Abstract Book

Fourth National Summit
of
Health and Population Scientists in Nepal

'Advancing Evidence for Changing Health System'
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Welcome Letter

Dear Summit Delegates

Nepal Health Research Council (NHRC) together with the Advisory Committee, the Steering Committee, the Scientific Committee and the Organizing Committee extend our warm welcome to the Fourth National Summit of Health and Population Scientist in Nepal.

The Fourth National Summit is a continuum of previous summits as a part of our initiatives to promote research culture in the country. The primary purpose of the summit is to provide a platform to young researchers to contribute towards evidence based decision making in Nepal. The Summit is themed with "Advancing Evidence for Changing Health System" with focus on Evidence Based Health System in Nepal within the context of transition from Central to the Federal system.

The transition will require the Provincial and Local Government to be accountable for health sector planning and annual budgeting. This reflects an immediate need for local evidence, demanding several studies to bridge data gap at the local level. Moreover, gender, social groups and geographic location specific data will be essential for monitoring health sector performance at the sub-national level. Health and Population scientist as a group can contribute immensely to fill the data gap by bringing the local studies and evidence to the attention of policy makers and fellow researchers through this National Summit. The summit will hold plenary and parallel sessions to discourse on available evidence on national health priorities through oral and poster presentation of selected abstracts as well as the invited presentations.

We believe that the Summit will uncover evidence need of the changing health system in Nepal thus inviting policymakers and researchers to shed light into future actions for research, policy and practice. Given the rich diversity of participants from academia, research institutes, government,I/NGOs and external developmental partners, we also believe that the summit will also foster enduring partnership for innovation in all research and policy making in Nepal.

We would like to express our sincere gratitude to researchers, policymakers, external development partners and related stakeholders for supporting us in organizing this session. We look forward to your active engagement in the summit.

Thank You.

Prof. Dr. Anjani Kumar Jha
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Contents

ORAL PAPERS

1.1.1 Health Related Quality of Life of Renal Transplant Recipients at a Teaching Hospital, Kathmandu

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Background

Renal transplant is considered as the best treatment available to restore renal function in patients with end stage renal disease. Quality of life is an important indicator for evaluating therapeutic outcomes and mortality in patients with end-stage renal disease. The objective of the study was to find out health related quality of life (HRQOL) of renal transplant recipients.

Methodology

A descriptive cross-sectional study design was used among 165 renal transplant recipients who were in follow up visit at Transplant Outpatient Department of Tribhuwan University Teaching Hospital, which was selected purposefully. The respondents were selected using non-probability purposive sampling technique and interviewed face to face using Kidney Transplant Questionnaire (KTQ-25) with 7-point Likert scale. The data were analyzed by using descriptive and inferential (independent t test and ANOVA) statistics.

Results

Based on the findings of the study, health related quality of life of renal transplant recipients was good (Mean 5.44 ± 0.80). The highest score was found in the appearance dimension (6.65 ± 0.53) and lowest in uncertainty/ fear dimension (4.29 ± 1.10). Age, occupation, loan, length of renal replacement therapy and time since transplantations were found to be associated with different dimensions of health related quality of life significantly ($p < 0.05$). Whereas sex, marital status, ethnicity, education, income, donor age, and previous renal replacement therapy are found to have no statistically significant association on any dimension of health related quality of life ($p > 0.05$).

Conclusion

Hence, it can be concluded that the renal transplantation helps to maintain good quality of life among end stage renal disease clients. This study recommends, developing an intervention program to lessen the uncertainty/fear among renal transplant recipients by the clinicians. Further, financial supports for renal transplant can be increased to improve the quality of life of those affected.

Keywords

Renal transplantation, HRQOL, kidney transplant questionnaire-25.

1.1.2 Autoimmune Thyroiditis among Hypothyroid Individual and Its Association with Vitamin D

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Background

Apart from the classical role of vitamin D in bone mineral homeostasis, in recent years, the role of vitamin D as an immune modulator has been emphasized. Several studies have been increasingly suggesting that vitamin D plays a significant role in reducing the incidence and progression of autoimmune thyroiditis. Furthermore, vitamin D deficiency was reported in patients with autoimmune thyroiditis (Hashimoto's thyroiditis) with indecisive results.

The aim of our study was to screen for autoimmune thyroiditis and to evaluate the correlation between 25(OH) vitamin D deficiency and autoimmune thyroiditis in hypothyroid individuals.

Methodology

In this descriptive cross-sectional study conducted at the Tribhuvan University Teaching Hospital (TUTH), 95 patients diagnosed with overt hypothyroidism were selected. Their serum anti-TPO antibodies were assayed by fully automated chemiluminescence immunoassay (CLIA), Maglumi 1000 (Snibe Diagnostic). The anti-TPO antibody positive patients were assayed for 25 (OH) vitamin D level based on the principle of enhanced chemiluminescence. Statistical analysis was done by Statistical Package for the Social Sciences (SPSS) version 16.

Results

Out of 95 hypothyroid individual 60 patients (63.1%) were found to have autoimmune thyroiditis with elevated anti-TPO antibody in their serum. The vitamin D deficiency was significantly higher in patients with autoimmune thyroiditis compared to control (13.6 ± 2.8 ng/ml verses 26.8 ± 2.3 ng/ml, $p < 0.001$). The correlation between 25 (OH) vitamin D and anti-TPO antibody indicated inverse relation ($r = -0.43$, $p = 0.01$).

Conclusion

From this study, it can be concluded that autoimmune thyroiditis was the most common cause of hypothyroidism and moderately correlated with low vitamin D level. The study, therefore recommends the screening of vitamin D level among hypothyroid autoimmune thyroiditis patients.

Keywords

Vitamin D, autoimmune thyroiditis, hypothyroidism, anti-TPO antibody

1.1.3 Developing non-communicable disease care delivery services in Achham, Nepal

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Background

The burden of non-communicable disease (NCDs) continues to grow in low-and-middle-income countries (LMICs), yet health care systems are largely operationalized around acute, episodic care.

Methodology

From August 2016-17, Bayalpata Hospital in Achham implemented an NCD intervention, including the innovations of: home-to-hospital care with community health workers (CHWs), risk factor modification with hospital-based staff, and disease-specific "at-goal" metric measurement. We used the Donabedian Model to evaluate the structure, process, and outcome of the intervention. Structural inputs include NCD protocols, and essential medicines. Process indicators describe the volume of completed NCD outpatient visits & counseling sessions, healthcare worker trainings, and CHW home visits. Outcomes assessment, evaluated via McNemar's test, was the change in population-level, NCD-specific "at-goal" metrics over a six-month period with a pilot cohort.

Results

A cohort of 7,927 patients (10% of 77640 total outpatients) sought care over one-year follow-up. 2971 (37%) had hypertension; 1946 (25%) ha depression; 1836 (23%) had chronic obstructive pulmonary disease (COPD); 1174 (15%) had diabetes. The intervention utilized 21 protocols, and 84 essential medicines. 59 health care worker trainings, >2,000 patient counseling sessions, and >6,000 CHW home visits were completed. The intervention's one-year costs, including staffing, facilities, and pharmaceuticals, were estimated to be NPR12, 449,188 on aggregate and NPR1, 570 per patient. At six months, the preliminary outcomes assessment showed that 400 of 529 pilot cohort patients (76%) were "at-goal," compared to 60% at baseline. Hypertension (74% vs 87%) and COPD (68% vs 88%) sub-cohorts showed significant differences in "at-goal" status at endline (p<0.01).

Conclusion

An integrated approach to NCD management (1) is feasible to deploy in resource-constrained, rural settings, (2) can potentially generate improvements in NCD control, and (3) can be a cost-effective to address the burden of NCDs in LMICs. Further design work is required around improving NCD care to incorporate patients' goals and experiences of care.

Keywords

Task-sharing, care coordination, community health workers, counseling, non-communicable diseases, chronic diseases, risk factor modification, healthcare quality.

1.1.4 Study on Relationship between Socioeconomic Status and Blood Pressure Control among Hypertensive Patients: A Cross Sectional Study in a Municipality of Eastern Part of Nepal

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Background

Treatment and control of high blood pressure are worse in low income countries than in wealthier countries. Although the higher socioeconomic position, as measured by greater income and high educational attainment has been associated with control of blood pressure in high income countries evidence from low income countries is mixed. We examined the relationship between socioeconomic position and control of blood pressure in a community sample in the Eastern part of Nepal.

Methodology

We conducted a cross sectional study among hypertensive patients in Dharan Municipality of Eastern Nepal.We used information collected for a study of medication adherence for the present investigation. In the study, a list of patients for one year was compiled from the hospital register of BP Koirala Institute of Health Sciences and a sample of 168 patients was randomly selected.Face to Face interview was conducted at participants home using standard questionnaire and height, weight and blood pressure was also measured by taking informed consent. Medication adherence was measured using Morisky Medication Adherence scale. Descriptive and analytical data was analyzed with IBM SPSS 20 for logistic regression analysis and mPlus (version 7.4) was used for structural equation modeling analysis. We used structural equation modelling to test relationships between socioeconomic position (income and education) and control of blood pressure with adjustment for age and sex, behavioral and medication factors.

Results

We identified a negative relationship between income and control of blood pressure (β = -0.60;95% CI: -0.84 to -0.26, P 0.004). Though there was no direct relationship between educational attainment and control of blood pressure, an indirect relationship was observed with medication adherence acting as a mediator(β = 0.12; 95% CI: 0.04 to 0.24,P 0.01).

Conclusion

Our study contributes and extends our understanding of the relationship between socioeconomic position and control of blood pressurein the context of Nepal. Though relationship between educational attainment and control of BP was small, it was mediated by adherence to medications, providing evidence for a possible area for targeted intervention.

Keywords

High Blood pressure, socioeconomic condition, gender, adherence.

1.1.5 Self Care Practices among Persons with Diabetes Mellitus attending a Tertiary Level Hospital

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Background

Diabetes mellitus is a chronic disease that requires lifelong medical treatments and a lifestyle adjustment. Individuals with diabetes mellitus need to perform lifelong self-care practices to prevent or delay its short- and long-term complications to improve quality of life. The objective of this study was to assess the self care practices among persons with diabetes mellitus attending a tertiary level hospital.

Methodology

A descriptive cross-sectional study was conducted among 132 clients attending medical OPD of Nepal Medical College Teaching Hospital by purposive sampling technique. The client with type 2 diabetes mellitus was interviewed using the Summary of Diabetes Self Care Activities Score (SDSCA) questionnaire. Self-care practices were evaluated in the domains of diet, physical activity, foot-care, adherence to medications and blood glucose testing. SPSS version 16 was applied for data entry and analysis. Simple descriptive statistics will be used for data analysis, e.g. Percentage, frequency, mean score, standard deviation. Chi square was used to assess the association of selected socio-demographic variables with self care practices.

Results

Among 132 clients, adherence to medication was the highest (94.2 %) followed by good dietary practices (90.9%). Almost 86.4% of clients had their blood sugar checked at least once in the last three months and (86.4%) had followed the satisfactory physical activity. The satisfactory foot care practice was 75.8 %. There was a strong association of self care practices with duration of, been diagnosed with diabetes mellitus.

Conclusion

Majorities of respondents had good self care practices in terms of adherence to medications, diet but self care practices in terms of foot care are alarmingly low. Though the overall self care practice was found good, but still adequate health information on foot care and physical activities can enhance the self care practices of clients.

Keywords

Diabetes, diabetes self care practices, summary of diabetes self-care activities (SDSCA) score.

1.1.6 Healing of Pressure Ulcer with Wrap Therapy in Bir Hospital, NAMS

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Background

A pressure ulcer is a worldwide problem among hospital and community patients. The NPUAP/EPUAP, 2014 defines pressure ulcer is a localized injury to the skin and /or underlying tissues, usually over a bony prominences as a result of pressure or pressure in combination with shear. Several treatment methods are used for management, however easy, accessible and cost effective method is must. Therefore, the effectiveness of wrap therapy for management of pressure ulcer stage II and III was assessed as compared with conventional methods.

Methodology

Hospital based prospective controlled trial was conducted in two wards of Bir Hospital among patient having pressure ulcer stage II and III (according to NPUAP). Daily assessment and PUSH score were calculated before dressing. Total 57 patients within a 16 month period was enrolled, 30 were in wrap group, 19 in the control group with 8 excluded. The Statistical't ' test was used to see the statistical difference between wrap and control group.

Results

Most of patient had a pressure ulcer on sacrum (56.7% in wrap and 57.9% in control) with 60%: 40% have pressure ulcer stage II and III according to the NPUAP in both groups. The duration of pressure ulcer management range from 7 to 58 days (mean 11.8, SD 9.1) in wrap group and from 7 to 42 days (mean 14.5, SD 9.2) in control group. There is no difference in PUSH mean score between wrap and control group. Similarly, the PUSH score is not difference for pressure ulcer stage II and III among both groups up to 18 days of management.

Conclusion

There is no difference between wrap and conventional method for management of pressure ulcer which found non inferiority of wrap method that can be used as an alternative method.

Keywords

Wrap therapy, pressure, ulcer.

1.2.1 Nutritional Status of the Cancer Patients Receiving Chemotherapy in an Oncology Centre, Nepal

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Background

Assessment of nutrition status is a core component of cancer patient's treatment, treatment therapies like chemotherapy, radiotherapy, and surgery makes them malnourished. The malnutrition increases incidence of treatment related side effects, extend hospital stay, performance status, immune function, quality of life and ultimately survival of patients. The objective of the study was to find out the nutrition status of cancer patients receiving chemotherapy among patients receiving Chemotherapy in Bhaktapur Cancer hospital.

Methodology

A descriptive, cross-sectional, study was carried out with a sample of 198 cancer patients receiving chemotherapy ($\geq$18 years) recruited by convenience sampling technique. Data was collected using face to face interview technique using modified Patient Generated Subjective Global Assessment (PG-SGA) and Karnofsky Performance Scale tool. Data were analyzed using bivariate and multivariate logistic regression analysis.

Results

The mean age of the patients was 52 ± 14.13 years. In the study, 61.6% patients were female, 21.7% of patients were anemic before administration and 24.7% were anemic after administration of chemotherapy. Among 198 patients 23.2% patients had breast cancer as their diagnosis. The cancer patients who received radiotherapy were 37.4% and surgery were 51%. The mean Karnofsky score was 74.04 ± 12.93, (AOR= 7.308, CI= 2.593-20.592) indicating most of the cancer patients had normal performance status. The patients who had unexpected weight loss was 28.3%, (AOR=10.733, CI = 1.378-83.623). Among total 198 patients receiving chemotherapy, 83.83% were malnourished. Unexpected weight loss and a Karnofsky performance score were determinants of nutrition status.

Conclusion

Overwhelmingly, cancer patients receiving chemotherapy were malnourished. Unexpected weight loss and a Karnofsky performance score were significant factors for nutrition status, maintenance of cancer patients receiving chemotherapy. Therefore the nutritional intervention program should be targeted to improve these factors for intervention.

Keywords
Cancer, chemotherapy, Karnofsky performance scale, unexpected weight loss, patient generated subjective global assessment.

