists and nursing officers at Teaching Hospital Jaffna.

Methods: It was a hospital-based descriptive cross-sectional study conducted among all pharmacists and 191 randomly selected nursing officers at Teaching Hospital Jaffna. A self-administered questionnaire was used to elicit data on knowledge on antibiotic usage/indications, consequences, and reasons of ABR. A score of above or equal to 70% was determined as good knowledge.

Results: The response rate was 90.8% (n= 227). Mean age of the sample was 33.76 (\pm 7.6) years. Most participants were nursing officers (84.1%, n=191). With respect to knowledge on ABR, 61.2% (n=139) had good knowledge. However, only 17.2% responded correctly regarding the diseases that can be treated with antibiotics. Although the majority (76.2%) were knowledgeable about the consequences of ABR, only 33.9% were aware of the reasons for ABR. Highest educational qualification ($p<0.001$) and participation in workshops or conferences ($p<0.001$) were statistically significantly associated with knowledge on ABR.

Conclusion: Levels of knowledge are unsatisfactory among pharmacists and nursing officers at Teaching Hospital Jaffna. Conducting periodic workshops and continuous professional development programmes for healthcare workers could improve their knowledge in ABR and, in turn, encourage rational use of antibiotics.

Keywords: Antibiotic Resistance, Knowledge, Pharmacists, Nurses

Cervical screening coverage and its association with the availability of healthcare resources and training for public health midwives in the Jaffna district

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Background and objective: Cervical cancer is the second most common cancer among women in Sri Lanka. Cervical cancer is preventable through the implementation of an effective screening programme, which will reduce the cervical cancer burden among women. This study aimed to assess the association between cervical cancer coverage and the availability of healthcare resources and training for public health midwives (PHM) in the Jaffna district.

Methods: It was a descriptive cross-sectional study. Data were collected from all field PHMs of Jaffna district through a pretested self-administered questionnaire.

Results: A total of 131 PHMs participated in the study with a response rate of 90.9%. Majority of PHMs were between 30-39 years (73.3%). Just over half of the cohort (51.1%) had more than 10 years of work experience. Over 70% coverage was achieved in 41.2% (n=54) of PHM areas. There was 100% coverage in 8.39% (n=11) PHM areas. Basic infrastructure facilities were available in 70% of PHM areas. There was a significant association between the availability of all essential facilities ($p=0.01$), work experience ($p=0.03$) and the target coverage achieved. Over half (52%) of the PHMs did not receive training on organizing cervical screening. There was no significant association between training and coverage.

Conclusion: Improving the availability of essential equipment and infrastructure facilities for cervical screening may impact the coverage of cervical screening.

Keywords: Cervical Cancer, Cervical Cancer Screening, Healthcare Coverage, Public Health Midwife, Jaffna.

Knowledge and self-reported practice of standard precautions and associated factors among doctors and nurses in the four major specialty units of Teaching Hospital Jaffna

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Background and objective: Practice of standard precautions reduces the risk of hospital-associated infections and antimicrobial resistance. This study aims to assess knowledge and self-reported practice of standard precautions and associated factors among doctors and nurses in the four major specialty units of Teaching Hospital Jaffna (THJ).

Methods: This is a descriptive cross-sectional study among doctors and nurses in the four major specialty units of THJ. Proportionate stratified random sampling was used to select participants. Data were collected by a self-administered questionnaire. The mean score for knowledge was converted into a percentage. Knowledge cut-offs were developed under the guidance of supervisors. Frequencies and proportions were used to report knowledge levels and practices. Associations between knowledge, practice and selected factors were assessed with the chi-square test.

Results: In total 256 doctors (n=99) and nurses (n=157) participated with a response rate of 78.6% and 89.2%, respectively. In the sample, 35%, 53% and 12% recorded good, average, and poor knowledge, respectively, with 38%, 55%, and 7% of doctors and 33%, 52%, and 15% of nurses scoring good, average, and poor knowledge, respectively. Only 62% of nurses and 52% of doctors reported performing hand hygiene between patients; 81% of nurses and 68% of doctors performed hand hygiene before leaving the ward. Participants with ≤ 3 years' experience in the current designation had higher knowledge ($p=0.002$), and those working in surgery and gynaecology/obstetrics reported better practice ($p=0.04$). There was no significant association between healthcare worker category and knowledge or practice.

