It is my privilege and honor to write few words in this Abstract book of First NMC Research Conference 2019.

It is the first conference organized by IRC in the Nepal Medical College Pvt. Ltd. I am hopeful that this will encourage all the faculties/researchers and Post-Graduate/Under-Graduate Students for active participation in such conferences now and in future.

Nepal Medical College Pvt. Ltd. always encourages with high priority in having such academic activities in future also.

I wish for all success of this conference.

Prof. Dr. Pramod Kumar Chhetri
Principal
Jestha 01, 2076
The Institutional Review Committee of Nepal Medial College and Nepal Medical College (Pvt.) Ltd Teaching Hospital (NMC-IRC), and the Scientific Sub-committee of the Conference, constituted by the Editorial Board of Nepal Medical College Journal (NMCJ) feel happy in holding the 1st NMC Research Conference-2019, the first of its kind, as an in-house scientific discourse. On behalf of the organizing committee, I feel privileged and honored to invite all the faculty members / researchers / investigators of NMC and NMCTH for sharing this forum to deliberate on the research undertakings and exchange new knowledge, skills and attitude among ourselves.

In keeping with the motto of “Education Research Service”, enshrined in the logo of NMC & NMCTH, the central position occupied by Research is a constant reminder to all of us, the significant role played by Research in maintenance of the standard of education imparted in all the academic programs at NMC on one side and in providing quality of health care service delivered from NMCTH on the other.

I hope, the conference, shall turn out to be useful in our attempt to exchanging the outcomes of the scientific undertakings and pave the way for holding similar conferences annually in future. May Lord Pashupatinath enlighten us with new scientific knowledge and bless us in acquiring competent skills and good behavior in practicing the noblest profession, which we belong to.

Dr. Shekhar Babu Rizyal
Director, Medical Education Department
Chairperson, NMC-IRC,
(Jestha 01, 2076)
Nepal Medical College Teaching Hospital (NMCTH) is very much committed on the “quality” education and health services. As the research plays a vital role in quality medical education and services, NMCTH has given high priority in health/medical research. For this, NMCTH has been allocating sizable amount of “research budget” since year 2001 which is being used to support the research work of faculties/researchers and promote the research related activities (conducting research related workshops, conference registration/travel grant and others). And, this year, this one-day in-house “1st NMC Research Conference-2019” has been organized on May 20, 2019 (Jestha 6, 2076) and I welcome all the paper presenters and participants in this conference.

All NMCTH faculties/researches who had taken “approval” from NMC-IRC in between Shrawan 2074 to Kartik 2075 (n=79) were notified to present their findings (published/ unpublished) in this conference. However, only 23 papers could be received and most of are from pre-clinical/basic science. These papers are put in four “scientific sessions” and one of papers presented will be awarded “Best Research Paper Award”. Though the number of papers received is not expected, the number of participants registered is satisfactory and it is hoped that this will create a “research environment” at NMCTH which, in turn, contribute in quality education and hospital services.

I sincerely thank all members of organizing committee (IRC and Editorial Board) and others contributing this in organizing this conference.

Prof. Dr. Shiba Kumar Rai
Research Director & Member Secretary, IRC
(Jestha 01, 2076)
PROGRAM SCHEDULE

1. **REGISTRATION:** Time: 08.30 ~ 09.00
   (NMC-IRC Members and Scientific Committee Members)

2. **OPENING SESSION:** Time: 09.01 ~ 10.00 (Multipurpose Hall, Hospital Building)
   1. Chairing of Session: NMC-IRC (Institutional Review Committee) Chairman Dr. Shekhar Babu Rizyal
   2. Welcoming/Opening remark: Research Director/IRC Member Secretary Prof. Shiba Kumar Rai
   3. Inauguration of Conference: Chief Guest Dr. Anjani Kumar Jha, Chairman, Nepal Health Research Council
   4. Brief remark: NMC Principal Prof. Pramod Kumar Chhetri
   5. Brief remark: NMC Chairman Dr. Bhola Rijal
   6. Brief remark: Chief Guest Dr. Anjani Kumar Jha, Chairman, Nepal Health Research Council
   7. Closing remarks with vote of thanks: Session Chair Dr. Shekhar Babu Rizyal
      Jalapan (Tea-cookies)

3. **SCIENTIFIC SESSION:** Time: 10.01 ~ (Multipurpose hall, Hospital Building)
   **Time for each presentation:** 12 min (9 min for presentation + 3 min for Q/A)

**Session - 1:**
**Time:** 10.01~11.20 (12 min x 6 = 72 min + 8 min for remarks by session Chairs + Token of appreciation to Chairs)

<table>
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Outcome of implementing Surgical Safety Checklist in Pediatric Surgery in Tertiary level hospital

Session - 2

Time: 11.21~12.40 (12 min x 5 = 60 min + 10 min for remarks by session Chairs + Token of appreciation to Chairs)

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LUNCH BREAK: 12.41 ~ 13.20 (40 min)

Session - 3

Time: 13.21~14.40 (12 min x 6 = 72 min + 8 min for remarks by session Chairs + Token of appreciation to Chairs)

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4 Mr. Rudip Thapa (Pharmacology) | A Study On Medicine Utilization Pattern in Outpatient Departments of Tertiary Care Centre in Kathmandu

5 Dr. Tapas Pramanik (Physiology) | Visual Reaction Time in Persons with and without Diabetes- A Comparative Study

6 Mr. Ram Prasad Adhikari (Microbiology) | Antimicrobial Susceptibility Pattern of Enterococcus species Isolated from various Clinical Specimens in a Tertiary Care Hospital, Kathmandu, Nepal

Session - 4:

Time: 14.41~15.50 (12 min x 5 = 60 min + 8 min for remarks by session Chairs + Token of appreciation to Chairs)