1.2.2 Compliance of Iron and Folic Acid Supplementation and Status of Anemia during Pregnancy in the Eastern Terai of Nepal

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Background

Anemia during pregnancy is a global public health problem. Its major contributor is iron deficiency anemia. As a response to this problem, several countries have implemented Iron and Folic Acid (IFA) supplementation program. In Nepal, this program has been in place since 1980s. However, anemia among pregnant women is still high on the Terai belt of Nepal. This suggests either failures relating to the supplementation of the IFA or presence of anemia of other etiological origin. In this context, this study aimed to find out the compliance of IFA supplementation as well as its effect on status of anemia during pregnancy in the eastern Terai of Nepal.

Methodology

A cross sectional quantitative study was conducted in five government hospitals of the eastern Terai of Nepal. Data was collected through face to face interview from a sample of 335 postpartum mothers having less than seven days baby using a proportionate simple random sampling technique. Epidata 3.1 and IBM-SPSS 21 was used for data entry and analysis respectively. Binary Logistics regression was applied for statistical analysis at 95% Confidence Interval.

Results

This study found that the IFA compliance rate was 58% during pregnancy. Similarly, the prevalence of anemia was 42%. Moreover, anemia was 24 times more likely to be found in IFA noncompliant women during pregnancy than their counterparts (AOR=24.2, 10.1-58.3) whereas, anemia was three times less likely to be found in those who were taking food rich in heme-iron than their counterparts (AOR=3.3, 1.4-8.1).

Conclusion

The high odds of anemia in IFA noncompliant women during pregnancy and lower in those taking food rich in heme-iron indirectly suggests the existence of the Iron deficiency anemia during pregnancy. To reduce this, the compliance rate of IFA supplementation should be increased and intake of food rich in heme-iron should be promoted.

Keywords

Anemia during pregnancy, iron and folic acid supplementation, compliance

1.2.3 Quality of Life and Nutritional Status of Geriatric Population of Lahan Municipality

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Background

Nutrition is a key element in geriatric health. Older adults are at risk for poor nutrition. Malnutrition in old age, significantly increases the susceptibility to infection, compromises the outcomes of other underlying conditions and diseases and hence decreases the quality of life (QOL) of geriatrics. Maintaining health, nutritional status and improving quality of life of the elderly are public health challenges of the 21st century. The objective of the study was to assess the association between nutritional status and QOL in geriatric population of the Lahan municipality of Siraha district.

Methodology

An analytical cross-sectional study was conducted Lahan municipality of Siraha district from June to December 2017. Mini Nutritional Assessment tools were used to investigate the nutritional status and World Health Organization Quality of Life-OLD questionnaires to assess QOL among the geriatric population.

Results

Out of total participants, one third (34.5%) of participants was at risk of malnutrition and 19.1 % were malnourished while 34.5% had normal nutritional status. It was seen that 48.2% of the participants had good quality of life, whereas 51.8% of them had poor quality of life. There was a significant association between nutritional status and QOL in an elderly population.

Conclusions

The findings showed the need for active ageing interventions improve the nutritional status and quality of life of elders at community setting. Proper attention should be focused on elders' nutrition to reduce observed prevalence of malnutrition and focus should be given on health status, nutrition status that leads to improve the quality of life of elders.

Keywords

Nutritional status, MNA tools, malnutrition, elderly and quality of life

1.2.4 Addressing Hypovitaminosis D in Nepal, a Sunny Country: A Public Health Concern

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Background

Vitamin-D, an established fat-soluble biomolecule significantly associated with Calcium-Phosphorus homeostasis and bone metabolism. Low levels of Vitamin D have long been associated with rickets, osteomalacia and osteoporosis. As of late, hypovitaminosis D has also been linked to non-communicable chronic diseases (diabetes, coronary artery disease, cerebrovascular events, depression, bipolar illnesses, thyroid disorders and Malignancies). Established risk factors of Hypovitaminosis-D include inadequate sun exposure, dietary deficiencies, darker skin types and obesity, apart from newly established single nucleotide polymorphisms in VDRs (genetic mutations).

Methodology

Several hospitals-based studies emphasized that a Vitamin D deficiency is prevalent in Nepal, despite the sunlight rich favorable Geo-location. This review is based on analysis of published medical research articles, conference proceedings and unpublished hospital-based data reports. As standard guidelines dictate, the normal levels of 25OHD (storage form of Vitamin D) have been taken at 30-100 ng/ml, with insufficiencies reported at 20-30ng/ml, deficiencies at 10-20ng/ml and severe deficiencies below 10ng/ml.

Results

Studies conducted in different settings reflected low average levels of Vitamin D (25OHD) in participants. The prevalence of hypovitaminosis D is reported up to 70% or higher in most of these studies, which is rather high compared to the values reported in developed countries (USA 30%, Norway 40%) and that indicates that Vitamin D deficiency is a growing public health concern. However, all of these studies are hospital based cross sectional studies focused on the urban population, and the need for a greater population based prospective study assessing the established risk factors cannot be over emphasized at this point.

Conclusion

Regardless, our study concludes that, as Hypovitaminosis D is quite prevalent, a dietary supplementation of Vitamin D should be advocated at a national level, to start with. This should be followed by a study of the genetic and environmental variables associated with Hypovitaminosis D in our country.

Keywords

Hypovitaminosis D, non-communicable disease, 25-hydroxy Vitamin D, bone-mineralization.

1.2.5 Dietary Practices of Lactating Mothers, Feeding Practices for Children and their Nutritional Status

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Background

Breastfeeding success depends on both mother and child. There is a high energy requirement to produce breast milk, which is wholesome food for less than 6 months children, and then complementary foods are introduced to the child. Inadequate feeding practices affect the nutritional status of children.

Methodology

A cross sectional analytical study was conducted among 343 dyad mothers and under 2 years children of Baglung district. Simple random sampling was used. Face to face interview with the mother and anthropometric measurement of child was performed. Data were entered in EPI-DATA version 3.2 and exported to the Statistical Package for Social Sciences (SPSS version 17.0) for further analysis. Pearson's Chi-square test was performed taking 95% confidence interval.

Results

Only 5.2% of mothers had taken additional 2 meals and energy intake of 31.8% of mothers was met. Occupation of mother was associated with her dietary practice.

Breastfeeding practice was nearly universal (99.7%). A bulk, 95% of children were colostrums

feed. Exclusive breastfeeding rate was 34.5%. Bottle feeding was practiced by 15.6%. Less than half (40%) of 6-23 months children (n=174) had achieved satisfactory feeding practices (minimum meal frequency and minimum dietary diversity).

The rate of wasting (n=180), stunting (n=180) and underweight (n=343) was 10%, 22.2% and 9.3% respectively. Feeding practice of child was associated with wasting and stunting.

Conclusion

Dietary practice of the mother was found poor. Breastfeeding and complementary feeding practices of the child were not satisfactory. Prevalence of wasting, stunting and underweight in children was high. Mothers should be encouraged to increase animal based foods and fruits in their diet in order to meet her energy requirement. Awareness of proper weaning practices to child should be focused in order to improve nutritional status of child.

Keywords

Dietary practices, feeding practices, lactating mothers, nutritional status, under 2 year children

1.2.6 Factors associated with complementary feeding practices and stunting among children aged 06-23 months in Dalits and Non-Dalits of Dhanusha District, Nepal

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Background

Complementary feeding practices play an important role in child growth and development, but inappropriate practices can cause malnutrition. Stunting is still major problems in the world. The study objective was to identify factors associated with complementary feeding practices and stunting among children aged 06-23 months in Dalits and Non-Dalits.

Methodology

A cross-sectional comparative study was conducted in Dhanusha district among mother with her children aged 06-23 months. Altogether 599 respondents were taken of which 299 were from Dalits and 300 for Non-Dalits and used multistage simple random sampling technique and structure questionnaire, anthropometry tools. Descriptive, bivariate and multivariate analysis were done by using SPSS.

Results

Among Dalits, MAD practices and stunting were 43.8% and 49.9%. In Non-Dalits, MAD practices and stunting were 43.3% and 39.0%. The MAD practices were found significantly associated with age of child (AOR=0.34, 95% CI: 0.18-0.63), child illness (AOR=4.21, 95% CI: 1.82-9.73) and knowledge on child feeding (AOR=0.30, 95% CI:. 17-.52) in Dalits while age of child (AOR=.35, 95% CI: .18-.66), child illness (AOR=3.02, 95% CI: 1.35-6.73) and knowledge on child feeding (AOR=.18, 95% CI: .10-.33) in Non-Dalits. The stunting was found significantly associated with knowledge on child feeding (AOR=1.92, 95% CI: 1.08-3.40) and family type (AOR=1.96, 95% CI: 1.03-3.70) in Dalits; and age of child (AOR=.50, 95% CI: .28-.89) in Non-Dalits.

Conclusions

The factors significantly associated with MAD practices are age of child, child illness and knowledge on child feeding in both groups. Stunting is associated with knowledge on child feeding and family type in Dalits while age of child in Non-Dalits. There should be awareness raising program among mothers having children of 6-23 months.

Keywords

Minimum acceptable diet, stunting; adjusted odds ratio (AOR), confidence interval (CI), Dalits, Non-Dalits.

1.2.7 Nutritional Status of Children Residing in Orphanages in Kathmandu Valley

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Background

The children who have lost their parents are most vulnerable, because they do not have the emotional and physical maturity to address their psychological disturbance connected with parental loss. In the society, orphan children can be considered to be at more risk than average children to malnutrition as they are more prone to malnutrition due to poor economic status, less medical and social care.

Methodology

A total of 215 samples (127 males and 88 females) was selected through non probability purposive sampling. The study was cross-sectional descriptive study in the children residing in the orphanages in the Kathmandu valley. The data was obtained through structured questionnaire and anthropometrical assessment.

Results

Among the study population, 3.3% were severely underweight and 13.5% moderately underweight Similarly, 9.8% were severely stunted and 20.1% were moderately stunted In case of BMI, it was taken for the children above 2 years of age and the children among which most of them were underweight i.e. 81.3% (BMI<18.5), 0.5% was overweight (BMI: 25-30) and 17.7% were normal (BMI: 18.5-25).

Greater percentage of girls were stunted, ie.30.6% (boys-28.4%), but the underweight rates were quite similar (boys-16.6%, girls-17%). However, the high percentage of boys (87.2%) covers the rate of having low BMI. The children in the government institution showed a higher rate of stunting (28.2%) and underweight (20.9%) as compared to the private institutions: stunting (20%), underweight (12.4%).

Conclusion

29.9% were found to be stunted, 18.8% underweight (weight for age) and 81.3% underweight and 0.5% overweight according to BMI. Though these rates are lower than national data, it is still very high, hence effective intervention strategies should be applied to assess the nutritional status of the children.

Keywords

Nutritional status, orphans, anthropometrical assessment, stunting, underweight, BMI.

1.3.1 Determinants of Breastfeeding Practice among Mothers Attending a Maternal and Child Health Clinic in Kathmandu

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Background

Breastfeeding is the best way of providing ideal food for the optimal growth and development of an infant. Early initiation of breastfeeding has lifetime benefits for the mother and the child. Prelacteal feeding is a major barrier to exclusive breastfeeding. The aim of the study is to find out the determinants of breastfeeding practice.

Methodology

This study employed a descriptive cross-sectional research design. Children from birth to 12 months were selected for the study from maternal and child health clinic (MCH) of the Kanti Children Hospital (KCH), Maharajgunj. A simple random sampling was used to select 207 respondents. A semi structured questionnaire was used to collect data about selected infants, from an informant (usually mother). The collected data were analyzed with SPSS version16 by using descriptive statistics followed by bivariate and multivariate analysis to show the strength of association. The strength of association was measured by odds and p-value <0.05 was considered statistically significant.

Results

The study revealed that one in every five mothers had practice of prelacteal feeding and nearly half of the mothers initiated breastfeeding within one hour of birth. Type of delivery is significantly associated (AOR: 15.533, 95% CI) with prelacteal feeding practice. Whereas, type of delivery (AOR: 3.449, 95% CI), number of postnatal visit (AOR: 2.824, 95% CI) and birth weight (AOR: 7.973, 95% CI) for early initiation of breastfeeding were found to be the determinants in the final multivariate logistic model.

Conclusion

There is an urge to improve early initiation of breastfeeding and promote exclusive breastfeeding in a given population. Baby delivered by caesarean section, low birth weight and premature infants should be focused when implementing breastfeeding promotion programs. Breastfeeding promotion program may help to increase the practice of early initiation of breastfeeding and reduce prelacteal feeding practices.

Keywords

Determinants, early initiation of breastfeeding, prelacteal feeding, infant, caesarean section.

1.3.2 Childbirth Practices and Women's Perceptions towards Childbirth in Western Nepal: a Community Based Qualitative Study

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Background

The Millennium Development Goal (MDG) focused to improve maternal health status by reducing the high maternal morbidity and mortality. Despite various efforts for improving the utilization of skilled care services at birth; it was not found to be increased in most low-resource countries. This study explored the childbirth practices, women's perceptions towards childbirth and its associated factors in Kapilvastu district, Nepal.

Methodology

A community-based qualitative study was conducted in three villages of Kapilvastu district from March to May 2017. For exploring the childbirth practices and women's perception towards childbirth face-to-face in-depth interview was held with 33 reproductive-aged women who had less than one year child.

Results

Most normal deliveries were conducted at home in the rural areas of the district. Most women and their family members considered childbirth as a normal phenomenon and disputed the institutional delivery care. Women sought only institutional delivery either after long labor pain or for obstructed delivery care. Health worker/SBA assisted home delivery practice was also found in the community. Some local health workers/SBAs also encouraged antenatal women for home delivery instead of suggesting for the institutional delivery care. Women and their family members were reluctant to pursue skilled birth attendants (SBA) service at birth due to their cultural norms, beliefs, and practices. They further reported financial constraints, poor access to services, expensive and rarely available transportation services as other determinants for seeking the intuitional delivery care services.

Conclusion

In spite of various maternity incentives and programs for improving the utilization of skilled care at birth and institutional delivery, the study does not spectacle an encouraging reaction. This study points out the very basic and strong relationship between women's position in the household and society and their health status. There are limits to how far financial incentives can overcome these obstacles.

Keywords

Childbirth, delivery practices, home delivery, institutional delivery, skilled birth attendants.

1.3.3 Determinants of Fear of Childbirth among the Pregnant Women Attending in an Antenatal Clinic, Nepal

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Background

Childbirth is a joyful event for most of the pregnant women and the family members. However, as the expected date of delivery comes nearby, pregnant women experience anxiety and fear of the anticipated childbirth because of likelihood of pain and potential risk of injury to mother and child.

Methodology

This descriptive cross-sectional study aimed to identify the determinants of fear of childbirth among the pregnant women. A total of 280 pregnant women in the third trimester of their pregnancy was selected using non-probability purposive sampling technique in Tribhuvan University Teaching Hospital (TUTH), Maharajgunj. Data was collected for a period of one month (27th February to 27th March) using a semi-structured questionnaire. Fear of childbirth was assessed using the modified Childbirth Attitude Questionnaire (CAQ). Descriptive and Inferential statistics were used to find out the determinants of fear of childbirth.