Conclusion: Knowledge and practice of standard precautions among healthcare workers is not at a satisfactory level at THJ. Urgent measures, such as regular in-service training and monitoring compliance, are needed to rectify this situation. The infection control team at THJ should be strengthened.

Keywords: Standard Precautions, Knowledge, Practice, Healthcare Workers, Jaffna

Knowledge on prebiotics and probiotics and associated factors among state pharmacists in the Northern Province

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Background and objective: Probiotics and prebiotics are presently recommended for various diseases. Prebiotics are non-viable food components and probiotics are live microorganisms. As these products are newly introduced into the pharmaceutical world, pharmacists could serve as important sources of information and advice for patients. This study was designed to assess the knowledge of pre- and probiotics and the influence of sociodemographic and work-related factors among state pharmacists in the Northern Province of Sri Lanka.

Methods: A descriptive cross-sectional study was conducted among all state pharmacists (N=114) in the Northern Province by using a self-administered questionnaire. Data were analyzed with SPSS and bivariate analysis was done by using the chi-square test and Fisher's exact test.

Results: The response rate was 92.9%. Two-thirds (66%, n=70) of participants were females with a mean age of 34.7 (± 7.9) years. Less than a quarter (23.6%, n=25) were degree holders, and the majority (73.6%, n=78) had <10 years of experiences. Among the participants, 51.9% and 53.8% had adequate knowledge on prebiotics and probiotics, respectively. Among factors associated with knowledge on prebiotics, being an in-charge pharmacist ($p=0.025$) and participating in a seminar ($p=0.021$) were statistically significantly associated with knowledge on prebiotics. Participating in a seminar ($p=0.003$) was statistically significantly associated with knowledge on probiotics.

Conclusion: Approximately half of the state pharmacists in the Northern Province have inadequate knowledge on pre- and probiotics. Conducting in-service educational programmes may improve the knowledge on pre- and probiotics among state pharmacists.

Keywords: Knowledge, Probiotics, Prebiotics, State Pharmacists

Knowledge on gestational diabetes mellitus and its management and factors associated with knowledge among midwives in the Jaffna district

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Background and objectives: Gestational Diabetes Mellitus (GDM) is defined as any degree of glucose intolerance with onset or first recognition during pregnancy. GDM is a common metabolic disorder of pregnancy. Good knowledge of midwives regarding GDM and its management could help to identify the risk population as early as possible and minimize complications. This study was conducted to assess knowledge on GDM, its management, and associated sociodemographic and service-related factors among midwives in the Jaffna district.

Methods: A field and hospital-based descriptive cross-sectional study was carried out among midwives in the Jaffna district. A self-administered questionnaire was used to collect data from 187 midwives working either in the field or in hospitals. As the whole study population was included, no sampling technique was used. Data analysis was done using SPSS version 25 and chi-square test was performed to identify the influencing factors.

Results: The mean age of participants was 38.14 (± 8.14) years, ranging from 22 to 63 years. Most of them (86.6%, n=162) had completed midwifery training with A/L qualifications. Just over a third of the participants (34.8%, n=65) had good knowledge about GDM and its management. Knowledge showed a statistically significant association with age ($p=0.01$), experience in midwifery ($p=0.02$) and source of information regarding GDM ($p<0.05$). Midwives in the 21-35 years age group with <10 years' experience in midwifery who obtained information from books, mass media, newspapers and seminars were more likely to have good knowledge.

Conclusion: The study reveals that only about a third of midwives have good knowledge regarding GDM and its management. Conducting in-service training programmes and conferences on GDM and its management might help to improve the knowledge of midwives in the Jaffna district.

Keywords: Gestational Diabetes Mellitus, Midwives, Knowledge, Jaffna.

Poster presentations
Theme 2: Healthcare workers

PP14

Knowledge, attitude, and practice regarding antimicrobial resistance among public health inspectors and public health midwives in the Jaffna district

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Background and objective: Antimicrobial resistance is a major health issue particularly in developing countries. Public health inspectors (PHI) and public health midwives (PHM) could help to prevent and control the spread of antimicrobial resistance. The aim of the study was to describe knowledge, attitude and practice regarding antimicrobial resistance among PHI and PHM in the Jaffna district.