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<td>Dr. Mrigendra Amatya (Physiology)</td>
<td>Correlating Spirometric Parameters with Breathholding Time and Maximum Chest Expansion in Healthy Young Adults</td>
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<td>Dr. Asmita Pokhrel (Biochemistry)</td>
<td>Analytical and Clinical Accuracy of Glucose Meter Among Adults in A Semi-Urban Area in Kathmandu, Nepal: A Community Based Study</td>
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<td>5</td>
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<td>Assessment of Cardiovascular Risks in Chronic Kidney Diseases Patients undergoing Hemodialysis</td>
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4. CLOSING SESSION: Time: 15.51~16.20 (....................)

i. Chairing of Session: NMC-IRC (Institutional Review Committee) Chairman Dr. Shekhar Babu Rizyal

ii. Conference Review Reporting: Prof. Sunil Shrestha (Coordinator of selection Sub-committee)

iii. Distribution of “Best Paper Award” followed by brief remarks: NMC Principal Prof. Pramod Kumar Chhetri

iv. Distribution of “Certificates of Participation” followed by Closing remarks: Session Chair Dr. Shekhar Babu Rizyal
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(Pathology)  
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23 Pramila Baral  
(Nursing)  
Awareness and Attitude Regarding Cervical Cancer Screening among Reproductive Age Women Attending Nepal Medical College
Peripheral neuropathy is a common complication of type 2 diabetes in patients with poor diabetic control where reaction time increases in comparison to normal individual. Early detection of neural dysfunction denoted by increased reaction time will be helpful for the patient, if he/she is alerted by the physician to control the blood sugar to avoid diabetic complications. Present study was planned to investigate diabetic’s neural deficit, by comparing the visual reaction time using ruler drop method between non-diabetic and diabetic persons and assessing the relationship of reaction time with gradual increase of glycated hemoglobin (HbA1C) titre. It was a case control study conducted in 2017-2019 among 38 diabetics and 31 healthy volunteers. Among the volunteers of age groups 20-39 years and 40-59 years all patients with poor diabetic control showed significantly high reaction time in comparison to their non-diabetic counterparts (180.66 ms Vs 231.11ms; 197.27ms Vs 224.44 ms respectively). In age groups of 60-79 years reaction time was insignificantly more in patients with high HbA1c in comparison to their non-diabetic counterparts (224.00 ms Vs 230.90 ms). In comparison to non-diabetics diabetics with HbA1c 7-9%, 9-11%, 11-13% and more than 13% all showed significantly higher reaction time (193.54 ms Vs 219.00 ms; 193.54 ms Vs 225.83 ms ; 193.54 ms Vs 236.66 ms and 193.54 ms Vs more than 250 ms respectively). Furthermore, a positive Pearson Correlation (r = 0.4) was noted between HbA1c (%) and reaction time (ms) amongst the patients with poor diabetic control. Damage of vasa nervosum and formation and accumulation of sorbitol and fructose in Schwann cells might disrupt structure and function of peripheral nerves leading to neuropathy and altered visual reaction time in diabetics.

**Keywords:**
Visual reaction time, ruler drop method, glycated hemoglobin (HbA1c) Diabetes

**Correspondence:** drpramanik@hotmail.com
ABSTRACT
Pharmacovigilance (PV) is the science and activities related to the detection, assessment, understanding and prevention of adverse effects. Healthcare professionals (HCPs) have an important role in reporting adverse drug reaction (ADR) cases. However under-reporting has been a major challenge in PV. Hence, we assessed the knowledge, attitude and practice (KAP) of HCPs about PV in a tertiary hospital of Kathmandu. A cross-sectional study was conducted using pretested questionnaire consisting of 21 closed ended questions (twelve on knowledge, five on attitude, four on practice and one open ended question to know the causes of under-reporting. Out of 520 HCPs, 448 (207 doctors and 241 nurses) participated in the study with the response rate of 86.2%. The mean KAP score for doctors was 10.38 ± 2.68 and 9.60 ± 2.32 for nurses. The major barriers for under-reporting were identified as the difficulty in deciding if it’s an ADR and lack of time to report ADRs. No significant correlation between knowledge and attitude of the HCPs was found (r=0, n=448, p < 0.01). However, there was a weak correlation between knowledge and practice (r= 0.05, n=448, p < 0.01) and also for attitude and practice (r= 0.09, n=448, p < 0.01). Hence, the HCPs had poor knowledge and practice but positive attitude towards PV. It is therefore recommended to have an educational intervention among the HCPs to improve the ADR reporting.

Keywords:
Adverse drug reaction, pharmacovigilance, knowledge, attitude, practice, Nepal

Correspondence: shakya.rushmee@gmail.com
EFFICIENCY AND SENSITIVITY OF NON-CONTACT INFRARED THERMOMETER OVER DIGITAL AND MERCURY THERMOMETER USING PARACETAMOL

Tuladhar LR¹, Shrestha S²

¹Department of Pharmacology, ²Department of Pediatrics, Nepal Medical College Teaching Hospital, Gokarneshwor, Kathmandu, Nepal

ABSTRACT

Oral and rectal thermometers are invasive and poorly tolerated, while axillary digital thermometers require undressing the child. Non-contact infrared thermometers (NCITs) measures temperature rapidly and non-invasively with negligible cross-infection risk. Since sites for measuring body temperature are different, result will be different as well. However, change in temperature should remain the same irrespective of the site. Most children develop fever within the first 12 hours after vaccination. The objective of study is to determine if NCITs can measure change in body temperature and if it can replace digital and mercury thermometer in fidgety child. The rationale behind the study is to determine if NCIT can be used for measuring feverish condition in fidgety child before and after vaccination. Children regardless of the reason for admission but presented with fever and age above 5 years were included whereas patient of age less than 5 years were excluded due to risk of breakage of mercury thermometer. Body temperature was measured before and after administration of paracetamol (15mg/kg). There was significant finding in mean temperature difference with mercury thermometer (2.083±0.937) and infra-red thermometer (1.691±1.220) (p=0.010 i.e. p<0.05). Therefore, infrared and mercury thermometer readings were different. However, there was no significant finding in mean temperature difference with mercury thermometer (2.083±0937) and digital thermometer (2.100±1.122) (p=0.873 i.e. p> 0.05). Therefore, temperature difference was same with digital and mercury thermometer whereas it was different with NCIT and mercury thermometer. Although Food and Drug Administration has approved the NCITs specifically designed for use in children, the significance of this study was that NCIT readings did not match with mercury thermometer. However, this could be because of insufficient sample size. Therefore, NCIT thermometer may have desirable characteristics like noncontact, quick, hygienic, simple. But it may show variation in temperature readings.