Results

The findings of the study showed that 36.8% of the respondents have fear of childbirth. The most common fear that the pregnant women had, was fear of painful labor contractions, episiotomy, baby being born with something wrong and cesarean section. Nulliparous women (Adjusted Odds Ratio (AOR): 3.112, 95% CI: 1.692-5.944, p=0.001) and pregnant women not engaged in paid work (AOR: 2.273, 95% CI: 1.188-4.350, p=0.013) were the key determinants of fear of childbirth i.e. nulliparous women were three times more likely to have fear of childbirth than multiparous women. Similarly, the pregnant women not engaged in paid work were two times more likely to have fear of childbirth than those engaged in paid work.

Conclusion

The findings of the study thus conclude that pregnant women have fear regarding their upcoming childbirth so woman centered counseling sessions and childbirth preparation classes during the antenatal period are necessary to make the women emotionally prepared for their upcoming birth.

Keywords

Determinants, fear of childbirth, pregnant women, antenatal clinic.

1.3.4 Quality of Life of Women after Hysterectomy in Pokhara

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Background

Hysterectomy being the most common, successful major non-obstetrical surgical procedure has different consequences on quality of life.

Methodology

An embedded mixed method design was used to assess the quality of life of women after hysterectomy in Pokhara. Quantitative component comprised of descriptive cross-sectional design to assess the biomedical condition and in-depth interview was used to explore the consequences after hysterectomy. Purposive sampling technique was applied and the study sample consisted of 141 women in quantitative studies. Among the respondents of quantitative studies, five women were

purposefully chosen for the in-depth interview.

Results

The mean age for hysterectomy was 52.57 years. The majority of the participants (89.0%) had a total abdominal hysterectomy. Most common indication for hysterectomy was fibroid uterus (60.3%). Commonly reported postoperative physical effects were pelvic pain (90.0%) and fatigue (31.4%). The majority of the respondents (75.2%) reported their overall quality of life as average and above. There was a significant association between age, marital status and overall quality of life (OR=6.710, 95% CI: 1.173-38.385) and (OR=27.130, 95% CI: 5.681-129.573) respectively. A significant association of age with physical health and psychological health was revealed by the study. Similarly, type of hysterectomy is significantly associated with the sexual functioning and relationship (OR=6.615, 95% CI: 2.006-21.814). The qualitative study explored the affected marital relationship and adverse effect on psychological health after hysterectomy. In triangulation, quantitative findings were compared which was supported to elucidate the qualitative findings.

Conclusion

The quality of life after hysterectomy is affected by the age of the women. Also, deterioration in postoperative sexual functioning is more prevalent in vaginal hysterectomy compared with abdominal. Low qualities of life were seen after hysterectomy particularly for physical and psychological aspects in young women, thus, emphasizing the need for a proper counseling to maintain good health.

Keywords

Hysterectomy, quality of life.

1.3.5 Youth Friendly Sexual and Reproductive Health (SRH) Services: an Exploratory Study of the SRH Experiences and Needs of Young People in Nepal

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Background

In Nepal, youths make up one-third of the country's population (Census 2011) and the unmet need for Family planning (FP) between 15-19 years and 20-24 years is 34.9% and 32.6% respectively (NDHS 2016). Youth friendly sexual and reproductive health (SRH) services are vital to meet reproductive health needs of young people. The study aimed to examine the SRH practices and the needs of young people in Nepal.

Methodology

In-depth Interview was conducted among 12 youth clients, seven service providers (SPs) and four pop-up volunteers and four focus group discussions among youths in 2017. Purposive and snowball sampling was utilized to select participants for IDIs and FGDs and analysis was done using thematic content approach. Ethical approval sought from the Nepal Health Research Council.

Results

The study found that the use of condoms and Emergency Contraception (EC) was common among unmarried whereas depo, pills, Long Acting Reversible Contraceptives (LARC) were common among married. Use of contraceptives was affected by the dynamics of gender, age, marriage, myths, side effects and convenience. Youth reported wide misuse of EC as contraceptives due to misconceptions about its use and easy availability and affordability in the market. Youth is informed about safe abortions and prefer MA over MVA. The major SRH needs reported by youths were Adolescent and Youth friendly environment, including confidentiality, positive attitude of SPs and flexible opening hour; youth focused awareness campaigns and access to service through outreach programs. Insights from SPs highlighted that among youth sex education is equally important as FP.

Conclusion

There is a need to educate youth with the right information on SRH, so they can make informed FP decisions. To do this, programs and policies developed to promote adolescent and youth friendly SRH services must engage youth at every step to understand their real needs and address barrier to access and utilization.

Keywords

Sexual and reproductive health, family planning, youth, adolescent and youth friendly services.

1.3.6 Measuring Fertility Awareness in Five Districts of Nepal

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Background

Fertility Awareness (FA) for Community Transformation project works to reduce unintended pregnancies and improve reproductive health through community engagement activities that complement service delivery. The FA are defined as actionable information about fertility that can be used throughout the life course. The objective of this study was to measure the fertility awareness scale and validate it in Nepal.

Methodology

Ten core items were developed to capture general knowledge of fertility and responses for these items is determined to be correct or incorrect responses. A cross-sectional sample of women (n=2430) and men (n=1215) from five districts of Nepal was utilized for these analyses. The respondents were selected using systematic sampling and drawn from the list of eligible respondents. Six women and three men were recruited from each of the nine wards of a VDC (54 women and 27 men). The FA scale was assessed using a combination of Confirmatory Factor Analysis (CFA) and Item Response Theory (IRT). Changes in correct responses over time at the site level were compared using Chi-squared statistics. Ethical approval was obtained from the NHRC.

Results

Participants were young (women 19.5; men 19.7 years), predominantly single (72.4%) and 20.4% of married women reported current use of modern contraceptives. IRT and CFA analyses reflected a two-factor solution. Fertile window questions were significantly more difficult for this sample of participants and were scored separately with only 7.8% of men and 5.5% of women answering both correctly. Men's and women's mean score for the general fertility factor were significantly different

(Men 4.19, SD 2.90; Women 3.44, SD 2.44; Mean difference 0.75, CI: 0.57 – 0.93, p < 0.01). Sex disaggregated correct responses will be presented for all FA scale variables.

Conclusion

Findings indicate limited knowledge of FA for men and women, with men answering more questions correctly. An open conversation about family planning and reproductive health in Nepal is taboo. Reproductive health programmers should identify opportunities through which age-appropriate conversations can occur for boys and girls. These conversations should be progressive throughout adolescence and coupled with gender equitable messages and activities.

Keywords

Fertility awareness, family planning, scale, quantitative, Nepal.

1.3.7 Understanding the Barriers to Young Persons with Disability's Access to Sexual and Reproductive Health Information and Services in Nepal

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Background

Despite having the same sexual and reproductive health (SRH) needs as other young people, the uptake of SRH services among young persons with disabilities (YPWD) is very low, suggesting barriers that hinder access and utilization of SRH information and services. This study aimed to obtain a contextual understanding of barriers faced by YPWD in accessing SHR information and services to guide policy and programming.

Methodology

A mixed-methods study was conducted in six districts of Nepal between January and April 2015. For the quantitative component, we interviewed YPWDs identified with the help of a randomly selected disabled people's organization followed by snowball sampling. Trained research assistants with similar disability administered a structured questionnaire to 293 respondents. For the qualitative component, in-depth interviews were conducted with eight men and seven women with varying forms and degrees of disability. Ethical approval was obtained from Nepal Health Research Council.

Results

In the quantitative study, 46% were physically disabled, 32% were blind/low vision, and 22% had hearing difficulties. Only 27.8% of respondents had consulted a SRH service provider. Most respondents (79.5%) believed one or more misconceptions about FP methods. 53.6% considered their service center lacking in disability friendly infrastructure, including communication issues and service providers' judgmental attitudes. Similar barriers were also observed from the qualitative data summed into three key themes- i). Familial, societal and health service provider discrimination, ii). Communication barriers and iii). Lack of disability friendly infrastructure, information and policy. The findings of this study indicate that YPWDs face many levels of barriers in accessing SRH information and services starting from their homes and communities to the lack of disability friendly

infrastructure and service provision at the facility.

Conclusion

It is vital going forward to understand and incorporate the opinion and experiences of YPWDs while developing and strengthening disability friendly sexual and reproductive health services.

Keywords

Disability, youth, sexual and reproductive health, family planning.

1.3.8 Factors Associated with Repeat Abortion among Women Seeking Abortion in Paropakar Maternity and Women's Hospital

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Background

Repeat abortion is the termination of pregnancy intentionally for second or more times. It is the indicator of unintended pregnancy and ineffective post abortion contraceptive use. The objective of this study is to find out the proportion of repeat abortion and explore the difference in socio-demographic characteristics and contraceptive use among women with repeat abortion and first time abortion.

Methodology

The study design was cross sectional; 255 women seeking abortion at a Paropakar Maternity hospital during a two month period (January -February, 2016) were interviewed using semi-structured questionnaire. Data was entered in EpiData 3.1 and SPSS 20 version was used for analysis. Chi square test was done to examine binary associations between dependent and independent variables and multiple logistic regression analysis was done to identify risk factors.

Results

Out of 255 women, nearly one third (31.8%) of women sought for repeat abortion. Compared to women seeking first abortion, women seeking repeat abortion were more likely to be older (32.1 ± 5.5 verses 28.3 ± 5.8; p< 0.001). Less than one third (30.9%) of women seeking repeat abortion and nearly a quarter (23.6%) of first time abortion seeking women had used a modern contraceptive at the time of index pregnancy. But no statistical difference was found in contraceptive use at the time of the index pregnancy between these two groups of women.

FP method used by women at the time of index pregnancy where the withdrawal method (27%) followed by pills (14.1%) and Depo (4.7%). Among women using modern contraceptive, irregular use of pills was the most common reason for pregnancy. And major reasons for not using contraceptive were experience of side effects (31.1%) and infrequent sex (15.1%).

Conclusion

Contraceptive needs of women are complex, thus individual tailored counseling emphasizing on side effect management and follow up for proper use and adherence should be strengthened.

Keywords
Repeat abortion, contraceptives, Nepal.

1.3.9 Age at Marriage and Reproductive Health Consequences- A Community Based Cross-sectional Study in Panauti, Nepal

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Background

Early marriage (<18 years) has been deep-rooted in Nepal for centuries, is a complex public health issue. Early marriage has acute consequences for maternal and child health with severity ranging from morbidity to mortality. The study aimed to investigate reproductive health consequences (maternal healthcare utilization, pregnancy outcomes, and post-delivery danger signs) due to early marriage.

Methodology

A community-based cross-sectional study was carried out in Panauti-Municipality of Kavrepalanchowk District. Reproductive aged women (n=430) were confidentially interviewed with informed consent utilizing subject-specific questionnaires. Data analysis was performed by SPSS, using Chi-square and logistic regression. The odds ratio and 95% confidence interval were calculated by EPIINFO and considered $P<0.05$ for statistical significance.

Results

The prevalence of early and very early marriages (<15 years) was detected 48.6% and 12.79% respectively. Women with early marriage were 22 times less likely to access complete ANC services compared to women with normal marriage. In comparison to normal marriage, the greater likelihood (COR: 19.04, 95%CI: 11.08-34.29) of home-delivery was revealed and higher risk of adverse pregnancy outcomes (abortion, stillbirth and neonatal death) was observed in respondents who had early marriage. Statistical significant 27.68 (COR: 27.68, 95%CI: 8.07-94.95) and 15.12 (COR: 15.12, 95%CI: 4.57-49.93) times higher risk of neonatal death was observed in very early and early marriage than normal marriage. Respondents who had an early marriage were more likely to have post-delivery danger signs in themselves and babies than normal married respondents.

Conclusion

Women who marry early are prone to early childbearing, lower access to maternal health care; experience more pregnancy morbidities, post-delivery danger signs and a poor health status. This study alarms policy planners to intervene in the existing system and implement improved efforts to stop early marriage and its reproductive health consequences.

Keywords

Marriage at an early age or early marriage, very early marriage, reproductive health outcomes, maternal health care, pregnancy outcomes, post-delivery danger signs.

1.3.10 Improving access to Menstrual products in Nepal

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Background

The activities of the Ministries of Water Supply and Sanitation, Education, and Health that include Menstrual Hygiene Management (MHM) is an integral component of sanitation and hygiene programs. The Government and I/NGO's have played a pivotal role in spreading awareness about menstrual hygiene in Nepal, however financial constraints as well as existing practices which many times are not hygienic has been practiced by women from generations.

Methodology

The present study looks at the retail measurement survey data from Nielsen in terms of market volume, value and the pricing for menstrual pads. Qualitative study was conducted with existing manufacturers in Nepal, importers, national and regional distributors as well as I/NGOs supporting MHM initiatives.

Result

Out of 140-150 million pads sold in Nepal market, 91 million pads are sold through traditional channels like Chemists and Grocery stores annually. The hospitals and health posts account for 7 million pads (approx. 5%), large departmental stores account for 14-15 million pads while Rural Areas account for about 30 million pads (20-25%). Menstrual pads in Nepal are under Fast Moving Consumer Goods category and there is a 13-15% import tax and an additional 13% Value Added Tax (VAT) levied by the customs department. The local manufacturers also bear the cost of transport and import duties on the various raw materials which are around 7.5-20% (raw materials) along with the VAT (13%) on the declared valuation of the raw materials.

Conclusion

The total number of pads currently sold in Nepal is far below what would be required to reach millions of women and adolescent girls in need for MHM products every month. Hence, to reduce the cost of MHM products to make it more affordable, the tax levied on menstrual pad should be at par with Pharmaceutical products.

Keywords

Menstruation, hygiene, MHM products, MHM market, menstrual pads

1.3.11 Access to Family Planning Products and Services for Unmarried Male and Females in Nepal

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Background

Adolescents and youths account for one-third of Nepal's population. Adolescent fertility is as high as 88 per 1000 women (66/1000 women in urban area and 125/1000 women in rural area) in Nepal. (DHS-2016) The overall unmet need is highest among adolescent (15 -19 years) girls i.e. 32%.

Methodology

A qualitative study was conducted in six purposively selected districts that represents urban, urban slums and rural populations of Nepal. In-depth interviews were conducted withunmarried youths (boys and girls), 14 each who had an experience of using FP methods and services and three focus group discussions were conducted. A purposive snowball or chain sampling applying multiple networks and strategies were used to enroll the participants.

Result

Unmarried youths mostly knowand use condoms, emergency contraceptive pills (ECPs) and withdrawal as FP method. Youths felt shy, fearful, and cautious to reach out to buy FP devices. Unmarried youths preferred services from private clinics over public services mainly because, it is nearby, quick service, less/no paper work, non-judgmental, understand code words, privacy reasons and less/no queries. Young males preferred similar gender and age service providers at the pharmacies and like to approach when the shopkeeper is alone. Cost was not an issue to purchase FP methods but interestingly they youths were charged same amount of money even for cheaper condoms.