Methods: This is an institution-based descriptive cross-sectional study carried out among all 33 PHI, 111 field PHM, and 14 hospital-based PHM working in the Jaffna district. Data were collected from September to December 2019 using a self-administered questionnaire. Descriptive statistics were used in data analysis.

Results: Two-thirds of PHI (66.7%) had good knowledge on antimicrobial resistance. However, only 21.6% and 7.1% of field and hospital based PHM, respectively, had good knowledge. Only 15.2% of PHI had good attitudes, while among PHM, 42.3 % of field PHM and 35.7% of hospital based PHM had poor attitudes. Just below half of the PHI (48.5%) who participated had good practices in relation to antimicrobial resistance; this figure was 57.7% and 78.6% among field and hospital based PHM, respectively.

Conclusion: Knowledge on antimicrobial resistance is good among PHI in the Jaffna district, but attitudes and practices are poor. Most field and hospital based PHM do not have good knowledge and attitudes on antimicrobial resistance, but they report better practices than PHI.

Keywords: Knowledge, Attitude, Practice, Antimicrobial Resistance, Healthcare Workers

Knowledge, attitude, and practices of sugar intake among medical students of the University of Jaffna

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Introduction: Sweet foods have become a favourite among all age groups. Consuming sweetened beverages, confectionary items and bakery foods are a trend in Jaffna. Nowadays youngsters consume processed foods that contain a high sugar level, associated with various adverse health effects. Sugar intake among medical students is influenced by their busy schedule, stress levels, eating behaviours, childhood upbringing, and the undesirable increase in the availability of sugary items. This study aimed to assess the knowledge, attitude, and practices of sugar intake and their associated sociodemographic factors among medical students of the University of Jaffna.

Methods: In this descriptive cross-sectional study, 427 medical students participated from the University of Jaffna. A self-administered questionnaire was used to collect data. Sociodemographic factors associated with knowledge, attitude, and practice towards sugar intake were analyzed using the chi-square test.

Results: Mean age of the study sample was 24.6 years. In the sample, 63.7% did not know the recommended daily sugar intake, but they were aware of the association between sugar intake and dental caries (93.4%) as well as weight gain (92.7%); 51.5% of students reported that they consumed biscuits daily. There was a significant association between knowledge and programme phase ($p=0.001$) and age ($p=0.006$). There was a significant association between sex and attitude ($p=0.039$). There was no significant association between age and practice ($p=0.075$).

Conclusion: Jaffna medical students possess a good level of knowledge and favourable attitudes regarding selected aspects of sugar intake, but their practices of sugar intake are poor. As medical students, they should avoid sugar, and pay more attention to updating their knowledge and developing favourable attitudes and practices towards sugar intake in order to maintain their health.

Keywords: Knowledge, Attitude, Practice, Sugar Intake, Medical Student, University of Jaffna.

Challenges in adapting to English medium learning among first to fourth year medical students of the University of Jaffna

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Background and objective: Empirical evidence suggests that medical students face challenges when switching from mother tongue-based education in secondary schools to English medium in the medical faculty. This study aimed to describe the challenges and the factors associated with challenges in adapting to English medium learning among medical students.

Methods: This descriptive cross-sectional study was conducted among 414 first to fourth year students of the Faculty of Medicine, University of Jaffna using a self-administered questionnaire from September to November 2019. Students indicated the level of challenge experienced on a 10-point scale. Descriptive and inferential statistics were done using SPSS software.

Result: Majority of participants were females (60.9 %, n=252). The ethnic breakdown was as follows: Tamil (56.3%), Sinhala (33.3%) and Muslim (10.4%). Percentage of students who reported a high challenge in reading skills from first to fourth year was: 57.5%, 45.6%, 44.4% and 55.5% respectively. Percentage of students who reported a high challenge in English speaking skills from first to fourth year was: 66.7%, 57.8%, 51.4% and 64.7% respectively. Percentage of students who reported a high challenge in English listening skills from first to fourth year was: 50.8%, 28.7%, 36.1% and 42%, respectively. Percentage of students who reported a high challenge in English writing skills from first to fourth year was: 68.9%, 48.5%, 50% and 63.9%, respectively. Reading challenge was associated with sex (p=0.02). Writing challenge was associated with year of study (p=0.004) and sex (p=0.001). Overall, English skills were associated with type of school and parents' education in the English medium (p≤0.05).