Keywords:
Infra-red thermometer, efficiency, temperature change

Correspondence: lujaw3@gmail.com
ADVERSE DRUG REACTION WITH HYOSCINE AND VALETHAMATE FOR CERVICAL DILATION DURING LABOUR

Tuladhar LR, Shrestha A

Department of Pharmacology, Department of Gynaecology, Nepal Medical College Teaching Hospital, Kathmandu, Nepal

ABSTRACT

Adverse drug reaction (ADR) is an injury caused by taking medication. ADR may occur following single dose or prolong administration of drug or combination of two or more drugs. While major advancements of discipline of pharmacovigilance have taken place in the west, not much have been achieved in Asian countries. Labour is characterised by forceful and painful uterine contraction that result in cervical dilation and foetus decent from the birth canal. Anti-spasmodic drugs like hyoscine butylbromide and valethamate bromide have been used to accelerate cervical dilation and thus reduce the labor duration. The objective was to observe ADR for hyoscine and valethamate combination for cervical dilation during labor with the rationale being its safety in pregnancy. It was a hospital based cross sectional study. Investigations were carried out in the form of questionnaire. All the consecutive patients who were in active stage of labor were included in the study. They were given Intravenous(IV) valethamate bromide 8mg and hyoscine butylbromide 20mg, 3 doses half an hour apart. After administration of the drug, the progress of labor was monitored and management was done as per protocol in obstetrics and gynaecology department. The finding indicates that Adverse drug reactions were extension of pharmacological action among which the most common were blurred vision (47.7%), dry mouth (36.9%), tachycardia (19.2%). Although ADR were reported, previous studies have shown that cervical dilation under the influence of valethamate and hyoscine was significantly higher compared to the control. The significance of this study was after considering benefit over the risk it is rationale to combine valethamate and hyoscine for cervical dilation during labor.

Keywords:
Adverse drug reaction, hyoscine butylbromide, valethamate bromide, cervical dilation, labor

Correspondence: lujaw3@gmail.com
ABSTRACT

Blood pressure (BP) can vary in response to different factors such as stress, emotion, body position, and body temperature. This study is aimed to explore BP and heart rate variations in different phases of menstrual cycle, which are not well-documented. A cross-sectional, observational study was conducted on 65 consenting first year undergraduate students of Nepal Medical College, Kathmandu, Nepal. Students’ BP was measured in menstrual, follicular and luteal phases which were taken on 2-4 days, 10-12 days, and 22-24 days respectively from the first day of the last menstrual period. Students’ age range was 18 to 21 years and their BP were within normal limits in all occasions. Their average menstrual cycle length was 28 days. Mean systolic BP were 106.65±9.23, 109.45±9.12, and 108.46±8.78 mmHg; diastolic BP were 67.66±8.18, 67.28±8.69, and 64.51±7.75 mmHg; and HR were 73.26±5.85, 72.92±5.6, and 72.8±4.92 per minute in menstrual, follicular, and luteal phases respectively. Compared to other phases, significantly low values were recorded for systolic BP in menstrual phase (p=0.005) and diastolic BP in luteal phase (p=0.001); HR differences were not significant. The significant variations in BP in different phases of menstrual cycle may have implications in antihypertensive treatment in females of reproductive age, requiring considerations in dose adjustments.

Keywords:
Blood pressure, heart rate, menstrual cycle, ovarian hormones
Educational environment in medical schools is highly demanding and stressful due to various factors. The study was aimed to explore level of stress, stressors and the coping strategies among the undergraduate medical, dental and nursing students of a medical college in Kathmandu. A cross-sectional observational study was conducted on 174 consenting (95 medical, 51 dental and 28 nursing) first year undergraduate students of Nepal Medical College, Kathmandu, Nepal, with predesigned, pretested semi-structured questionnaire which included socio-demographic details, Kessler10 and Medical students stress questionnaire 40. Average age of students was 19.54±1.28 years. Results revealed 66.65% of students under stress, with highest percentage of stress among nursing students (75%). Of them 32.14% were under severe stress. Out of 116 males and 58 females, males were more stressed (50%) than females (16.66%). Most of the students enjoyed music and chatted with their close ones to cope with stress. Academic related stressor was found be the highest stressor (2.65±0.69) with statistically significant association (p< 0.01) with the stress levels noted among the students. Informing students about the “must know” and “good to know” areas of each topic of every subject may be helpful to decrease the academic related stress. Regular practice of meditation, sports and cultural activities are also effective to reduce stress.

Keywords:
Stress, stressors, medical students stress questionnaire, Kessler 10 psychological distress scale

Correspondence: seerina1978@gmail.com
ABSTRACT

Resistance to vancomycin and high level aminoglycosides are common among Enterococcus spp. and are being increasingly reported from different parts of the world. These resistance phenomena in enterococci have limited the therapeutic options to treat the infections caused by them. The objective of our study was to determine the antimicrobial resistance patterns of Enterococcus spp. (n=60) isolated over a year from clinical specimens received from patients visiting Nepal Medical College Teaching Hospital, Kathmandu, Nepal. All enterococci were subjected to antimicrobial susceptibility testing, high level gentamicin resistance testing by disc diffusion method and minimum inhibitory concentration of vancomycin by agar dilution method. Prevalence of high level gentamicin resistance among enterococci was 55%. None of the isolates were resistant to vancomycin by both disc diffusion and agar dilution method. However 8.3% of them were intermediate to vancomycin. All of these vancomycin intermediate isolates were from samples from hospital admitted patients and resistant to ampicillin, ciprofloxacin, erythromycin and high level gentamicin. Present findings were suggestive of possible emergence of vancomycin resistant enterococci in the hospital if immediate and adequate control measures are not implemented.