Conclusion

Unmarried youthsare different groups of family planning users with different needs and problems unlike married youths. Within unmarried youths also there is diversity among themselves based on their areas of residence. Their current practices, acquisition behavior and preferences of FP methods and access tohealth services should be well understood and analyzedforincreasing youth friendly services.

Keywords

Unmarried male, unmarried female, family planning products, family planning services.

1.4.1 A Cross-sectional Study of Stigma towards Mental Illness among the Community, People of Shankarapur Municipality, Kathmandu

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Background

People suffering from mental illness and other mental health problems are among the most stigmatized, discriminated and vulnerable members of our society. It is vital to gain a more accurate understanding of the frequency and nature of stigma against people with mental illness, in order to protect their rights   and to sensitively develop services. The study is aimed to assess the stigma and describe levels of various domains of stigma among the community people of Shankharapur Municipality, Kathmandu.

Methodology

A descriptive cross-sectional study was carried out in Shankharapur Municipality, Kathmandu. Proportionate probability sampling was used for selection of 324 participants above 18years of age in the municipality. A standard questionnaire Community Attitude towards Mental Illness (CAMI) scale was used for data collection.

Results

The stigma was found to be 51.56%. The domains of the Community Attitude towards Mental Illness (CAMI) scale were measured and the result was as: the level of Authoritarian was 63.02%, Benevolence was 75.46%, Social restrictiveness was 49.06% and the level of Community Mental Health Ideology was 70.4%. The participants who were illiterate and with lower levels of education portrayed the higher score in negative domains of stigma ($p<0.05$) whereas, the participants with higher education level portrayed the lesser score. Participants above 40 years of age were found to have higher negative scores on the domains of stigma than the participants under 40 years of age ($p<0.05$). Similarly, other demographic variables had significant association with the domains of stigma.

Conclusion

The level of stigma was found to be above the average. The Authoritarian domain is slightly higher which reflects the negative attitude of community people towards mental illness. Improvements in the educational sector and increased literacy may contribute to favorable attitudes towards mentally ill persons.

Keywords
Mental illness, stigma, authoritarian, benevolence, community mental health ideology, social restrictiveness.

1.4.2 Awareness and Help Seeking Behavior regarding Mental Illness among Students in a College of Lalitpur

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Background

Approximately one in every four young adults between the age of 16 - 24 are suffering from mental disorder, yet they are less likely to seek help when in psychological or emotional problems. This study aims to assess the level of awareness and help-seeking behavior regarding mental illness among college students.

Methodology

A descriptive cross-sectional design included 167 BBA students by probability simple random sampling. The study was carried out at Little Angles' College of Management, Hattiban, Lalitpur. Structured self-administered questionnaires were used. Obtained data were analyzed by using descriptive and inferential statistics.

Results

Among 167 students, a majority of the respondents (60.5%) were moderately aware of the mental illness. The majority of the respondents (86.2%) believed that mental illness is caused due to stress. Regarding help-seeking behavior, 56.3% had sought help, mainly with friends (65%) and family (62.5%) when they faced emotional problems. The major cause of emotional problems was family related (62%) and relationship related (46.5%). Among the 44.7% respondents who expressed reluctance to seek help, the most commonly endorsed reason was "I want to solve it myself" (53.2%). Statistically, significant association was found between awareness with the level of education and parent's education. There was a significant association found between level of awareness with the level of education of students (p-value= 0.049), fathers' education (p-value =0.02) and mothers' education (p-value=0.046).

Conclusion

Only one fifth of students were adequately aware of mental illness and only half of the respondents sought help when in emotional problems. Therefore, proper awareness related to mental health should be implemented regardless the stream of the students involving the parents so that they can provide support and counseling to those young people seeking help.

Keywords

Mental illness, awareness, help seeking, college students, Lalitpur.

1.4.3 Ethnic disparities in trauma severity among the children of Kathmandu affected by 2015 Earthquake, Nepal

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Background

The 2015 Earthquake in Nepal has affected various ethnic groups in many ways. The study aimed to identify the factors associated with trauma severity and ethnic disparities in the type of trauma severities from the 2015 Earthquake.

Methodology

A community-based cross-sectional study was carried out in Kathmandu district fifteen months after the 2015 earthquake. Multistage cluster sampling was used to collect 800 earthquake affected children of age 7-16 years. Face-to-face interview with a structured trauma exposure questionnaire was done. A logistic regression model based on DAG (Directed Acyclic Graph) was used.

Results

Children from ethnic group Chettri (AOR=1.98 [1.20, 3.26]), Newar (AOR=2.32 [1.20, 3.92]) and ethnic minorities (AOR=1.93 [1.27, 3.37]) were more likely to have high trauma severity of the earthquake than children of Brahmin ethnicity. Children from Chettri (AOR=1.86 [1.05, 3.31]) and ethnic minority (AOR= 2.01 [1.18, 3.42]) were significantly associated with subjective trauma. Children from Newar (AOR=2.39 [1.39, 4.11]) and other ethnic minorities (AOR=1.94 [1.22, 3.09]) were more likely to experience trauma from difficulties faced during and after an earthquake.

Conclusion

Mental health care providers and policy makers need to conceptualize and understand differences among ethnic groups in terms of type of trauma and severity they are more likely to experience.

Keywords

Trauma severity and types, children, ethnic disparities and earthquake.

1.4.4 Post Traumatic Stress Disorder and Coping Strategies among the Adult Survivors of Earthquake, Nepal

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Background

Post traumatic stress disorder (PTSD) has been the most frequently reported psychiatric morbidity among the survivors of natural disasters that hinders the effort to rehabilitate their life. However, its prevalence, particularly in Nepal after the earthquake is largely unknown. This study was carried out to find out the prevalence of post traumatic stress disorder and use of coping strategies among the adult survivors of the earthquake.

Methodology

A cross- sectional descriptive study was carried out on a sample of 291 adult survivors of Nepal Earthquake on April 25, 2015. Study setting was a Nuwakot district with multistage sampling (cluster sampling and systematic random sampling) method. PTSD checklist-5 was used to measure PTSD,

and adapted and modified cope scale was used to assess coping strategies. Descriptive statistics (frequency, percentage, mean, S.D) and inferential statistics (chi-square test, independent *t*-test and one way ANOVA test) were used for data analysis at the 5 % level of significance.

Results

PTSD was prevalent among 24.10% of adult survivors with highest intrusion symptoms (3.24±0.71). It was significantly associated with age, education, sex and injury to self. Elderly, females, illiterates and those who were injured during the earthquake are at more risk for PTSD. Highest used coping strategy was active coping (2.92±0.51). Survivors not having PTSD scored more on active coping and self distraction coping while those with PTSD, mostly used passive coping, religious coping and substance use coping.

Conclusion

Earthquake poses significant impact on the mental health of the survivors. After ten months of devastating earthquakes, prevalence of PTSD among the survivors is high. Maladaptive coping strategies further increase the possibility of PTSD. Effective screening and awareness program regarding promotion of positive coping strategies among the vulnerable groups should be reinforced for prevention of psychiatric morbidity among the survivors of the earthquake.

Keywords

Earthquake, PTSD, coping strategies, adult survivors.

1.4.5 Depression in Patient undergoing Hemodialysis

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Background

Depression is considered as one of the most common psychological problems experienced by the ESRD patients undergoing hemodialysis. Depression is not only responsible for reduced quality of life, but also increase higher rates of hospitalization, non-adherence to medical treatment, and morbidity and mortality. The objective of this study was to assess the level of depression and its association with the independent variables.

Methodology

A descriptive cross-sectional study design was used for the study. A sample of 162 hemodialysis patients was included from the National Kidney Center by purposive sampling technique. Face to face interview was conducted using semi-structured questionnaire for measuring socio-demographic variables and structure standard tool Beck Depression Tool was used to assess the level of depression. Data were analyzed using the SPSS package 16 versions. Inferential statistics (chi square) were used to assess the association of depression with the independent variables.

Results

Among 162 hemodialysis patients, the majority of the patients (82.1%) had depression among which 25.9% had mild depression, 27.2% had moderate depression and 29% had severe depression. Depression had a statistical association with variables such as marital status, education level, job status and monthly family income.

Conclusion

There was a high prevalence of depression among hemodialysis patients in the National Kidney Center. Emphasis should be made on assessment of psychological aspects as a part of multi-disciplinary care for early detection and treatment of depression to improve clinical outcomes.

Keywords

Depression, hemodialysis patients, ends stage renal disease, chronic kidney disease.

1.4.6 Screening for Preoperative Anxiety among Patient undergoing Surgery at Tertiary Level Hospital

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Background

Anxiety is an unpleasant emotional state or reaction that involves the feeling of nervousness, tension, fear. Preoperative anxiety is universal in all the patients undergoing surgery and is associated with problems like autonomic fluctuation, increase anesthetic requirement, difficult venous access, and prolonged recovery. Preoperative anxiety is also the factors that health care need to assess and manage for the patient welfare. The main aim of this study was to identify the anxiety level among patients undergoing surgery, their association with different variables.

Methodology

A cross sectional study was conducted using quantitative data collection technique at NMCTH on 139 patients scheduled for elective surgery. APAIS questionnaire was used as a study tool through the interview. The anxiety of the preoperative was assessed at pre operating holding area. The data collected were entered into SPSS version 16. Mean, Standard Deviation, Frequency, Percentage and Chi square test were used to analyze as per objective.

Results

Forty one, i.e. 29.5% patients had significant preoperative anxiety. The anxiety was significantly higher in female than male ($p < 0.010$) also the income level and type of surgery shows a significant association with preoperative anxiety. The anxiety level was found to be increased in major surgery, 36.4% with low income level 41.1%.

Conclusion

The frequency of preoperative anxiety was 29.5%. Active screening and providing necessary information to those can help to minimize the patient's anxiety level before surgery.

Keywords

Anxiety, preoperative, Amsterdam preoperative anxiety and information scale.

1.4.7 Loneliness and Depression among Older People living in the Community

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Background

Ageing in today's date is the global public health issue. As people age, they are prone to physical as well as psychological changes. Loneliness and depression are one of the common yet noteworthy mental health issues among older people. There is a dearth of studies related to this problem in community level of Nepal so, this study was an attempt to draw out the actual level of problem. The main objective of this study was to assess levels of loneliness and depression among older people living in the community.

Methodology

A descriptive cross sectional study design was used to collect data from 124 older people of age ≥60 years living in the community using purposive sampling technique. A structured questionnaire, used for interview in the study included socio-demographic and other related variables, UCLA loneliness scale and GDS-15 to assess loneliness and depression respectively. SPSSv.16 was used for data processing and analysis. Mean, Standard deviation, frequency, percentage, chi square test and correlation were used to analyze data.

Results

In this study older people felt 38.7% and 16.9% moderate and severe loneliness respectively. Mild depression (28.2%) was identified in most people than severe depression (22.6%). Independent variables such as age, current job status, education level, living arrangement, childlessness, number of sons, number of daughters, perceived health status, perceived sleep quality, sleeping hour, perceived economic satisfaction and are significantly associated with level of loneliness and depression. Disease condition and perceived stress are significantly associated with loneliness and depression respectively. Furthermore loneliness and depression show positive correlation.

Conclusion

Loneliness and depression among older people as depicted by this study is notable that supports the need for more investigations and attention to related factors, so that older people can spend this verse of life in a healthy and happy way.

Keywords

Loneliness, depression, older people, community, Nepal

1.5.1 Assessment of Health Facilities for Implementation of Package of Essential non-communicable Disease in Nepal: Evidence from Baseline Study in Kailali and Ilam District

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Background

Noncommunicable Diseases are an alarming public health emergency in Nepal. Owing to the risk of NCD's in Nepal, the government of Nepal has developed a multisectoral action plan for non-communicable disease 2014-2020 and has adopted the world health organization package of essential non-communicable disease protocol. Prior to its implementation in Nepal, baseline study has been carried out to assess the status of health facilities in Nepal.

Methodology

A descriptive cross-sectional study was carried out in Kailali and Ilam district encompassing a total of 92 health facilities. A set of structured questionnaire and interview guideline was used to obtain the data. Collected data were transferred to Microsoft Excel, cleaned and analyzed with SPSS 16.0. Descriptive analysis was performed to express the frequencies and relative frequencies.

Results

Of the total health facilities, 49 and 43 health facilities of Ilam and Kailali were interviewed. The hospital in Ilam consisted all the procedure, equipment and medicine for the management of NCDs whilst, health posts lacked O2 services. Only 592 posts were fulfilled out of 704 sanctioned posts in both the districts of which only 161 were trained in management of NCDs. All the hospitals in both the district had facility of ambulance while only 2.3% and 10.8% of health post in Ilam and Kailali respectively had the facility. A total of 231 patients was diagnosed with NCDs before the day of study in all the health facilities of both districts. The study reported the strong capacity of referral mechanism with 91.3% of health facilities having the provision in both districts.

Conclusion

The study reveals the gaps in capacity of health institution and the system in terms of training, supply, equipments, and diagnostics. However, the training of health workers, supply of essential medicines and improvising the service delivery would supplement the effective implementation of PEN in Nepal.

Keywords
PEN, NCDs, assessment, baseline study, health facilities.

1.5.2 Predictors of Affective Commitment among University Nursing Faculties of Kathmandu Valley

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Background

Nursing faculty members are the valuable human resources of the nursing colleges. If they are emotionally attached to the organization and feel their responsibility for the organizational success, they show high levels of performance, positive work attitudes and a wish to stay with the organization. The objective of the study was to identify the predictors of affective commitment among university nursing faculties of Kathmandu valley.

Methodology

A cross-sectional analytical study was adopted. Proportionate stratified random sampling technique was used for selecting 197 university nursing faculties from 18 colleges of nursing affiliated to a different university. Ethical approval was taken from Nepal Health Research Council. Self-administered structured questionnaires related to sociodemographic information, 15 items perception towards faculty development opportunity, 36 items job satisfaction survey, 8 items survey of perceived organizational support (POS) and 6 items affective commitment scale was used for the collection of data. Double data entry and data cleaning were done using Epi-data software and data analysis was done using SPSS software version 16. The chi - square test was done in analyzing the association and binary logistic regression analysis was done for identifying the predictors of affective commitment.

Results

This study showed that nursing faculties had high level (68.0%), moderate level (28.9%) and low level (3.0%) of affective commitment. This study also revealed that nursing faculties: who were married, permanently appointed, having favorable perception towards faculty development opportunity, job satisfaction, and high level of POS had high levels of affective commitment.

Conclusion

It is concluded that the predictors of affective commitment were marital status, type of appointment, perception of faculty development opportunity, job satisfaction and POS. Therefore, authority of nursing colleges should pay an attention for developing policies and strategies to give permanent appointment enhance favorable perception towards faculty development opportunity; improve job satisfaction; and provide a high level of POS.

Keywords

Affective commitment, predictors, University nursing faculties.

1.5.3 Health Inequalities: Caste Wise Variance in Major Health Indicators, Nepal

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Background

Social services and policies should recognize caste and ethnicity dimensions of human development. Nepal's health policy, including Nepal Health Sector Strategy (NHSS) (2015-2020) is committed towards achieving universal health coverage and emphasizes on improving access to health care services leaving no one behind (LNOB). Despite this commitment, caste wise inequality in health exists. This study explores caste wise variation in achievement of NHSS result framework's goal and outcome level indicators.