Conclusion: Level of exposure to English language at school and parents' knowledge of the English language were associated with challenges in adapting to English medium learning at the Faculty of Medicine, University of Jaffna. Measures to overcome the challenges in adapting to English medium education should be implemented.

Keywords: Adaptation, English As A Second Language, Higher Education, Medicine

Physical activity and the influence of educational and familial factors among Advanced Level national school students in the Jaffna Education Zone

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Background and objective: Physical activity is protective against non-communicable diseases, facilitates learning by improving concentration and stress reduction. This study aims to assess the level of physical activity and the influence of educational and familial factors on the level of physical activity among G.C.E A/L national school students in the Jaffna Education Zone.

Methods: A descriptive cross-sectional study was carried out among Advanced level national school students (2020 batch) in the Jaffna Education Zone. A multistage cluster sampling method was used. A pretested self-administered questionnaire was used to collect data. Statistical analysis was done with SPSS (Version 21). Ethical clearance was obtained from the Ethics Review Committee, Faculty of Medicine, University of Jaffna.

Results: In total, 727 students participated in this study, including 402 males and 325 females. A greater proportion of male students (63.6%) were physically active compared to female students (48.6%) ($p < 0.001$). Among educational factors, key deterrents were excess amount of tuition classes ($p = 0.017$) and preparing for competitive exams ($p = 0.018$). Parents giving more priority to education than physical activities was not significantly associated with level of physical activity ($p = 0.212$). With respect to familial factors, the availability of vehicles ($p = 0.023$) and electronic devices ($p = 0.038$) were associated with level of physical activity.

Conclusion: Female students are considerably less physically active than male students. Level of physical activity is also associated with tuition classes, preparing for competitive exams, availability of vehicles and electronic devices.

Keywords: Physical Activity, Secondary School Students, Jaffna

Pattern of first aid practices for common health issues among government schoolteachers in the Nallur Educational Division

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Background and objective: Receiving first aid prior to professional medical help could preserve life, prevent worsening of the condition and/or promote recovery. This study aims to describe the pattern of first aid practices for common health issues and the influence of sociodemographic factors on these practices among government schoolteachers in the Nallur Education Division.

Methods: This is a descriptive cross-sectional study among 428 government schoolteachers in the Nallur Education Division. Stratified random sampling was applied to select the sample. Data collection was done by using a self-administered questionnaire and analyzed by SPSS version 21. Chi-square test was used to determine the presence of an association.

Results: A total of 408 teachers participated with a response rate of 95.3%. Among them, 77.9% were female, 57.6% were degree holders, and 20.1% had received first aid training within five years. Within the latter group, 69.5% had received practical training. A majority of teachers (63.5%) had dealt with at least one injury during the last year. Common illnesses that needed first aid were headache (39.7%) and laceration (31.9%). With respect to first aid measures taken for cases of headache, 76.5% gave paracetamol, 66.7% kept the student in rest, and 99.4% practiced correct methods. Among laceration respondents, 78.5% controlled bleeding, 47.7% elevated the injured part, and 99.2% practiced correct methods. Practices of first aid had a significant association with educational level ($p=0.024$) and previous first aid training ($p<0.001$).

Conclusion: Practices of first aid are influenced by educational level and previous first aid training, indicating that it may be beneficial to give periodic first aid training to government schoolteachers and appoint more degree holders to teaching positions.

Keywords: Teachers, Public Schools, First Aid Practices, Jaffna

Knowledge, attitude, and practice on first aid and their influencing factors among Advanced Level students of the Nallur Education Division, Jaffna

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Background and objective: First aid is important for the efficient management of injuries. The aim of this study is to describe the knowledge, attitude and practice of basic first aid measures and the influence of demographic and socio-economic factors on basic first aid among Advanced Level students in the Nallur Education Division, Jaffna.

Methods: It is a descriptive cross-sectional school-based study conducted among 838 Advanced Level students selected by proportionate cluster sampling. A self-administered questionnaire was employed to collect data. Overall knowledge was graded as good, moderate, and poor based on scoring of a series of single response questions. Attitude was assessed with a Likert scale and practice was assessed with multiple choice questions.