Keywords:
Enterococci, high level gentamicin resistance, Nepal, vancomycin resistant enterococci, gentamicin resistance, Nepal, vancomycin resistant enterococci

Correspondence: rampd11@yahoo.com
PERCEPTION OF WOMEN REGARDING RESPECTFUL MATERNITY CARE DURING FACILITY-BASED CHILDBIRTH

Pathak P, Ghimire B

Department of Nursing, Nepal Medical College, Attarkhel, Gokarneshwor-8, Kathmandu, Nepal

ABSTRACT

Respectful care during childbirth has been described as “a universal human right that encompasses the principles of ethics and respect for women’s feelings, dignity, choices and preferences.” Many women experience lack of respectful and abusive care during childbirth across the globe. This study aimed to determine the women’s perception of respectful maternity care (RMC) during facility-based childbirth. A descriptive cross-sectional research study was conducted among 150 mothers admitted in maternity ward of Nepal Medical College and Teaching Hospital immediately prior to discharge after the childbirth using non-probability convenience sampling technique. Data was collected through face to face interview technique by using validated tool containing 15 items each measured on a scale of 5. Statistical Package for Social Science (SPSS) version 16 was used for data analysis. Frequency, percentage, mean score, standard deviation and chi-square test were used to analyse descriptive and inferential statistics respectively. In total, 127 (84.7%) of 150 mothers had positive perception regarding overall components of RMC with mean score ± SD (61.70± 12.12). Among all the components of RMC, highest percentage of mothers had positive perception towards friendly care 126 (84%) and discrimination free care 121 (80.7%) with mean score being 64.83 (15.53 S.D) and 69 (15.84 S.D) respectively. Similarly, 104 (69.3%) of mothers with mean score ± SD (56.44 ±19.64) and 97 (64.7%) with mean score ± SD (56.55 ±17.09 S.D) had positive perception towards abuse free care and timely care respectively. Likewise, length of stay, time of delivery and number of living children was found to be statistically significant with friendly care (p=0.03), timely care (p=0.03) and abuse free care (p=0.002) respectively. As RMC emphasizes the absence of disrespect and abuse, still 15% of mothers had negative perception towards RMC. So, health facility should focus on the interventions which ensure that every woman receive this basic human dignity during one of the most vulnerable times in their lives.

Keywords:
Respectful maternity care, women, facility based childbirth

Correspondence: pathakpratima6@gmail.com
CORRELATING SPIROMETRIC PARAMETERS WITH BREATH-HOLDING TIME AND MAXIMUM CHEST EXPANSION IN HEALTHY YOUNG ADULTS

Amatya M¹, Pun DB²

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ABSTRACT

Spirometry is the most frequently used measure of pulmonary function test and consists of measurements such as timed vital capacity and peak expiratory flow rate. The measurements are very sensitive, accurate, and reliable parameters with diagnostic as well as prognostic values. We aimed to find the reliability of two simple techniques - measurements of chest expansion and voluntary breath holding, which have been suggested as tools for screening and monitoring of respiratory diseases. A cross-sectional descriptive study was conducted on first and second year medical students of Nepal Medical College. Measurements of spirometry (forced vital capacity, FVC, L; forced expiratory volume in first second, FEV1, L; and peak expiratory flow rate, PEFR, L/min), cirtometry (average of maximum chest expansion, CE, cms), and breath-holding time (maximum voluntary apnea at end-inspiration, MVAIT and maximum voluntary apnea at end-expiration, MVAET, seconds) were performed. Degrees of correlation (Pearson’s correlation coefficient, r) were determined between different parameters; level of significance was set at 95%. Total 308 students (M=164, 53.25%; F=144, 46.75%) participated. Owing to very highly significant differences between males and females in general characteristics (age, height, weight) and most measurements, gender-separate correlations were determined. In males, CE correlation was very highly significant (p=0.000) with FVC and FEV1 but not with PEFR; MVAET correlation was significant with FVC, FEV1, and PEFR; and MVAIT correlation was not significant with any parameters. In females, CE correlation was significant with FVC and FEV1 but not with PEFR; MVAET and MVAIT correlations were not significant with any of the parameters. In conclusion, the correlation of chest expansion with different spirometric parameters is significant but not very strong (0.3<r<0.5). Also, gender differences exist. Therefore, using maximum chest expansion and breath-holding time may not be reliable to assess respiratory ventilatory function.

Keywords:
Breath-holding time, cirtometry, correlation, spirometry

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A STUDY OF CORONARY DOMINANCE IN THE POPULATION OF KATHMANDU VALLEY- A CADAVERIC STUDY

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ABSTRACT

According to World Health Organization (WHO), Coronary heart diseases constitute the main cause of death worldwide. Variation in the morphological pattern of coronary arteries and their major branches is an important factor in the assessment of coronary heart disease. This study therefore aims to focus on the pattern of coronary dominance in Kathmandu Nepal. A total of 60 formalin fixed adults cadaveric heart specimens irrespective of age and sex were collected from the departments of Anatomy of Nepal Medical College, Nepal. The coronary arteries and their branches were dissected manually and carefully and followed till their termination. The coronary artery which gives the posterior interventricular artery and determines the coronary predominance was examined in detail. The modes of termination of the right coronary artery and the circumflex artery were also found out. In the 60 adults human cadaveric hearts which were dissected, the posterior interventricular arteries were found to arise from the right coronary artery in 51 specimens (85.0%). These were called ‘right dominant’. The posterior interventricular arteries arose from the circumflex artery in 3 specimens (5.0%). These were called ‘left dominant’. In 6 specimens (10.0%), the posterior interventricular arteries arose from both the RCA and the circumflex arteries. These hearts were called ‘balanced’. This study revealed right dominance is the common pattern, right coronary artery supplies to major area of diaphragmatic surface of the heart through posterior interventricular artery so this artery has to be considered while deciding the choice of therapy in right coronary artery occlusion.