Methodology

We used NDHS 2016 data. 10 of 39 goals/outcome level indicators in NHSS RF were analyzed. These were under-five-mortality-rate (U5MR), neonatal-mortality-rate (NMR), total fertility rate (TFR), % demand satisfied for FP, % children under-five-years who are stunted, % women aged 15-49 years with body mass index (BMI) <18.5, the prevalence of anemia in women aged 15-49, % children fully immunized, prevalence of diarrheal diseases among children under five years and % institutional deliveries. Caste variable recoded by DHS was adapted and analyzed to calculate proportions.

Results

Child mortality (per 1,000 live births) is higher in Dalit (U5MR=63; NMR=43), other Terai caste (U5MR=51; NMR=27), Muslim (U5MR=47; NMR=25) and Janajati (U5MR=42; NMR=24) than the national average (U5MR=39; NMR=21). TFR (per women) is higher in the Muslim (3.6), other Terai caste (3.0) and Dalit (2.7). The TFR in Newar is less than replacement level (1.6). Demand satisfied for family planning is lower in Muslim (53%) and Dalit (63%). Immunization coverage is lower in the other Terai cast (64%), Muslim (68%) and Dalit (73%). Prevalence of diarrheal disease is higher in Newar (12%) and Muslim (11%). Among Newar institutional deliveries are higher (75%) compared to Dalit (45%) and other Terai caste (48%).

Conclusion

Caste wise variation should be addressed to achieve NHSS RF target under the principle of LNOB. Health program should prioritize Dalit, Muslim, and other Terai caste.

Keywords

Health, inequality, caste, Nepal.

1.5.4 Factors Determining Catastrophic Out of Pocket Payment for Health Care Services by Nepalese Households

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Background

Despite popular demand side financing health care programs, a rising share of out of pocket (OOP) healthcare expenditure coupled with catastrophic payment is a dilemma in Nepalese health system. The study intends to determine major factors determining catastrophic health care payment.

Methodology

We utilize cross sectional household survey data of Central Bureau of Statistics (2012). The

demographic, consumption, education, access to facility and health section information of 5518 individuals who reported being ill/injured within 30 days from the day of the interview was extracted out of 5988 households or 28460 individuals of the survey. The household / individual is the unit of analysis. To measure catastrophic payment, health spending as 40% of non-food expenditure was used as the cut off line. Then binary logistic regression was applied to analyze the determinants of catastrophic payment.

Results

The OOP expenditure incurred by households for seeking service in private or public institutions was Rs. 1119 in 2010/11 and medicines cost occupied the largest portion (nearly two third). Around 6 percent households face catastrophic health care payment. The logistic regression result shows that the factors associated with catastrophic payment are: presence of an older family member in the family (odds ratio 1.007, 95% Confidence Interval), being residing in rural area (OR 1.95, 95% CI), presence of any chronic ill family member in the household (OR 63.4, 95% CI), having to pay a high price or OOP payment (OR 3.96, 95% CI); and negatively associated to increase in household income (OR 0.13, 95% CI).

Conclusion

The burden of OOP health expenditure, especially who belong to low income group, reside in rural areas or have chronically ill members in the households are likely to face catastrophic payment situation. There is a need to address affordability along with coverage.

Keywords

Catastrophic payment, health expenditure, logistic regression, out of pocket payment.

1.5.5 Knowledge and Willingness to Pay for Social Health Insurance Scheme among Marginalized Adults of Lulang, Myagdi

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Background

The Social Health Security Scheme under Social Health Protection plan of WHO is a newly launched program in Nepal that aims to increase the access of health services to the poor, the marginalized, and people in hard to reach areas of the country. So the objective of the study was to examine the knowledge and willingness to pay (WTP) for Social Health Insurance Scheme (SHIS) among the marginalized adults of Lulang in Myagdi district.

Methodology

A Descriptive cross-sectional study was carried out among 98 adults. Non- probability purposive sampling technique was used and the interview was continued until the required sample size was achieved. Semi-structured interview technique was used to collect data. The WTP was estimated through a Contingent Valuation Method. Obtained data were analyzed using descriptive statistics including percentage, frequency, mean, standard deviation and inferential statistics including Fisher's exact test.

Results

The findings revealed that 94.9% had inadequate knowledge, whereas, 95.9% were WTP for proposed SHIS, and the average amount that they were willing to contribute per annum per household was NRs. 1135.64 (11 US $). The respondent's knowledge level was statistically significant with sex and

occupation, similarly, the status of WTP was statistically significant with education level, household income, and past history of financial hardship while paying medical bills.

Conclusion

In conclusion, this study finding suggests that almost all the respondents had inadequate knowledge and an overwhelming number of them were WTP for proposed SHIS. The average amount that respondents were WTP was nearly half of the premium amount that the Government of Nepal has stated. So, it is recommended that a comprehensive sensitization and awareness program be conducted and that the premium amount for marginalized and hard to reach areas of our country be devised as per their capacities.

Keywords

Social health insurance scheme, willingness to pay, marginalized adults, Myagdi.

1.5.6 An Innovative Model for Rural Orthopedic Trauma Care

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Background

In Nepal, the government health care system is organized into district-level hospitals, staffed by General Practitioners (MDGPs), medical officers, nurses, and other support staff. Facilities include operating theaters and surgical services. Health Posts, encircling the hospitals, provide primary and follow-up care. Presently, the diagnosis of trauma is possible, but there is inadequate capacity for operative and non-operative orthopedic care, with the absence of orthopedic trauma surgeons being the primary driver of this gap. In the remote districts of Achham and Dolakha, possible (Nyaya Health Nepal), in partnership with the government, runs Bayalpata and Charikot hospitals respectively. This study uses MDGPs, trained in trauma surgery and supervised by orthopedic trauma surgeons, to fill the gap in care for trauma patients and reduce referral rates.

Methodology

At each hospital, MDGPs are providing training and supervision in surgical trauma care. One rotating orthopedic surgeon directly trains and oversees the MDGPs, moving between each hospital every three months, while another senior orthopedic surgeon remotely analyses their work and provides feedback. All patient data, including clinical information and referrals, are recorded in an electronic health record. For this study, patient records from 1 January2017 –31 December 2017, labeled with the diagnosis of "fracture," were extracted.

Results

Over twelve months, 1252 and 593 patients with the diagnosis of "fracture" were treated at Bayalpata and Charikot respectively. Only 115 (9.2%) Bayalpata patients and 34 (5.7%) Charikot patients were referred to a higher level of care for further management. 100% of surgeries actively involved MDGP-level surgeons with the support of an orthopedic surgeon-mentor.

Conclusion

To our knowledge, all fracture cases in these areas were referred to hospitals capacitated for orthopedics, prior to this innovation. This model has reduced the referral rate for orthopedic trauma cases. We will further investigate this model's impact on disability prevention and economic savings for our patients.

Keywords

Rural health care, orthopedics, trauma, surgical capacity, fracture, disability, process assessment.

1.5.7 Policy Content and Stakeholder Network Analysis for Infant and Young Child Feeding in Nepal

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Background

Despite concerted effort from government and partners, Nepal continues to have a high burden of under nutrition among children. Identifying opportunities to strengthen policy support for infant and young child feeding (IYCF) is a key component to improve child survival, growth and development. This study aims to explore policy support for IYCF and to identify the influential stakeholders for IYCF for effective future policy development and programmatic action.

Methodology

Policies relevant to IYCF were identified through web searches and direct approaches to relevant government ministries. Policy content was analyzed based on four key domains focused on mothers, using a qualitative synthesis approach. Three group interviews were conducted using the participatory tool "Net-Map", to identify the influential stakeholders in IYCF policy and programming processes.

Results

Twenty six relevant policy documents were analyzed for content relating to IYCF. General support was found in most of the development plans and high-level health sector policies. Most implementation level documents included support for provision of correct information to mothers. Capacity building of Frontline workers and system strengthening were well supported through sectoral plans and policies. However, gaps were identified regarding maternity protection, support for monitoring and evaluation, and translation of high-level policy directives into implementation level guidelines, resulting in a lack of clarity over roles and responsibilities.

Both government and non-governmental stakeholders, particularly donors, emerged as influential drivers of IYCF policy decisions in Nepal, through technical assistance and funding. The Nutrition Technical Committee under the Ministry of Health, UNICEF, Suaahara, USAID and WHO were identified as key actors providing technical assistance. Key funding agencies were identified as UNICEF and USAID.

Conclusion

This study reveals strong policy support for key dimensions of IYCF, supported by a highly networked stakeholder environment. There exists an ample opportunity to further strengthen IYCF policy in Nepal.

1.5.8 A Public Private Partnership for Nepali healthcare: A case study of Charikot Hospital

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Background

A Public Private Partnership (PPP) is an arrangement, usually long term, between two or more public and private sectors, often between a government entity and a private sector party, for the provision of public services. The private party undertakes significant management responsibility, often compensated based on performance. In Nepal, the constitution guarantees the right to healthcare for all citizens, however, the public healthcare system is under-resourced to meet the comprehensive needs of all citizens. The PPP offers potential for global partners to collaborate and support the government with the goal of healthcare for all. Following the 2015 earthquakes, the Ministry of Health and the non-profit healthcare company Nyaya Health Nepal developed a new integrated healthcare delivery PPP- the first of its type in Nepal's healthcare system- at Charikot Hospital.

Methodology

In this case study, we evaluate healthcare service delivery prior to the 2015 earthquakes through 2 years of implementation. Here, we present data on outpatient, inpatient, emergency, surgical, community healthcare, laboratory, dental and government vertical programs like Tuberculosis, Leprosy, Safe motherhood, Mental Health, and malnutrition. We also share our experience on staff integration, the impact of organizational cultural change, and the evolution of a PPP legislative framework.

Results

Through the new Charikot Hospital PPP, service availability and utilization at Charikot have expanded significantly. Expanded services and programming include full Emergency and Essential Surgical care, orthopedic surgical services, mental healthcare, community-level outreach, and inpatient department services. Overall, we were able to treat more than 120, 00 patients within 2 years.

Conclusion

The Charikot Hospital PPP is unique within Nepal's health care system, and offers promising early results suggesting the PPP model can expand access to healthcare services offer a path towards universal health coverage.

Keywords

Public Private Partnership, Universal Health Coverage, Primary Care, Organizational Culture

THEME 6

Neonatal and Adolescent Health and GBV

1.6.1 Experience of Mothers Having Preterm Newborns in Neonatal Care Units

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Background

Birth of preterm infants is increasing globally[1]. They are biologically vulnerable to different morbidities and require hospitalization in the neonatal care unit (NCU) for various periods. In such situation, mothers experience altered parenting role with possible effect on care and attachment with their infants[2]. Understanding this phenomenon might be useful to improve the quality of nursing care.

Methodology

A descriptive phenomenological study was conducted among purposively selected 13 mothers of NCU admitted preterm infants at Trivhuban University, Teaching Hospital. After getting ethical approval, researchers conducted in-depth interview (IDI) using IDI guidelines with the participants. Each interview was transcribed, translated and analyzed using content analysis method.

Results

Among 13 infants, 8 (61.5%) were male, 10 (76.9%) were very preterm (< 32 weeks gestational age), 11 (84.6%) have very low birth weight (< 1500gm), 9 (69.2%) born by caesarian section and stayed NCU for 7-14 days. Similarly, 8 (61.5%) were primi, 25-30 years, homemakers from the urban setting, 9 (69.2%) belonged to the nuclear family, 6 (46.2%) had Bachelor or above education, 11 (84.6%) had ANC visit > 4 times.

Result of content analysis revealed 4 themes and 9 subthemes: sense of difference (moments around birth, infants' appearance, need and problems, breastfeeding and parenting roles), loss of control (fear and anxiety, loss of confidence, feeling of guilt), care of infant (trust on nurses, involvement in infant care, confidence in infant care) and coping the situation (support from nurses, support from spouse/family, prognosis of the similar cases.)

Conclusion

The study concluded that mothers encounter both positive and negative experiences having a preterm infant in the NCU. Although, some negative experiences cannot be removed, mothers' involvement in infant care and care and support provided by nurses in NCU help to bring positive experiences with effective coping. Therefore, nurses working in NCU should consider these core components in their practice.

Keywords
Mothers' experience, preterm infants, neonatal care unit.

1.6.2 Every Newborn- Birth Indicator Research Tracking in Hospitals

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Background

The Every Newborn Action Plan (ENAP) launched in 2014 and the Global ENAP metric team envisions the member countries to achieve the Sustainable Development Goals (SDG) target of no more than 12 newborn deaths per 1000 live births by 2030. So as to track progress towards these targets, accurate and impact data are crucial to end preventable maternal and newborn mortality and still births. The Every Newborn- Birth Indicators Research Tracking in Hospitals (EN- BIRTH) is a multi- country study with the objective of validating the newborn indicators collected from the health facilities and evaluates the quality of care provided.

Methodology

Mixed method observational design has been adopted to observe 5000 births occurring in Pokhara Academy of Health Sciences from July, 2017 where observation, data extraction, maternal recall surveys, video observation of neonatal resuscitation are being carried out via ENAP Data Entry Software installed in the tablet on indicators: uterotonic use for 3rd stage of labor, Antenatal corticosteroid use (ACS), Newborn Resuscitation, Kangaroo Mother Care (KMC)and Treatment of neonatal possible serious bacterial infection (PSBI).

Results

With the commencement of data collection till January2018, a total of 4,287 mothers were enrolled in the study among which 4104 (95.7%) of them received uterotonic during the 3rd stage of labor, among the 931 babies receiving resuscitation, 90 (2.1%) of them received bag and mask ventilation. Regarding KMC, among the eligible babies, 76 (93.8%) of them received KMC, 294 (94.2%) babies were verified for possible neonatal infection cases, and 1.9% (88) of mothers received ACS.

Conclusion

With the anticipated sample size for each of the indicators to be achieved by June, 2018, the results will help identify the true numerator and denominator for global and national every newborn indicator.

Keywords

ENAP, uterotonic, resuscitation, KMC, PSBI.

1.6.3 Newborn Service Readiness of Primary Level Health Facilities of Eastern Mountain Region of Nepal

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Background

Health facility readiness for newborn service is the facility's observed capacity to provide newborn services and a prerequisite for quality. Newborn services are priority program of the government and the efforts of the government are focused on structural components of peripheral health facilities. The study describes health facility readiness for newborn services in four domains of general requirements, equipment, medicines and commodities, and staffing and guidelines.

Methodology

A convergent parallel mixed method using concurrent triangulation was done in health facilities providing institutional deliveries of two randomly selected districts of Eastern Mountain Region of Nepal. Face to face interview and observation of facilities was done using a structured questionnaire and checklist; in-depth interview was done using the guideline from November 2016 to January 2017. Ethical clearance was taken. Mann Whitney U test and deductive content analysis were done.