Results: The mean value scored for knowledge was 5.09, where 89 (10.6%) students had good knowledge, 439 (52.4%) moderate knowledge, and 310 (37%) poor knowledge regarding first aid. Prior knowledge in first aid had been received by 671 (80.1%) students. There was a statistically significant difference between level of first aid knowledge by subject stream ($p=0.001$), sex ($p=0.002$), father's educational level ($p=0.019$) and having previous exposure to first aid knowledge ($p=0.001$). Regarding practice, the number of students who had faced situations where they provided first aid was 385 (45.9%), while 352 (42.0%) had faced situations where they were unable to provide first aid. In total, 546 (65.1%) students demonstrated a favourable attitude towards the need to learn first aid.

Conclusion: Advanced Level students of Nallur Education Division have moderate knowledge but poor practice on basic first aid. Their attitude towards the need to learn first aid is satisfactory.

Keywords: First Aid, Advanced Level, Knowledge, Attitude, Practice, Jaffna

Knowledge, attitude and practices related to road safety among grade 8, 9 and 10 students of Uduvil Education Division in the Jaffna district

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Background and objective: Road traffic accidents are a serious public health problem and a leading cause of injury and death. Road crashes not only place a heavy burden on national and regional economies but also on households. This study aims to assess the knowledge, attitude and practice regarding road safety and the influence of knowledge, attitude, and practice among grade 8, 9 and 10 students in the Uduvil Education Division in the Jaffna district.

Methods: This is a descriptive cross-sectional school-based study carried out in 15 schools in the Uduvil Education Division. Cluster sampling was used to select participants. Data were collected with a self-administrated questionnaire and analyzed using SPSS Version 21.

Results: In total, 742 students participated with a response rate of 96%. The median score for knowledge on road safety was 9 (IQR 7-9). More than two-thirds (67.6%) had adequate knowledge and practice towards road safety. There was a significant association between knowledge on crossing a clear road and their attitude towards it ($p=0.002$); knowledge on looking at both sides before crossing a road and their attitude towards it ($p<0.001$), knowledge on having a special path for cyclists and their attitude towards it ($p=0.026$). There was no significant association between knowledge on rule breaking road users and their attitude towards them ($p=0.078$). Neither was there a significant association between knowledge and practice of using a light source during night rides ($p=0.901$), riding in parallel ($p=0.082$) and wearing reflective clothing at night ($p=0.302$).

Conclusion: Most participants had above average knowledge on road safety. Knowledge on road safety influences attitudes towards road safety, but not practices of road safety.

Keywords: Road Safety, Adolescents, School, Jaffna

Poster presentations

Theme 3: Education and health

PP21

Knowledge, attitude, and practices relating to solid waste management among grade eight students in the Uduvil Education Division

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Background and objective: Solid waste management has emerged as a serious global concern. Urbanization generates huge amounts of solid waste and poses a threat to the environment and health. This research aims to assess knowledge, attitude, and practice, and describe the influence of knowledge and attitude on practices relating to solid waste management among grade eight students in the Uduvil Education Division in the Valikamam Education Zone.

Methods: This was a descriptive cross-sectional school-based study among all grade eight students of the Uduvil Education Division. A self-administered questionnaire was used to collect data. Analysis was performed by using descriptive statistics and the chi-square test to see the association between variables. $P < 0.05$ was considered significant.

Results: Of 410 students approached, 398 students participated in this study, giving a response rate of 97%. In the sample, 38.2% of students had good knowledge, 47.2% had positive attitudes and 57.3% students had good practice. There was no significant association between knowledge and practice ($p=0.217$) or attitude and practice ($p=0.887$) regarding solid waste management.

Conclusion: Although majority of the study population do not have good knowledge and attitudes regarding solid waste management, the majority of students have good practice. Correspondingly, the results of this study suggest that there is no significant association between knowledge/attitude and practice regarding solid waste management among grade eight students in the Uduvil Education Zone.

Keywords: Solid Waste Management, Knowledge, Attitude, Practice, Secondary School Students

Risk factors of renal stone formation in patients with renal stone disease in the surgical wards and clinics of Teaching Hospital Jaffna

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Background and objective: Renal stones are a common disorder of the urinary tract. This study aims to describe the distribution of risk factors of renal stone formation among patients with renal stone disease in surgical wards and clinics of Teaching Hospital Jaffna.