Keywords:
Coronary artery, dominance, right dominant, left dominant, balanced, posterior interventricular artery

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ABSTRACT

Femoral bicondylar angle is the angle between an axis through the shaft of the femur and a line perpendicular to the infracondylar plane. This study aims to assess femoral bicondylar angle measured from radiograph of femur and knee joints obtained from teaching hospitals in Kathmandu Nepal. Total of two hundred AP view radiograph of knee joint were collected, out of which, 50 each were of male right and left knee joint and 50 each were of female right and left knee joint. The mean angle for the right male femur was 7.86° with the range of 5°-10° and mean angle for the right female femur was 8.82° with the range of 6°-11°. On the left side, bicondylar angle ranged in male from 6°-10° with the average of 7.46° and in female range was 6°-11° and average was 8.66°. The bicondylar angle was higher in female on both the side, the difference was statistically significant on the left side (P=0.004) and significant on the right side (P=0.001). The finding of the study showed the femoral bicondylar angles were greater in right femur than left femur in both sexes. The difference in the bicondylar angle between the right and left femur was statistically insignificant in both sexes (male p = 0.144, female p = 0.541). The result from this study has shown that femoral bicondylar angles were generally greater amongst the females as compared to the males and also showed that the femoral bicondylar angles were greater in right femur than left femur in both sexes.

Keywords:
Femoral bicondylar angle, femoral diaphysis, infracondylar plane and measurement of radiograph

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A MORPHOMETRIC ANALYSIS OF NASAL PARAMETERS, NOSTRILS SHAPES AND PHILTRUM SHAPE AMONG THE NEPALESE MEDICAL UNDERGRADUATE STUDENTS

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ABSTRACT

The upper lip and nose complex are important for us in providing symmetry and proportion of face and hence plays role in facial aesthetic. There are differences between the anatomy and morphology of nose and lip complex between different sex, race and ethnicity. Many congenital anomalies also affecting the face and nasal complex too. Thus, a thorough understanding of the anatomical relationship of this complex is necessary so that it is useful to the functional and surgical corrections, forensic expert and anthropologists. The main aim of the study was to study nasal parameters, shape of nostril and philtrum among the medical and dental students. A cross-sectional study was designed where 250 medical and dental students of age 18-25 years participated. The list of students was obtained from the academic section of the college and lottery method was used to choose the participants. Morphometric analysis of nasal height, width was done with sliding caliper and the shape of the nostrils and philtrum was recorded separately for each participant. The data was analyzed using SPSS (version 16) software. The data was analyzed using descriptive statistics and Chi-square test was also interpreted. There were 45.2 % were males and 54.8 % were females. The mean nasal index of male was 75.36 while that of female was 71.72 suggesting that the study population had mesorrhine nasal type. The rectangular shaped nostril was observed in 82 % of students while triangular type of philtrum was observed among 91.6 % students. Our study shows significant difference in the morphometric parameters of nasal and philtrum complex between both males and females thus revealing the sexual dimorphism of all aspects of upper lip, philtrum and nose complex. This study further helps plastic surgeons performing cleft lip and palate surgery, rhinoplasty, prosthodontists and forensic experts.

Keywords:
Anthropometric; nasal index; nostrils; philtrum column shape

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MEASUREMENT OF THE TRICUSPID AND THE MITRAL VALVE IN ADULT HUMAN HEART - A CADAVERIC STUDY

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ABSTRACT

The human heart valve is an integral structure and the valvular heart disease is one of the most common disease of the heart. Such cardiac disease require repair of the valve and valve replacement surgery where the patient’s diseased valve is replaced by a prosthetic valve. The aim of this study was to measure the annular circumferences and diameters of tricuspid and mitral valves in cadavers. A morphometric study was conducted in Department of Anatomy at Nepal Medical College and Teaching Hospital where total 50 cadaveric hearts were taken up for the study. The tricuspid and the mitral valves were exposed by dissection method. Measurements were taken by using a thread and a digital vernier caliper and obtained data were analysed by using SPSS version 16. The mean, frequency and standard deviation of circumferences and diameters of both tricuspid and the mitral valves were analysed and were found as (a) The mean annular circumference of tricuspid valve was 11.22 ± 0.20 cm (b) The mean diameter of tricuspid valve was 2.33 ± 0.04 cm. (c) The mean annular circumference of mitral valve was 9.22 ± 1.49 cm (d) the mean diameter of mitral valve was 2.01 ± 0.27 cm. There were few literatures available on the study of cadaveric heart valves in Nepal thus this study will provide a guideline to the clinicians, radiologists and also to cardiothoracic surgeons performing various valve surgeries to assess the prosthetic valve of appropriate size and to the anthropologists also to maintain a standardized data on cardiac valves as well.

Keywords:
Mitral valve annular circumference, mitral valve diameter, tricuspid valve annular circumference, tricuspid valve diameter

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OUTCOME OF IMPLEMENTING SURGICAL SAFETY CHECKLIST IN PEDIATRIC SURGERY IN TERTIARY LEVEL HOSPITAL

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ABSTRACT

The World Health Organization (WHO) implemented the Surgical Safety Checklist (SSCL) as a part of Safe Surgery Saves Lives Campaign. Even after 10 years of implementation of WHO surgical safety checklist, available literatures are still lacking from developing countries, where the potentially greatest impact could have been observed. Surgical Safety checklist is one of the essential steps in perioperative management at present context. Even then there is reluctance in the surgical fraternity in our part of the world. The benefits of the checklist have been elaborated in various research articles. Various studies have been done on why there is no compliance in spite of those benefits. Current study is to evaluate the outcome of the implementation of the checklist in our scenario. Pediatric patients aged 0 day to 15 years enrolled to operate in the Pediatric Surgery Unit were included in the study. The patients randomly allocated into control and intervention groups by lottery into Group A -control and Group B – case. Group A were given the basic pre-operative care and the basic data of the patient and the procedures were recorded in a printed form. Group B were enrolled in the safety checklist. All the points in the checklist were followed from sign in, time out and sign out. The data were collected in the printed form (proforma) which were analyzed. The patients were followed for Surgical site infections (SSI). All the data were recorded for each case enrolled. Compliance of the safety checklist was assessed with completion of the checklist fully or partially. A total number of cases enrolled were 150 with 75 in each group. Age of patients range from 1 day to 15 years. Mean age is 6.84 years. There were 52 male and 23 female in Group A and 62 male and 13 female in Group B. Surgical site infection present in 24 patients in group A and 15 patients in group B. The Outcome of implementation of SSC on appearance of SSI was not significant at P< 0.05 as shown by Chi Square test. After adjustment for baseline differences, SSI was decreased in checklist implementation (odds ratio [OR] 0.53; 95% CI, 0.25-1.12). Outcome of SSC compliance shown by Odds Ratio was 0.34 (0.1-1.14 at 95% CI).