Results

Health facilities had medium readiness for newborn services and readiness scores were statistically not significant based on type of health facilities and availability of staff quarter. But availability of staff quarter was expressed as part of enabling environment and for 24/7 delivery services, facilities had residential staff. Similarly, being with difficult topography, vehicle for referral was Heli(air ambulance). Nyano jhola helped prevent newborn infection along with gloves. There was felt a need of enforcing adequate training coverage to discourage ritual of remote posting. Facilities that performed newborn resuscitation scored higher and survival of non-breathing newborn was considered "miracle" in remote settings.

Conclusion

Efforts of improving transportation, trainings with skill retention strategy, utilization of guidelines could result increased newborn service readiness.

Keywords

Eastern mountain region of nepal, health facility readiness, newborn service readiness.

1.6.4 Intimate Partner Violence and Maternal Nutritional Status in Nepal: Findings from NDHS, 2016

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Background

There is little empirical evidence on the relationship between intimate partner violence and maternal nutritional status in Nepal. This paper assesses the associations between intimate partner violence

and maternal nutritional status in Nepal.

Methodology

A nationally representative cross-sectional household survey, known as the Nepal Demographic and Health Survey (NDHS) 2016, dataset were used. In this analysis, maternal nutrition measures will include as BMI and anemia (<11.0 g/dl). For this analysis, only women who responded to the domestic violence survey questions (n=3562) and have a BMI (n=3288) and anemia (n=3542) data were included. Potentially confounding factors at the individual, household and community level were included in the adjusted models.

Results

Findings reveal that approximately 26% of women had experienced intimate partner violence. Among them, around 18.0% were found to have a BMI (<18.5) compared to 12.3% for those never experienced intimate partner violence. Likewise, 45.5% women who had ever experienced any form of intimate partner violence were found to be anemic compared to 37.6% for those who never experienced intimate partner violence. The odds ratio (OR) shows a positive significant association between intimate partner violence with BMI (<18.5) (unadjusted OR=1.5, P=0.000, CI=1.2-1.9; Adjusted OR =1.4, P=0.01, CI=1.1-1.8) and intimate partner violence and anemia (unadjusted OR=1.5, P=0.000, CI =1.2-1.9; Adjusted OR =1.3, P=0.03, CI=1.0-1.6).

Conclusion

Intimate partner violence and maternal nutritional status are associated with Nepal. Thus, national and sub-national health and nutrition policies and programs, including Nepal's Multi-sectoral Nutrition Plan, should focus on this issue. Further research, including experimental studies, is needed to confirm the directionality and pathway for how intimate partner violence and maternal nutrition are related

Keywords

BMI, intimate partner violence, anemia, Nepal.

1.6.5 Experience of Sexual Harassment in Public Transport among Female Health Science Students

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Background

Sexual harassment in public transport is an everyday occurrence for millions of girls and women around the globe. With the skyrocketing population of Kathmandu valley public transport has been facing enormous pressure. The major victims of these harassments happens to be college going girls and working women as they tend to travel more in public transports. This study sought to determine the prevalence and factors responsible for sexual harassment in public transport among female health science students.

Methodology

A descriptive cross-sectional study was carried out among 396 female health science students studying in the Manmohan Memorial Institute of Health Sciences using self-administered structured

questionnaire. Participants were selected through stratified random sampling method.

Results

The prevalence of sexual harassment among female health science students was found to be 79.6%. Physical harassment was the most prominent type of harassment (67.1%) followed by verbal (61.2%) and non verbal 34.6%. After the experience of sexual harassment, 44.6% scolded the harasser, 29.1% kept silent, 17.3% dropped at the nearest bus station whereas remaining 9% reacted in other different ways. Overcrowding was considered as the main reason for sexual harassment by 69.2% of the participants. 54.4% admitted that harassment occurs because harassers are not punished by the police anyway. 36.8% of female students didn't use any precautionary methods, whereas 32.6% avoided going out alone at night.

Conclusion

The study reveals that the prevalence of sexual harassment is significantly high. With increasing population and limited vehicles people are left with no option rather than travelling in the overcrowded vehicles where the chances of experiencing various sorts of sexual harassments are very high. In order to address this emerging issue, prompt and appropriate intervention should be taken by government, public and especially the status of women must be raised in society.

Keywords

Sexualharassment, health science student, perpetrator.

1.6.6 Evidence-based family centred intervention on prevention of violence against women and girls in migrant communities of Baglung district, Nepal

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Background

Nepal is a patriarchal society with a high prevalence of Violence Against Women and Girls (VAWG), yet VAWG remains unrecognized and understudied, particular in migrant communities.Patriarchal social normsin Nepalese society haveled to women being largely confined to traditional roles and performingthe majority of unpaid care work, thereby denying their economic and other rights and pushing them deeper into a vicious cycle of violence and poverty.Young married women are particularly at risk of violence perpetrated by their husbands and in-laws.Most of the women from migrant communities do not have access to their husband's income, as most of the husbands send money to their parents. In the absence of their husbands women are at risk of violence from their in-laws.

Methods

Based on the findings from formative research, a combined gender norms and economic empowerment intervention **Sammanit Jeevan** was designed. An evaluation study was conducted to test the effectiveness of this group-based and participatory family centered intervention.Qualitative data was collected using in-depth Interviews, focused group discussionsand.Most Significant Change Stories.

Thematic content analysis was conducted following an inductive analytical approach.

Result

Qualitative data showed that that there was significant change in participants' gender attitudes and practices; positive changes in young married women's lives, their sense of self as well as their relations with husbands and family members. Positive impact of income generating activities in women's lives was observed including increased participation of women in financial decision making at the household level. Family participation seems not only to have createdmore harmony among family members but also economicallyempoweredyoung married women. Women had begun to earn income and they used earnings to pay debt and expand their income generating activities.

Conclusion

The findings show that how the family-centered intervention has improved the lives of young married women and their relationship with in-laws and husbands. The findings show that family-centered model is feasible in migrant communitiesbut it needs to be tested further in other Nepali settings so that it can be scaled up.

Keywords

Violence Against Women and Girls (VAWG), evidence-based family centred intervention , migrant communities, economic empowerment.

1.6.7 Utilization of Adolescent Friendly Services and its Associated Factors: A Mixed Method Study

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Background

'Adolescence' (10-19 years) comprises around one fourth of the total population in Nepal. The concept of Adolescent Friendly Services (AFS) was introduced in existing health facilities making them adolescent friendly. In order to be prevented from life threatening high risk behavior and adopt safe sex behavior, it is important for them to provide the information regarding sexual and reproductive health and to utilize adolescent friendly services. This study was aimed to quantify the use of AFS and quality of care provided.

Methodology

This study employed mixed method; qualitative and quantitative study design. A cross sectional descriptive study was designed to identify the factors associated with the utilization of AFS. A self administered, semi structured questionnaire was used and the data processed through SPSS. For qualitative approach; key informant interview and focused group discussion were conducted and thematic analysis done. Systematic random sampling was done to get 362 adolescents from selected four Village Development Committees. Bivariate and multivariate analysis including; Chi-square and the Fischer exact test was done to determine the strength of the relationship between variables.

Results

Around 24.7% of the study population had utilized the services. 15-19 years, adolescents were more likely to utilize AFS than 10-14 years. There was a positive association between utilization of AFS and female, those who have heard about AFS, who don't feel shy to get usual SRH services and those who fear of being seen while getting SRH services. The qualitative findings suggest that socio-cultural factors, awareness programs, and confidentiality as factors affecting AFS utilization.

Conclusion

The utilization of AFS was found to be very low in Bhaktapur district. Increasing awareness of the importance of the adolescent friendly sexual and reproductive health services and creating an enabling environment in the service delivery site could increase the service utilization.

Keywords

Adolescent friendly sexual and reproductive health services, adolescent, sexual and reproductive health, utilization.

1.7.1 Gender Perspectives on the Health Impacts of Environmental and Climate Change in Nepal

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Background

Environmental and climate change directly and indirectly affects the livelihoods and health of human beings. Climate change impacts are not gender neutral. However, there are not any empirical studies in Nepal. Hence, this study is aimed to explore the health impacts of environmental and climate change from gender perspectives in Nepal.

Methodology

This is a mixed method research design. Qualitative and quantitative as well as primary and secondary data were collected for this study using purposing sampling method. Perception survey was conducted among 200 people using a structured questionnaire, 8 focus group discussions and 20 key informant interviews were conducted with community people, experts and policymakers. Furthermore, diseases and climatic data were analyzed to observe trends, respectively, of last 14 and 36 years. Qualitative data were analyzed thematically using the MAXQDA software. Similarly, the association between a categorical variable was analyzed SPSS software and trends of diseases and climate data using Microsoft Excel.

Results

The perception of male and female on environmental and climate change is found similar but significantly different between highland and lowland. People had a different perception towards the effects of environmental and climate change on health by area of residence, gender, ethnicity and economic status. Analysis of climatic data shows warming trend of temperature, high rainfall variability and increase in extreme climatic events such as heat waves and cold waves. Similarly, analysis of health surveillance data shows gender differences in incidence of climate sensitive diseases and risks. Most of the research participants' perceptions of environmental and climate change are found consistent with the scientific data.

Conclusion

Environmental and climate change can aggravate structural inequality of gender and caste/ethnicity and produce gender differentiated health impacts. Hence, this study may contribute to developing gender friendly climate change adaptation policy and planning in Nepal.

1.7.2 Water, Improved Sanitation and Hygiene related Practices and their Interaction on Under-five Children: Wasting, Stunting and Underweight

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Background

The evidence on the role of water, improved sanitation and hygiene behaviors in childhood under nutrition is inconsistent, while very few studies have evaluated the interaction between WASH related variables. This study examined association and interaction between WASH related factors on nutritional status of under-five children in Nepal.

Methodology

We analyzed a nationally representative cross-sectional sample of a multiple indicator cluster survey (2014) in Nepal. A total of 5126 under-five children were included and we performed logistic regression analysis to examine the role of household WASH factors on under-five children nutritional status after controlling potential confounders. The study also examined the interaction between various WASH related factors on childhood nutrition.

Results

A total of 35.7% children was stunted (<2 Standard Deviation (SD) height-for-age), 10.8% wasted (<2 SD weight-for-height) and 29.3% underweight (<2 SD weight-for-age) in Nepal. The presence of improved sanitation was associated with decreased odds of childhood underweight (OR=0.76, 95%CI: 0.65, 0.88) and wasting (OR=0.75, 95%CI: 0.61, 0.94). The water purification practice was associated with reduced odds of underweight (OR=0.57, 95%CI: 0.45, 0.73), wasting (OR=0.53, 95%CI: 0.36, 0.77) and borderline evidence for stunting. While the provision of soap and water in the household was associated with decreased odds of stunting (OR=0.85, 95%CI: 0.74, 0.98) and wasting (OR=0.77, 95%CI: 0.63, 0.94). We also found an interaction between improved household sanitation and availability of soap and water for childhood wasting (*p*-value=0.03).

Conclusion

WASH related factors were positively associated with reduced odds of undernutrition among children. The public health programs targeting under-five undernutrition could benefit from focusing on WASH related interventions to address the pervasive undernutrition problem in developing countries.

Keywords

Children, wasting, stunting, under-weight, WASH.

1.7.3 Musculoskeletal Disorder among Computer using Employee of Commercial Banks of Pokhara Lekhnath Metropolitan City

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Background

Musculoskeletal disorder is a global term for several types of disorder affecting the neck, back, upper limbs or lower limbs. Numerous risk factors, including occupation, individual and social factors are involved in the development of MSDs.

Methodology

This cross sectional analytical study was carried out among computer using an employee of commercial banks of the Pokhara Lekhnath Metropolitan City from June to November 2017. A Nordic standardized questionnaire was used to collect the data.

Results

Assessing the prevalence of MSD, 79 of the respondents have reported the symptoms of MSD in different body parts. Back, neck, shoulder and hip were the most affected body parts as per this study. Regarding the association of MSD with different factors, smoking (p-0.018), working hours (p-0.02), job satisfaction (p-0.001, prefer working in computer (p-0.000) and stressful job (p-0.007) showed a significant association with MSD at 95% confidence level. Similarly, the position of the head and trunk (p-0.016) and comfort of the chair (p-0.027) showed a significant association with MSD in the shoulder.

Conclusion

This study shows high prevalence of MSD in the back, neck and shoulder. The highest co-related factors of MSD were smoking habit, long working hours, posture and comfort of the chair. Most of the employees seem to be satisfied with the work environment and ergonomic settings of the work settings, though few hazards were observed in terms of comfort, of the chair, frequent use of the telephone between head and shoulder, monitor level and lesser micro break in work station.

Keywords

MSD, ergonomic.

1.7.4 Situation of Water, Sanitation and Hygiene (WASH) and Diarrheal Disease after Open Defecation Free (ODF) Declaration and Associated factors: a Cross Sectional Study of Makwanpur District, Nepal

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Background

Makwanpur district was declared Open Defecation Free in 2013 as the movement started in Nepal

since 2003 to address the high burden of diarrheal disease among under five children. As the water supply, sanitation and hygiene situation of the district is not known after the declaration, the need for this study was visualized.

Methodology

It was a cross sectional study among randomly sampled 178 households using interview and observation. Water, sanitation and hygiene situation was assessed in terms of related facilities, knowledge and practices of mothers. Results were compared with the standard open defecation free criteria of Nepal. Five year trend of diarrheal disease was analyzed from the health facility records to assess the impact of the declaration.

Results

Of the total households 92% had toilets and 90% had access to an improved water source. About 79% mothers had a high knowledge of safe water, sanitation and hygiene and 43% practiced hand washing with soap at critical times. Proper disposal of solid and liquid waste was found among 32% and 46% of households respectively. About 68% of households had good water, sanitation and hygiene situation and was found to be significantly associated with related knowledge among mothers irrespective of their economic status. Diarrheal disease among under five children was found declining after open defecation free declaration.

Conclusion

Water, sanitation and hygiene status in the study area are founded lower than the criteria for open defecation free declaration. However, diarrheal disease among children under five is declining after the declaration.

Keywords

Diarrheal disease; Makwanpur; ODF; WASH

1.7.5 Health Risks and Behavior of Informal Waste Workers in the Kathmandu Valley, Nepal

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 Background

Solid waste management (SWM) is a major environmental and public health issue in Nepal. The general aim of the study was to identify the health and safety profile of informal waste workers. The objectives of the study were: a) to describe the demographic profile and b) to find out general health status of informal waste workers. The study looks at the health risks and behaviors of informal waste workers in the Kathmandu Valley.

Methodology

The study design was cross-sectional and 1,278 informal waste workers were interviewed in Shanti Nagar, Teku areas and the Kathmandu metropolitan city managed landfill site Sisdole, Nuwakot. The snowball sampling method was employed. A structured survey questionnaire was used and pilot test was conducted. Research approval was obtained from Nepal Health Research Council. Data were analyzed using Statistical Package for Social Science (SPSS). Descriptive statistics were used and

findings were presented in tables and graphs.