Methods: A descriptive cross-sectional study was conducted among 426 patients diagnosed with renal stones (through a combination of urine analysis, ultrasonography, and x-ray KUB) selected by convenient sampling from the surgical wards and clinics of Teaching Hospital Jaffna. An interviewer-administered questionnaire was used to collect data. Data were collected by interview and analyzed using SPSS software. Descriptive statistical analysis was performed.

Results: Mean age of renal stone formation was 50.5 years. With respect to risk factors, 41.3 % (n=176) of patients had low water intake (defined as less than 1500 ml per day), 65.5% (n=279) had a history of urinary tract infection, and 67.1% (n=286) had a family history of renal stone disease.

Conclusions: Increasing hydration by drinking large amounts of fluid is recommended to reduce renal stone formation in Jaffna.

Keywords: Renal Stone, Risks Factors, Jaffna, Tertiary Care Centre

Pattern of mobile game usage and quality of sleep among first-year students of the Advanced Technological Institute, Jaffna

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Background and objective: With advances in technology, detrimental forms of mobile game playing are known to impact quality of sleep. The objective of this study is to describe the pattern of mobile game usage, quality of sleep and the relationship between the pattern of mobile game usage and quality of sleep among first year students of the Advanced Technological Institute, Jaffna.

Methods: The first-year students of the Advanced Technological Institute were selected for this institution-based descriptive cross-sectional study. Data were collected using a self-administered questionnaire. Sleep quality was categorized as 'Poor', 'Average', 'Good' and 'Very Good' based on the Sleep Condition Indicator. ANOVA and t test were used for the analysis.

Results: In total, 378 students participated in the study. More than half (57.4%) were involved in mobile game playing. According to the sleep score based on the Sleep Condition Indicator, 62.7% were rated as 'Very Good'. There was a significant difference in mean sleep quality scores between those who played (mean 27.4±6.85) and did not play mobile games (30.4±4.6) (p<0.001). Sleep quality scores also differed based on the number of games in mobile phones (p<0.001) and the frequency of mobile gaming (p<0.001).

Conclusion: Sleep quality varies significantly between those who play mobile games and those who do not. The more time they spend with mobile phones, the less is their sleep quality.

Keywords: Sleep Quality, Sleep Condition Indicator, Advanced Technological Institute, Jaffna

Anaemic burden and associated sociodemographic factors among patients referred to Haematology Unit, Teaching Hospital Jaffna

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Background and objective: Anaemia is a public health problem. This study aimed to describe the anaemic burden and associated socio-demographic factors among patients referred to the Hematology Unit, Teaching Hospital Jaffna.

Methods: This institution-based descriptive cross-sectional study was carried out among 637 patients referred to the Hematology Unit, Teaching Hospital Jaffna, between September 20th and October 30th, 2019. Data were analyzed using descriptive statistics.

Results: In total, 81% had anaemia in the sample. Within groups, 78.6% of men, 89.1% of non-pregnant women, 67.6% of children (<20 years), and 73% of pregnant women were anaemic. Among anaemic women and men, 86.1 % and 74.7 %, respectively, were married. The majority of anaemic patients had an education level of Grade 6 to 10. Among anaemic men, 17.9% were labourers and 20.4% were farmers, while 87% of anaemic women were housewives. When considering aetiology of anaemia, iron deficiency anaemia (IDA) was the most common cause among children (74.6%), men (35.7%) and non-pregnant women (54.8%) in the 20-59 years age group (54.8%), and pregnant women (96.9%). Anaemia of chronic disease (ACD) was the most common aetiology among elderly men (61.3%) and women (66.4%) above 59 years of age.

Conclusion: Over three-fourths of the sample were anaemic, and the majority was moderately anaemic, mostly representing low socio-economic and education levels. Other than in elders, who mostly had ACD, the most common cause of anaemia in children, women, and men, was IDA.

Key words: Anaemia, Iron Deficiency Anaemia, Anaemia of Chronic Disease, Jaffna

Performance in mathematics among Grade 11 students in the Kopai Educational Division, Jaffna

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Background and objective: Results of the G.C.E. Ordinary Level (O/L) Examination shape a student's academic pathway. Among nine subjects, mathematics is important because passing is required to enter most G.C.E. Advanced Level streams. Student performance in mathematics at the G.C.E. O/L examinations in the Kopai Education Division remains unsatisfactory. This study aims to describe student performance in mathematics and associated factors in the Kopai Education Division.