Keywords:
Surgical safety checklist, surgical site infection, compliance

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ABSTRACT

Glucose meters are gaining popularity in monitoring of blood glucose at household levels and in health care set ups due to their portability, affordability and convenience of use over the laboratory based reference methods. Still they are not free of limitations. Operator’s technique, extreme temperatures, humidity, patients medication, hematocrit values can affect the reliability of glucose meter results. Since years, the accuracy of glucose meter has been the topic of concern everywhere. Therefore, present study aims to evaluate the analytical and clinical accuracy of glucose meter using International Organization for Standardization (ISO) 15197 guideline. Community based descriptive cross-sectional study was conducted in Kapan, Kathmandu, Nepal in April 2018. Glucose levels were measured using glucose meter and reference laboratory method simultaneously among 203 adults ≥ 20 years, after an overnight fasting and two hours of ingestion of 75 grams glucose. Modified Bland-Altman plots were created by incorporating ISO 15197 guidelines to check the analytical accuracy and Park error grid was used to evaluate the clinical accuracy of the device. Modified Bland-Altman plots showed > 95% of the test results were beyond the acceptable analytical criteria of ISO 15197: 2003 & 2013. Park Error Grid-Analysis showed 99% of the data within zones A and B of the consensus error grid. Glucose meter readings were within clinically acceptable parameters despite discrepancies on analytical merit. Possible sources of interferences must be avoided during the measurement to minimize the disparities and the values should be interpreted with caution. Further studies are highly recommended and the development of glucose meters that along with the clinical accuracy also satisfy the ISO 15197:2013 criteria of analytical accuracy is awaited. (Published on JNMA Vol. 57, No. 216, 2019)

Keywords:
accuracy; analytical; Bland -Altman; clinical; glucose meter; Park error grid

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ABSTRACT

Patients on hemodialysis are at greater risk of cardiovascular disease (CVD) as compared with the general populations. Apart from the traditional risk factors like diabetes, hypertension and dyslipidemia, renal anemia and inflammation are believed to have substantial contribution in promoting CVD in dialysis patients. Many recent studies have demonstrated high sensitive C-reactive protein (hsCRP) as a strong independent predictor of future cardiovascular events. Red cell distribution width (RDW) is associated with cardiovascular events and mortality. Hence in the present study, we have investigated the serum levels of hsCRP and RDW along with other traditional CVD risk factors among the dialysis patients to assess their cardiovascular risk. Material and methods: A hospital based descriptive cross-sectional study was conducted during January to April 2019 among CKD patients ≥ 18 years of age undergoing hemodialysis in Nepal Medical College, Kathmandu. Blood Pressure, anthropometric parameters were measured, and detail medical history was noted. Venous blood samples were analyzed for different biochemical parameters: hemoglobin, calcium, phosphorus and hsCRP. Patients were divided into three groups according to RDW: normal RDW (RDW 11.5 - 14.5%), low RDW (< 11.5%) and elevated RDW (RDW ≥ 14.5%) and into 3 groups based on their hsCRP values: Normal (< 1.0 mg/L), Moderate risk (1 – 3 mg/L), High risk (3.0 – 10.0 mg/L). Results: A total of 75 CKD patients were included in the study among which 42.6% were female and 57.3% were male. The mean age of the patients was 48.04 ± 15.81 years with 21.3% of the patients being in 30-40 years age group. 40% were past smokers, 49.3% were past alcohol users and 29.3% were both. 28% had diabetes mellitus and 93.3% had history of hypertension. 80% had hyperphosphatemia (> 4.5 mg/dl) and 37.3% had high calcium x phosphate product (55mg²/dl²). 41% had left ventricular hypertrophy (LVH) in ECG. 97.3% had anemia where 45.3% had elevated RDW, 53.3% had normal RDW while 1.3% had low RDW. 87.5% had elevated hsCRP among which 25% were at moderate risk, 27.1% were at high risk for CVD and 35.4% were CRP positive. Conclusions: CKD patients have very high prevalence of CVD risk factors and very high predicted risk for CVD. So, screening should be done in order to identify the individuals at high risk for future CVD because CVD are the first grade preventable outcomes of CKD.

Keywords:
Cardiovascular risk, hemodialysis, hsCRP, red cell distribution width

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ABSTRACT

Oral cavity is the mirror of systemic health. Amongst various systemic diseases, chronic Kidney Disease (CKD) is one such disease that presents with a spectrum of oral manifestations. The oral health care professionals need to attain a holistic approach to the management of patients with complex medical problems and should be in par with the changing technology and medical advances. Amongst all the systemic disorders, diseases of the renal system pose a major cause of morbidity and mortality worldwide, as the kidneys are vital organs for maintaining a stable internal environment. The plethora of oral manifestations observed in chronic renal failure and associated therapies are altered taste, gingival enlargement, xerostomia, parotitis, enamel hypoplasia, delayed eruption, various mucosal lesions like hairy leukoplakia, lichenoid reactions, ulcerations, angular chelitis, candidiasis etc. With growing awareness about the inter-relationship between dental and medical problems, the role of dentist has become pivotal in overall health care of patients with CKD and also to render services for the oral findings of such diseases. A proper examination of the oral cavity in patients with CKD is invaluable to diagnosis at an early stage of multi-system disease. Therefore, these patients should be routinely evaluated for oral lesions and treated accordingly. This information can be used for designing effective intervention strategies to prevent and manage oral manifestations in adult hemodialysis patients of Nepal. The objective of this cross sectional study was to see the oral manifestations in hemodialysis patients and their Knowledge and attitude towards Oral Health. Ethical approval was taken from the NMC - IRC before starting the study. Informed written consent was taken from all the patients to be a part of the study. Face to face interviews was done with the patients to gather knowledge regarding socio-demographic variables and tobacco history. Following statistical analysis, it was seen that multiple oral manifestations were seen in patients undergoing haemodialysis.