Results

The survey shows that 52% were Nepali and 48% Indian workers. In total, 80% were male and 89% were Hindu. Only, 33% participants reported illness in last three months. Respiratory; runny nose, frequent sneezing and backache were main health problems. Only, 47% were vaccinated against Tetanus. Mental health problems were reported by 41%. Only, 73% had knowledge of contraceptive methods and 43% had knowledge of how to protect from STI/HIV. Only, 25% reported difficulties with vision and 72% perceived their work as a risky job. Waste collection and sorting were the main work. Glass and metal cut were the most common types of injuries. Use of personal protective equipment was low.

Conclusion

Informal waste workers are at risk of injury, infectious disease and chronic conditions such as respiratory and mental ill health. Access to health services and proper use of personal protective equipment could help to reduce the occupational risks.

Keywords

Health risks, environment, waste workers, Nepal.

1.7.6 Knowledge and Perception regarding Rational Medicine use and Responsible Self-medication among Different Stakeholders at Lalitpur

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Background

Rational use of medicines is important for safe and cost-effective pharmacotherapy. The World Health Organization (WHO) evaluates that nearly half of the medicines available in the market are used irrationally. The objective of this study was to assess the perceptions and knowledge about rational medicine use and responsible self -medication among three different groups of participants before and after an educational intervention.

Methodology

An educational module was conducted among participants from the media; female community health volunteers (FCHVs) and healthcare professionals (HCPs). The questionnaire was administered before and immediately after the training program. The areas addressed were rational drug use, ethical prescribing, rational drug use situation in Nepal (RDUN), pharmaceutical promotion (PP), rational self-medication (RSM), safe use of antibiotics (SUA), and drug use problems in Nepal (DUPN).

Results

Sixty individuals participated over three days. There was no significant difference in the mean subcategory and total scores before and after the intervention among FCHVs. Among HCPs, the scores significantly increased in RDUN, and the total score (p<0.05). Among media personnel the mean scores increased significantly in PP and DUPN but there was a significant decrease in SUA. The Pre-

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intervention PP score was significantly higher among HCPs compared to the media while the RSM scores were higher among FCHVs, SUA scores were higher among the media. Post-intervention the mean PP scores were higher among HCPs, RSM scores among FCHVs, SUA scores among the media while the DUPN and total scores were also higher among the media.

Conclusion

There were differences in the mean pre-intervention scores among different subgroups. There was no significant increase in scores among FCHVs while some scores increased among media personnel and among HCPs. A single session may not be enough to bring about significant changes in knowledge and perception. The retention of knowledge could be measured in future studies.

Keywords

Female community health volunteers, health care professionals, media, rational medicine use, self medication.

Communicable Disease and Miscellaneous (Human Genetics)

1.8.1 Active Case Detection during Leprosy Post Exposure Prophylaxis (LPEP) Intervention is an Important Method to Detect Hidden Leprosy Cases in Early Stage from High Risk Population

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Background

Parsa district is one of the high leprosy-endemic districts in Nepal and was selected for Leprosy Post Exposure Prophylaxis (LPEP) intervention. LPEP is a chemoprophylaxis study providing single dose rifampicin to family and social contacts of leprosy patients. Active surveillance was carried from the family and social contacts.

Methodology

LPEP intervention was implemented in contacts of 499 index cases from August 2015 to 2017. All the household contacts from the same house of the index cases, neighbor contacts surrounding the index case and social contacts who spend more than >20 hours per week with leprosy cases were examined as a high risk group of people and screened as eligible cases for LPEP intervention. People screened and found to be eligible as close contacts were given a single dose capsule of rifampicin with the support of concerned, trained health volunteers, Female Community Health Volunteers (FCHVs). The FCHVs were trained to carry out household contact surveys and to suspect new cases of leprosy that were diagnosed by trained health workers (Leprosy Focal Person).

Results

Sixty ninenew cases were identified from 10,471 contacts of the 499 index cases screened for this intervention. Among these, 69 new cases detected since 2015-2017, 20 cases (28.98%) where MB leprosy, 30 cases (43.47%) were female and 9 cases (13.04%) were children. The national averages for the year 2072/73 were 54% MB, 38% female, and 7% children. The proportions of children and female cases increased with this active case detection, intervention and the number of MB cases decreased in comparison to regular passive case detection (voluntary reporting) methods.

Conclusion

These findings indicate the effectiveness of active case detection methods to detect hidden leprosy cases within communities. Improved and effective spending on active surveillance for leprosy could lead to comprehensive treatment of all leprosy cases and prevent transmission.

Keywords

Parsa, leprosy, active case detection, chemoprophylaxis.

1.8.2 Risk Profile of Tuberculosis Patients Visiting Treatment Centers in Selected Districts of Nepal

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Background

Tuberculosis (TB) is one of the major causes of morbidity and mortality worldwide. TB patients are at risk of contracting various diseases, including diabetes and hypertension. The study aimed to determine the risk profile of TB patients in Nepal.

Methodology

This was a facility based cross sectional study undertaken in purposefully selected 12 DOTS centers of Nepal. Patients visiting for anti-tubercular therapy was screened for hypertension and diabetes during the study period (May-July 2017). Socio-demographic and behavioral risk factors were assessed through patient interview and records. Altogether 238 TB patients participated in the study, 17 incompletely filled questionnaires were not included in the final analysis. Only descriptive analysis was done for the risk characterization by determining frequencies and percentages.

Results

Out of 221 TB patients, the majority were male (71.9%) and illiterate (30.8%), belonged to 40-49 years age group (36.7%) and janajati ethnic group (41.6%). While 15.4% of the patients had extra-pulmonary TB, 11.3% were in CAT II treatment category. The proportion of current tobacco users and current alcohol users was 14.9% and 10.9% respectively. Similarly, the self-reported HIV prevalence was 3.6% and the prevalence of Type II Diabetes mellitus was 6.3%. As per the new American Hypertension Association classification, the proportion of patients having stage I and stage II hypertension was 19.5% and 16.3% respectively. Among TB patients, 5% were currently taking anti-hypertensive medications.

Conclusion

Our study suggests a notably high percentage of undiagnosed hypertension and diabetes among TB patients. While TB-HIV co-infection has been addressed through national HIV/TB program, no efforts have been made to link national TB program and noncommunicable diseases (NCDs). Our evidence, though limited demands policy and programmatic interventions to link TB and NCDs.

Keywords

Diabetes, hypertension, Nepal, tuberculosis.

1.8.3 Distribution of Hemoglobinopathies in the Ethnic Group of Nepal

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Background

Nepal is a multicultural and multiethnic country. Hemoglobinopathies represent a significant health problem in Nepal, but has received little attention due to other major health problems such as malnutrition and communicable diseases. Thalassemia is a common genetic disorder worldwide. Nepal has been included in the thalassemia belt. The prevalence of beta thalassemia in the ethnic groups is scarce. Beta thalassemia is caused by point mutation resulting in less production of hemoglobin. The research study was undertaken to determine the prevalence of beta thalassemia in different ethnic groups eastern Nepal using uniform technology. Study Area included three districts Jhapa, Morang and Sunsari of eastern Nepal. Study population included following five ethnic groups Koch Rajbanshi, Kochila Tharu, Santhal, Musahar, Sardar.

Methodology

After acquiring consent 3ml of blood sample was collected in EDTA tubes. For screening of Beta thalassemia RBC Indices was determined by an automated hematological counter, Peripheral blood smear was prepared to study red cell morphology, whereas the % of HbA2, HbFand other hemoglobin variants was estimated by hemoglobin electrophoresis.

Results

The hemoglobinopathies identified are as follows: Beta thalassemia heteroygote, HbE homozygote and HbE heteroygote and double HbD and HbE heterozygote. Among the total sample studied 7-Beta thalassemia heterozygous, 33 HbE homozygous, 31 HbE heterozygous and 1 HbE HbD heterozygous was identified. The study shows that the general mass is ignorant about the genetic disorder they carry. Beta thalassemia major and HbE beta thalassemia is a serious disease requiring lifelong blood transfusion accompanied by iron chelation resulting in heavy economic burden to the family. Establishment of screening and counseling of beta thalassemia and other hemoglobimopathies is urgent.

Conclusion

This experience can help to formulate a national thalassemia control program.

Keywords

Hemoglobimopathies

1.8.4 Assessment of the systemic involvement in patients with Sickle cell disease in far western region of Nepal

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Background

Sickle cell disease is an autosomal recessive disease with a high prevalence in ethnic tribes in Nepal. In

Nepal it is common among Tharu population, especially Chaudhary and Rana. Disease Course is associated with multisystem involvement.

Methodology

This was a prospective observational study conducted In Seti Zonal Hospital and Geta Eye Hospital in Far Western region of Nepal. The study involved detailed history, systematic clinical and laboratory evaluation to identify multisystem involvement in patients with sickle cell disease.

Results

70 sickle cell disease subjects completed the evaluation with 85.7% Chaudharys and 14.3% Ranas. The mean age of onset of symptoms was 12.76+_9.09 years. The mean age at the time of diagnosis was 21.28+_9.92 years. Frequent hospitalizations were common in the study population. More than three hospitalizations in life time were seen in 25 (35.71%) subjects. The maximum number of hospitalizations was due to bone pain (62 events). Repeated blood transfusions were also commonly seen in the study group with 18 (25.71%) reporting more than three transfusions. Dilated and segmented conjunctival blood vessels and hyperemic disc with tortuous retinal blood vessels were the commonest opthalmological findings. The commonest cardiological abnormalities were pulmonary regurgitation, tricuspid regurgitation and pulmonary arterial hypertension. Splenomegaly was seen in 34 (48.57%), hyposplenism in 8 (11.42%) and cholelithiasis in 9 (12.85%) subjects.

Conclusion

Multi-system involvement is common in Sickle cell disease adding on to considerable morbidity in the younger population. Systematic screening for target organ dysfunction can serve as an important tool for prevention of further morbidity.

Keywords

Sickle cell disease in ethnic groups, clinical scenario of multi-system involvement.

1.8.6 Demographic and Injury-related Determinants of Resilience among People who Sustained Spinal Cord Injury from the 2015 Earthquake in Nepal

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Background

Spinal cord injury (SCI) was one of the devastating injuries that occurred in more than 173 survivors of the 2015 Nepal earthquake. SCI results in long-lasting impacts on physical and psychosocial aspects of an individual's life. Resilience is considered as an essential attribute that helps individuals to cope and adjust to the consequences of traumatic events such as SCI or an earthquake. However, there is a paucity of studies examining the resilience among people who sustained SCI from an earthquake. Hence, a descriptive cross-sectional study was conducted to assess the level of resilience and to identify significant demographic and injury-related determinants of resilience in Nepalese who sustained SCI from the earthquake.

Methodology

Using a convenience sampling technique, eighty-two participants were included from the Spinal Injury Rehabilitation Center and 14 communities in Nepal. The participants completed a demographic and injury-related questionnaire and Connor-Davidson Resilience Scale (CD-RISC). Linear regression analysis was performed to determine the demographic and injury-related factors that contribute to resilience.

Results

Almost 54% of the participants had a low level of resilience (CD-RISC score $\leqslant 65$). Independent samples t-tests and ANOVA showed that participants with higher resilience outcome were more likely to be male, employed, paraplegic level of injury and pain-free. The regression analysis revealed that the only gender was a unique determinant of resilience ($\beta=0.38$, $t=3.40$, $P=0.001$) in Nepalese with earthquake-related SCI.

Conclusion

More than half of Nepalese who sustained SCI from the 2015 earthquake in Nepal had not achieved a high level of resilience 2 years later. Gender was a significant determinant of resilience. The results highlighted the importance of providing appropriate intervention and allocating continuing support to the Nepalese people with SCI. A further longitudinal study is recommended to determine predictive factors of the dynamic nature of resilience.

Keywords

Earthquake, Nepal, resilience, spinal cord injury.

POSTER PAPERS

2.1.1 Breast Cancer Knowledge and Screening Practices among Women of Changunarayan Municipality, Bhaktapur, Nepal

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Background

Breast cancer is one of the most common cancers in female with increasing incidence both in the developed and underdeveloped nations. The study aimed to assess the knowledge on breast cancer and practices regarding breast cancer screening methods among women aged 30 to 49 years.

Methodology

This is a community based descriptive cross sectional study where 143 women were interviewed and two FGDs were conducted. Semi-structured questionnaire was used which was modified from the Breast Module of the Cancer Awareness Measure Toolkit. Knowledge score was categorized as "good knowledge" for women who scored value greater than and equal to men and as "poor knowledge" for the scores below the mean value. Bivariate analysis was done using cross tabulation, significance test and binary logistic regression.

Results

The mean age of women was 39 years. Nearly 11% of them had a personal history of breast illness or lump. Around half of the participants had good knowledge on breast cancer (51.7%). Among 143 only 114 participants had heard of screening methods. Mean knowledge score on screening methods was 4 where 52.4% had good knowledge of it. Only 20 participants had undergone screening methods other than breast self examination (BSE). The mean knowledge score on BSE was 2 where nearly 33% had good knowledge of it. Among those who knew of BSE (n= 65) only 58.5% had knowledge of steps of BSE and 13 individuals knew the correct steps. Monthly BSE was practiced by 31% of the women. Education status of women, occupational status of husband and ethnicity were found to be significantly associated with knowledge of breast cancer (p< 0.05).

Conclusion

This study reveals that the knowledge level of women with breast cancer is sub optimal therefore there is a strong need of awareness campaigns and breast cancer screening camps to increase regular screening practices.

Keywords

Breast cancer, screening practice, knowledge, Bhaktapur, Nepal.

2.1.2 Knowledge and Practice Regarding Prevention of Osteoporosis among Middle-aged Women of Selected Areas in Biratnagar

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Background

steoporosis is a skeletal disorder characterized by compromised bone strength predisposing to an increased risk of fracture. Worldwide, approximately 9 million fractures is caused every year due to osteoporosis, one every 3 seconds. These fractures are life-threatening and cause of pain, long-term disability, and loss of quality of life and independence. The objective of this study was to assess the knowledge and practice regarding prevention of osteoporosis among middle-aged women of selected wards in Biratnagar.

Methodology

The descriptive cross-sectional design was adopted to carry out the study. 145 middle-aged women were selected using non-probability purposive sampling technique from 5 wards selected through simple random sampling. Structured face to face interview technique was used for data collection. The data were analyzed using descriptive and inferential statistics.

Results

The findings showed that 93.1% of the respondents had inadequate knowledge regarding osteoporosis and only 1.4% had good preventive practice. A statistically significant association of knowledge was founded with level of education (p=0.024), occupation (p=0.000), income (p=0.004), menopause (p=0.043), previous bone fracture (p=0.007), positive family history (p=0.000), prior information (p=0.000) and source of information (p=0.011). No significant association was found between practice and socio-demographic variables. Significant positive correlations between knowledge and practice (r=0.356, p=0.000) was found which suggests that higher the knowledge, better is the practice.

Conclusion

This study concludes that the middle-aged women had inadequate knowledge and poor preventive practices regarding osteoporosis. Thus, awareness programs should be organized at the community level to improve the knowledge and enhance positive practice regarding osteoporosis prevention.

Keywords

Knowledge, practice, middle-aged, osteoporosis.