Methods: A school-based descriptive cross-sectional study was done among 401 students from nine selected schools in the Kopai Education Division. A self-administered questionnaire was used to collect data. A $p < 0.05$ was considered statistically significant.

Results: In the sample, 98.5 % (n=394) had a mathematics teacher and 60.3% (n=242) answered moderately in school mathematics exercises. Among participants, 59% (n=240) had scored less than 40 marks at the third term test. Availability of desks and chairs was 77.1% (n= 309). With respect to health issues, 6.5% (n=26) and 3.7% (n=15) had hearing and vision problems, respectively.

Conclusion: Performance in mathematics is unsatisfactory in the Kopai Education Division. Although most students had a mathematics teacher, many schools lack basic education infrastructure to support student learning.

Keywords: Mathematics Performance, Ordinary Level Examination, Jaffna

Treatment compliance, dermatology quality of life, and other factors associated with compliance among psoriasis patients attending the Dermatology Clinic at Teaching Hospital Jaffna

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Background and objective: Psoriasis is a skin disease requiring long-term treatment. An increase in the diagnosis of psoriasis has been observed at the Dermatology Clinic of the Teaching Hospital Jaffna over the past few years. This study aims to assess treatment compliance, Dermatology Quality of Life, and other factors associated with compliance, among patients with psoriasis attending the Dermatology Clinic, Teaching Hospital Jaffna.

Methods: A descriptive cross-sectional institution-based study was carried out among all patients with psoriasis attending the Dermatology Clinic, Teaching Hospital Jaffna. Data were collected using an interviewer-administered questionnaire, and analyzed with chi-square test, Fisher's test, t test and Pearson correlation.

Results: In total, 182 psoriasis patients participated in the study. Among them, 115 (63.2%) were males and 67 (36.8%) females. Over three-fourths (77.5%) of patients reported good compliance to treatment. Psoriasis had a moderate to extreme effect on quality of life among 75.3% patients. There was a significant association between treatment compliance and sex, where males were more likely to have poor compliance ($p=0.009$). Treatment compliance was not significantly associated with age ($p=0.840$), educational qualifications ($p=0.065$), or family income ($p=0.243$). A negative correlation was observed between treatment compliance and the Dermatology Life Quality Index ($r=-0.29$, $p=0.001$).

Conclusion: Among patients with psoriasis, females are more likely to be compliant to treatment than males. There is no significant association between treatment compliance and age, educational qualifications, or family income. As treatment compliance increases, the Dermatology Life Quality Index decreases, translating to an increase in dermatological quality of life of patients with psoriasis.

Keywords: Psoriasis, Dermatology Life Quality Index, Compliance

Nutritional status, physical activity, and dietary habits among grade 10 students in Nallur Education Division

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Background and objective: There is a dual burden of malnutrition in Jaffna with high levels of underweight and increasing rates of overweight/obesity. Body Mass Index (BMI) is widely used to assess nutritional status. This research describes the nutritional status, physical activity, and dietary habits among grade 10 students in Nallur Education Division.

Methods: This descriptive cross-sectional study was carried out among grade 10 students of the Nallur Education Division using multi-stage cluster sampling. Body weight was measured using a weighing scale and height by a portable stadiometer. BMI was calculated using the standard formula ($\text{weight}(\text{kg})/\text{height}^2(\text{m}^2)$). Results were analyzed using chi-square test.

Results: In total, 767 students participated in the study. The median BMI was 19.17 kg/m² (males 18.83, females 19.57). Almost two-thirds (65.2%) of the sample had a BMI within the normal range with only 3.4% recording a BMI in the obese range. Low levels of physical activity were observed in 60.5% of the sample. In the study, the majority (64.5%) of students consumed healthy foods. There was no evidence of an association between physical activity ($p=0.92$) or dietary habits ($p=0.27$) with BMI. There was an association between family income and BMI where students reporting higher income are more likely to be overweight ($p=0.006$).

Conclusion: Most grade 10 students in Nallur Education Division are in the normal BMI range with healthy dietary habits, but physical activity levels are low. BMI is associated with family income.

Keywords: BMI, Physical Activity, Dietary Habits, Jaffna

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