Keywords:
Renal disease, hemodialysis, oral manifestations

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A STUDY ON MEDICINE UTILIZATION PATTERN IN OUTPATIENT DEPARTMENTS OF TERTIARY CARE CENTRE IN KATHMANDU

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ABSTRACT
The main objective of this study is to analyze the prescribing pattern of medicine in outpatient departments of tertiary care centre in Kathmandu using WHO drug use prescribing indicators. As per WHO consideration, 100 prescriptions were be taken from each OPD including Orthopedics, Obstetrics and Gynecology, Surgery, Medicine, Ophthalmology, Otorhinolaryngology (ENT), Pediatrics, Dermatology and Psychiatry i.e., 900 prescriptions were assessed. In total, 47.7% were male and 52.3% were female patients. Average medicine per prescription was 2.43±0.039. Number of prescriptions with single Medicine was 188 (20.9%) and the polypharmacy (≥4) was 129 (14.3%). Number of Medicines prescribed by generic name 76 (3.4%), antibiotics 416 (19%), Injection 34 (1.5%), from Essential Medicine List (EML) 1312 (60.1%) and Fixed Dose Combination (FDC) was 468 (21.4%). The average cost of medicine per prescription was NPR 404.72±19.3 and duration of treatment was 16.43±0.73 days. The prescribing drugs as tablets 1191 (54.5%), capsules 184 (8.4%), liquid suspension 365 (16.7%), injections 34 (1.5%), and topical was 409 (18.7%). Patient’s age had positive correlation with number of medicines (p=0.002) and negative correlation with antibiotics (p=0.988). Cost of treatment had positive correlation with number of medicines prescribed (p=0.00), prescribed from EML (p=0.00) and duration of treatment (p=0.00). A positive correlation was found between cost and antibiotics (p=0.33) with no statistical significance difference. Average medicines, prescription from EML, antibiotic prescribed were high in ENT with statistical significance of difference between mean. Prescription with FDC and intravenous (IV) were significantly high in Obstetrics and Gynecology. Prescription with generic names was significantly high in Medicine department. Cost and duration of treatment were significantly high in Psychiatry department. For rational prescription writing, healthcare facilities need to develop and implement specific guidelines and record them. Continuing medical education program are essential for more rational and safer drug prescribing and successful drug therapy.

Keywords:
Essential Medicine List (EML), Polypharmacy, Fixed dose combination (FDC), WHO Drug Use Indicator, Medicine utilization

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COMPARISION OF UMBILICAL CORD ARTERIAL BLOOD PH AMONG NEWBORN
WITH AND WITHOUT FETAL DISTRESS

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ABSTRACT

Fetal distress (intrapartum asphyxia) is one of the major contributing factors of perinatal morbidity and mortality worldwide. Umbilical cord pH is best indicator of fetal hypoxemia. The objective of the study is to find the correlation between fetal distress and umbilical cord blood pH values. It is a cross sectional study of all women delivering at term gestation (≥ 37 weeks) with singleton, cephalic fetus in labour is being included in the study over a period of a year. Cases with evidence of fetal distress (intrapartum hypoxia) during labour as evidenced by the meconium stained liquor was registered as the study case and those with no evidence of the fetal distress was taken as control. Immediately after delivery, umbilical cord arterial blood sample was collected. Maternal demographic profile, neonatal outcomes in terms of APGAR score, cord pH, immediate ventilation, NICU admissions were recorded. The correlation between non-reassuring fetal hearts, meconium stained liquor and neonatal outcome will be analyzed using SPSS version 16. A total of 120 newborns has been evaluated till now. The mean cord blood value of the control group was 7.32 while that of the case group was 7.24. When the level of acidemia was correlated with neonatal outcome then the result revealed majority of healthy neonates have pH > 7.25 and 36.8% of neonates with pH < 7.1 needed NICU care. The Apgar Score at 5mins were all >7 of the control where as 11% of the cases had Apgar score of <7 at 5 mins. Among the 25 newborn those admitted to NICU 10 had Apgar Score <7, out of which 70% had thick meconium stained liquor. Among the new born who had thick meconium stained liquor, 60% were admitted to the NICU and out of them 53% had Cardiotocography category III. A total of 3 newborns required ventilatory support for the hypoxia all of them had thick meconium stained liquor. Three babies developed seizure requiring medication. There was one early neonatal death who had Apgar score of 3 at 5 mins and Blood gas pH of 6.73. Regarding the mode of delivery Caesarean section rate was 75.28 % high in case group as compared to controls. Significance of cord arterial blood pH as a predictor of intrapartum hypoxia is considerable in determining neonatal outcome but definite conclusion could be drawn only after completion of the study.

Keywords:
Cord blood pH, CTG, Meconium stained liquor

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PREVALENCE AND FACTORS ASSOCIATED WITH ACUTE RESPIRATORY TRACT INFECTION AMONG UNDER-FIVE CHILDREN IN TERTIARY HOSPITAL


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ABSTRACT

Acute respiratory infection (ARI) is the leading cause of morbidity and mortality in under five children in the developing countries. Of the estimated 7.6 million deaths among children under 5 years of age in developing world in 2010, approximately 18% were caused by ARI. ARI is responsible for about 30-50 per cent of visit to health facility and for about 20-30 percent of admissions to hospital. Incidence of ARI/1000 children <5 years of age is 344 in Nepal. Hence, the study was conducted to find out the prevalence and factors associated with ARI among under five children. A descriptive cross-sectional study was conducted at Nepal Medical College and Teaching Hospital and International Friendship Children's Hospital (IFCH) in Kathmandu among children of age 2-59 months attending in Pediatric OPD. A total of 286 children were selected by using Non-probability (purposive) sampling technique. Data were collected using pre-tested semi-structured tool through interview schedule. The obtained data were analyzed in SPSS 16, descriptive statistics (frequency, percentage, mean and standard deviation) and Binary Logistic Regression were used to identify the factors associated with acute respiratory infection. Out of 286 children included in the study, 64% (183) were of age 2 years and below whereas remaining were of age more than 2 years. More than half (62.2%) of the children were male. Majority (73.3%) of the children belonged to Hindu family. Almost forty-one (40.6) percent of the child's family were from lower middle class. Nearly half of the children (49%) had Acute Respiratory Infection (ARI). Among them, one of the children had severe pneumonia. Binary logistic regression shows significant association between ARI and sex of the child [95%CI (0.298-0.824), AOR=0.496, p=0.007], presence of the ARI among family members [95%CI (0.285-0.810), AOR=0.480, p=0.006] and place of child while cooking [95%CI (0.310-0.840), AOR=0.510, p=0.008]. Therefore, the study concluded that male child are more susceptible to ARI than female child. Since, history of family was significantly associated so family should be aware on prevention of ARI and there should be effective planning and implementation of awareness program through allocation of a health education team.

Keywords:
Prevalence, Acute Respiratory Infection, Under-five Children

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ABSTRACT
Refractive error is a defect in the optical system of the eye which prevents light from being brought to a single point focus on the retina, thus reducing normal vision. This optical defect is the second most common cause of visual impairment globally as well in Nepal. At present, there are 285 million visually impaired people in the world. An estimated 4 out of 5 visual impairment (80%) can be prevented or cured. Uncorrected refractive errors is the leading cause (42%) followed by cataract (33%). A descriptive cross sectional study was conducted to determine the proportion of undergraduate medical students with refractive errors in Nepal Medical College, and to identify factors associated with it. A total of 210 medical students volunteered for this study, with 100 males (47.6%) and 110 females (52.4%). The age of these students were between 18 to 26 years, with the average of 20.5 years. The proportion of medical students with refractive error was slightly more than half (51.4%), with simple myopia being the leading type (42.9%), followed by astigmatism (7.1%) and simple hypemetroopia (1.4%). Parental history of refractive error was observed to be significantly associated with that of the medical students. There was also a significant association between refractive error and the daily use of mobile phones and laptops. However, years spent in medical education were not observed to be significant.

Keywords:
Refractive error, medical students, associated factors, myopia, astigmatism

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STUDY OF RED CELL INDICES AND RETICULOCYTE COUNT IN PERSON WITH ANEMIA AT A TERTIARY CARE HOSPITAL OF KATHMANDU

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ABSTRACT

Anemia is not a disease but a clinical feature of some other underlying problems. It is one of the most common public health problems in developing countries. The prevalence of anemia differs according to the age group. A cross sectional observational study was conducted in a tertiary hospital, over a period of six months (January 2018 to June 2018). All the cases of anemia in different age group with hematological investigations (hemoglobin and red blood cell indices) including reticulocyte count during the study period were included. A total of 274 blood samples of persons with anemia were evaluated. The mean age of the patients was 41.4 ± 25.37 years. Anemia was more commonly seen in female (68.2%) than male (31.8%) in our study. The most affected age group for anemia was person ≥ 15 years followed by children < 5 years. The least affected group was children of 12-14 years. Microcytic anemia (decreased MCV and decreased MCHC) was observed in children of 12-14 years and macrocytic anemia (increased MCV) was seen in group ≥ 15 years. Red cell distribution width (RDW) was more elevated in children of 12-14 years and showed that there was significant variation of size of RBC in this group. Reticulocyte count was higher in children < 5 years and lower in children of 12-14 years. Significant correlation was noted for hematocrit and reticulocyte count. This study revealed that the prevalence of anemia increases with age and more common in females. Baseline study of red blood cell indices and reticulocyte count will help us in diagnosing the type of anemia and in further management.

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Keywords:
Anemia, hemoglobin, hematocrit, red cell indices, reticulocyte

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ABSTRACT
Cervical cancer is the fourth most commonly occurring cancer in women. Awareness and attitude about cervical cancer among females is essential in the prevention of cancer. Objective: To identify the awareness and attitude regarding cervical cancer screening among reproductive age women, Kathmandu, Nepal. A descriptive cross-sectional study design was carried out among 160 reproductive age women attending Nepal Medical College Teaching Hospital (NMCTH) using non-probability purposive sampling technique. A semi-structured questionnaire was used to collect data via face-to-face interview method. Self-constructed questionnaire was used to assess awareness and attitude. Statistical Package for Social Science (SPSS) version 16 was used for data analysis. Descriptive statistics such as frequency, percentage, mean score, and standard deviation were used to summarize the socio-demographic characteristics. Inferential statistics such as logistic regression was used to determine the relationship between awareness and selected socio-demographic characteristics. Among 160 reproductive age women, mean age was 31.52 ± 8.95 years. Majority 153 (95.6%) of women had heard of cervical cancer and among them, only 11 (6.9%) had adequate awareness regarding cervical cancer screening. Regarding attitude, 75 (46.9%) of women had favorable attitude. Logistic regression shows significant association between awareness level and ethnicity [95% CI (0.03-0.88), OR=0.16, p=0.035] and awareness and employment [95% CI (1.01-26.52), OR=5.19, p=0.04]. Likewise, there is significant association between attitude level and ethnicity [95% CI (0.14-0.93), OR=0.37, p=0.035], marital status [95% CI (1.15-6.92), OR=2.83, p=0.023], and employment status [95% CI (1.88-9.04), OR=4.12, p=<0.001]. Based on the findings, it is concluded that most of the women were unaware about the screening of cervical cancer but nearly half of the respondents had favorable attitude. Thus it is highly recommended that awareness campaign regarding cervical cancer prevention should be conducted in NMCTH.

Keywords:
Cervical cancer, screening, awareness, attitude, reproductive age women