2.1.3 Lived Experiences of Adults with Myocardial Infarction Residing in Kathmandu

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Background

The cardiovascular diseases are one of the main contributors to disease burden and are number one cause of death globally. Patients survived from Myocardial Infarction live with consequences of illness as well as with a changed life situation. The objective of the study was to explore the lived experiences of adults with myocardial infarction residing in Kathmandu.

Methodology

A qualitative research approach, phenomenological design was adopted to reveal perception among the survivors of Myocardial Infarction within the last six months. Eight participants were included as a sample. Semi-structured in-depth interview guideline and case study methods were data collection instruments. Digital recording and field notes were used to supplement the data. Data was analyzed using Interpretative Phenomenological Analysis and findings from in-depth interviews and case study were triangulated.

Results

The results showed that all of the study, participants had experienced a mixed kind of pain, and unable to distinguish it as cardiac origin. Participants complied well with follow-up visits and medicationregimen, but were reluctant to comply with lifestyle changes. The participants received additional care and support from family, and friends following illness. The majority ofthe participants resumed normal life within the early convalescence period. The participants experienced various physical and emotional changes following an illness. Five super-ordinate themes emerged in the final stage of findings: 'Interpretation of Events', 'Management Strategies', 'Altered Relationship', 'Executing Independency' and 'Decreased Vitality'. These themes reflected shared understandings among study participants as well as contrasting views of the phenomena under investigation.

Conclusion

It can be concluded that myocardial infarction had a diverse impact on the life of the study participants. Participants' knowledge about Myocardial Infarction had influences on early identification of cardiac symptoms, adherence to lifestyle changes, and regular attendance of cardiac rehabilitation. Hence, these need to be focused by providing individualized care and should be emphasized in cardiac rehabilitation and counseling classes for better recovery and tertiary level of prevention.

Keywords

Lived experiences, myocardial infarction, themes, compliance, physical and emotional changes, cardiac rehabilitation.

2.1.4 Anxiety and Depression among Patient with Thyroid Disorders Attending a Tertiary Level Hospital of Kathmandu

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Background

Thyroid disorders are the second common endocrine diseases. Psychiatric co-morbidities in thyroid

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disorders complicate patients' life quality and disease management. We aimed to measure the prevalence of anxiety and depression among thyroid disorder patients in the Nepalese context.

Methodology

A descriptive, cross-sectional study was conducted on 129 thyroid disorder patients aged ≥20 years, attending the Endocrine OPD of Tribhuwan University Teaching Hospital, Kathmandu. A semi-structured questionnaire and validated Nepali translations of the Beck Anxiety Inventory and Beck Depression Inventory were used to collect information. Descriptive and analytical, statistical tools were used, with a 95 % level of significance.

Results

Respondents' mean age was 38.09±12.68 years. Most were females (79.1%) and most had hypothyroidism (69.8%). Depression was prevalent in 42.6% (mild=8.5%, moderate=29.5%, severe=4.7%); anxiety in 50.4% (mild=27.9%, moderate=19.4%, severe=3.1%). Depression prevalence was significantly higher in females (47.1% vs 25.9% in males, p=0.048), other castes (58.2% vs 31.1% in Brahmin-Chhetris, p=0.002), lower economic status (69.6% vs 35.5-37.2% in higher status, p=0.016), and hyperthyroidism (56.4% vs 36.7% in hypothyroid, p=0.037). Similarly, anxiety prevalence was significantly higher in females (54.9% vs 33.3% in males, p=0.046), low economic status (73.9% vs 50.7% and 35.5% in the higher economic classes), and hyperthyroidism (64.1% vs 44/4% in hypothyroid, p=0.040).

Conclusion

The findings suggest that anxiety and depression are common among Nepalese thyroid disorder patients in Nepal, especially in females, lower economic status, and hyperthyroidism. Treatment of thyroid disorders should encompass management of anxiety and depression. Routine psychiatric screening should focus on the groups with higher prevalence rates along with awareness programs.

Keywords

Anxiety, depression, Nepalese population, prevalence, thyroid disorders.

2.1.5 Quality of Clients with an Ostomy Attending in Nepal Ostomy Association

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Background

An Ostomy is an artificial opening on the abdominal wall through which waste material passes out of the body from the bowel or urinary tract. The objective of this study was to identify the quality of life in clients with an Ostomy attending Nepal Ostomy Association.

Methodology

The descriptive exploratory study design was used in this study. Total 91 clients with Ostomy, aged 18 years and above and who had completed at least two months duration after Ostomy surgery were selected using non probability consecutive sampling technique. Modified version of standardized

tools to assess the quality of life in clients with an Ostomy was used and data were collected using Interview technique. Collected data were edited, coded, classified and tabulated. Both descriptive and inferential statistics were used to analyze the data.

Results

Finding revealed that overall mean quality of life score of respondents was 5.89±1.34. More than half (53.8%) of the respondents had a low quality of life. Among the four domains of quality of life, the least and most affected domains were spiritual (6.60±1.31) and social (5.28±1.46) respectively. A statistically significant association of level of quality of life with selected variables, i.e. occupational status after Ostomy ($p=.003$), status of Ostomy ($p=.019$), duration of having an Ostomy ($p<.001$), resumption of sexual activity after Ostomy ($p=.035$) and sex satisfaction ($p=.026$) were revealed.

Conclusion

Based on the findings of study, it can be concluded that more than half of the respondents tends to have low quality of life. Sexual problems, financial burden and psychological problems seem to be the common problems experienced by ostomates. Sexual and psychological counseling and free health services for Ostomy clients from government might be helpful to promote the overall quality of life of Ostomy clients.

Keywords

Ostomy clients, quality of life.

2.1.6 Bacteriology and Antibiogram of Uropathogens Isolated from Renal Disease Patients attending the Tribhuvan University Teaching Hospital

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Background

Renal disease has been a major health problem in Nepal. The fact that the government has proposed to provide a monthly financial assistance of Rs. 5,000 and has been arranging free treatments to poverty-stricken patients with kidney disease explains it all. The rapid change of antimicrobial resistance pattern of pathogens with time has been the major hurdle in the effective management of conditions like urinary tract infection (UTI) in renal disease.

Methodology

One hundred and six patients clinically diagnosed with UTI and renal disease were recruited into the study from August 2017 to January 2018. Clean catch midstream urine samples were collected in universal sterilized containers and processed in the microbiology lab. After isolation and identification of bacteria following standard methodology, antibiogram of the isolates were produced following Kirby- Bauer disc diffusion method.

Results

Out of 106 isolates, predominant uropathogens were Escherichia coli (52.8%), Klebsiella pneumoniae

(16%), Enterococcus spp (15%) and Pseudomonas aeruginosa (8.5%). The overall antimicrobial susceptibility profile showed that amoxicillin, ceftriazone and amoxicillin-clavulanic acid to be almost ineffective for empirical therapy. Nitrofurantoin, gentamicin, amikacin, piperacillin-tazobactum and meropenem showed good sensitivity profile and can be considered for empirical therapy while waiting for the culture and sensitivity results. Of the 106 isolates, 71.7% were found to be multidrug resistant (MDR). Among the recruited renal disease patients, chronic kidney disease (17.8%), nephrotic syndrome (17%), acute kidney disease (16%), nephrolithiasis (14.1%), and pyelonephritis(11.3%) were predominant diseases.

Conclusion

This study showed renal disease patients at the risk of UTI and antimicrobial resistance. Regular surveillance of resistance pattern must be must be done to regulate the MDR bugs and to ensure effective management of infected patients. Assertive and consistent health education using every possible media is also recommended to combat the menace of drug resistance induced by inappropriate antibiotic use.

Keywords

Antibiogram, renal disease, uropathogens, UTI, antimicrobial resistance.

2.1.7 Prevalence and Associated Risk Factors of Lower Limb Varicose Vein in Nurses Working in Tertiary Level Hospital

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Background

Varcose vein encompasses a spectrum of venous dilation that ranges from minor telangiectasia to severe dilated, tortuous varicose vein. The nursing profession is perceived as a high-risk occupation, in which positions such as long-time standing and sitting are inevitable during the work which places nurses at high risk of developing varicose vein. The objective of this study was to assess the prevalence and associated risk factors of varicose vein in nurses working in tertiary level hospital.

Methodology

In this descriptive cross-sectional study, sample of 121 nurses were included, selected by proportionate stratification to form four strata followed by convenience sampling technique from each strata. Self-administered questionnaire for assessment of risk factor was used and physical examination of lower limb (below the knee) as per "C" criteria for standard CEAP classification with the help of surgeons. The further Doppler study was also conducted in participants classified as having C2 grade varicose vein. SPSS version 20 was applied for data entry and analysis. Simple descriptive statistics will be used for data analysis, e.g. Percentage, frequency, mean score, standard deviation. Inferential statistics (chi square) were used to assess the association between prevalence and risk factors of varicose vein in nurses.

Results

Among 121 nurses, 39 nurses (32.2%) had lower limb varicose vein. The majority (28.9%) was classified as having C1 grade varicose vein and only 3.30% had C2 grade varicose vein. There was a strong significant association between age, BMI, use of hormonal therapy, the number of abortions,

current designation, work experience, workplace mobility with a prevalence of lower limb varicose vein.

Conclusion

Majorities of respondents had telengiectatic or reticular vein and only a few had dilated varicose vein. Hence,the prevention of further progression can be done by taking preventive measures like compression stockings and taking small breaks at work during duty hours.

Keywords

Lower limb varicose vein, nurses, prevalence, associated risk factors.

2.1.8 Knowledge, Attitude and Practice Regarding Breast Cancer and its Screening Methods among Women Visiting NMCTH

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Background

Breast cancer is by far the most commonly diagnosed cancer in women both in the context of developed and less developed countries. In context of Nepal, breast cancer is the second most common malignancy among women, secondary to cervical cancer. Out of 40,000 cancer cases registered in Nepal annually, breast cancer accounts for nearly 10% of the total cases. The objective of this study was to assess the knowledge, attitude and practice regarding breast cancer and its screening methods among women visiting NMCTH.

Methodology

A descriptive cross-sectional study was conducted among 181 adult women visiting NMCTH using purposive sampling technique. Face to face interview was conducted using self-constructed valid structured questionnaire. Data analysis was done in SPSS Version 20 using frequency, percentage, mean, standard deviation. Moreover, chi square test was used to determine the association between knowledge and selected socio-demographic variables.

Results

Out of the total 181 participants, only 92 had heard of breast cancer. Out of the 92 women who had heard of breast cancer, the majority of participants 47 (51.1%) had a low level of knowledge regarding breast cancer and its screening methods, while the least of the participants three (3.3%) had a high level of knowledge. In regards to attitude, the majority of the women 73 (80.2%) was found to have a good attitude. Moreover, findings revealed that only 27 (29.3%) of women have practiced breast self examination, 12 (13.0%) participants have done breast clinical examination and a minimal number of participants, that is 1 (1.1%) have actually done a mammography. Association of knowledge was only seen with the socio-demographic variable of age.

Conclusion

Even though more than half of the participants had low level of knowledge, the majority of the participants was found to have a good attitude. However, inadequate breast cancer screening practices were found. This may be due to inadequate education or awareness of breast cancer and its early

screening methods. Thus, the results stress the crucial need to conduct more aggressive awareness programs to increase the level of knowledge so as to promote utilization of early screening methods for early detection to reduce morbidity and mortality.

Keywords

Breast cancer, knowledge, attitude, practice, screening methods.

2.1.9. Quality of Life of Patients with COPD Attending Nepal Medical College and Teaching Hospital

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Background

Chronic Obstructive Pulmonary Disorder (COPD) is an irreversible disease which makes great changes in the lifestyle of the COPD patients. COPD and its associated symptoms, such as fatigue and dyspnea, cause restriction on patients exercise tolerance and consequently have a major impact on their ability to carry out daily activities, thus resulting in a reduced QOL. Measuring Quality of life of COPD patients is an important aspect towards positive prognosis. The objective of this study was to assess the quality of life of patients with COPD attending NMCTH.

Methodology

A descriptive cross-sectional study was conducted among 83 COPD patients of NMCTH, selected through consecutive sampling method by using St. George's respiratory questionnaire (SGRQ) through semi-structured interview method. The software package for statistical analysis (SPSS) version 16 was used to analyze data. Descriptive statistics such as frequency, percentage, mean and Standard deviation (SD) were used and inferential statistics such as chi-square and Fisher's exact test were used to show an association between different variables

Results

The total QOL score was 56.53 ± 20.32 which shows impairment in overall QOL of COPD patients. Two components of QOL i.e. symptoms (58.97 ± 25.05), activity (75.50 ± 21.46) were impaired where as in impacts component (45.11 ± 22.37) there is no any impairment in QOL. The study highlights that there is an association of age, sex and education status with the activity, impacts and with overall QOL where as education status also has a significant association with symptoms. Smoking habits as well as monthly income also has association with symptoms, activity and overall QOL. Religion, ethnicity, tobacco habits, pack years of smoking, duration of COPD, hospital admission and co-morbidity has no any association with all three components of QOL.

Conclusion

Patients with COPD have an impaired QOL on symptoms and activity component which might be due to frequent symptoms and limitation on physical activities.

Keywords

COPD, QOL, SGRQ, NMCTH.

2.1.10 Prevalence, Associated Factors, Awareness, Treatment, and Control of Hypertension: Findings from a Cross-sectional Study Conducted as A Part of A Community Based Intervention Trial in Surkhet, Mid-western Region of Nepal

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Background

Hypertension is one of the leading public health problems globally. About a half of the deaths from cardiovascular diseases were attributed to hypertension in 2008. Reduction of blood pressure to normal range is one of the major challenges in preventing complications and future burden of cardiovascular diseases. Therefore, this study aimed to determine prevalence, awareness, treatment and control of hypertension and its associated factors in Nepal.

Methodology

This was a community based cross-sectional study conducted in Birendranagar, municipality of Surkhet district located in the Mid-western region of Nepal. We enrolled 1159 subjects aged 30 years and above. Out of the 12 wards (administrative unit), four wards were selected randomly. Trained enumerator collected socio-demographic, anthropometric, and clinical data using standard STEPS questionnaires.

Results

Out of all participants, women were 71% and mean age was 47±12.6 years. The overall prevalence of hypertension was 38.9% (95% CI: 36-41.7) while age and sex adjusted prevalence was 40.6%. The hypertension was present in 48.1% (45.2-50.9) of men and 35.2% (32.4-37.9)] of women. Male gender (OR=1.49), older age (OR=1.04 per year), Dalit caste (OR=1.71), past history of cigarette smoking (OR=2.78), current alcohol consumption (OR=1.75), and raised body mass index (OR=1.17 per unit) were identified as significant factors associated with hypertension. Of total hypertensive respondents, 53.4% (95% CI: 48.7-58) were aware, 29% (24.8-33.1) were receiving treatment for high blood pressure, and 8.2% (5.6-10.7) had controlled blood pressure.

Conclusion

The study revealed a high prevalence with low awareness, treatment, and control of hypertension in Nepal. Gender, age, ethnicity, smoking, drinking alcohol, and body mass index were associated with hypertension. Immediate public health and individual measures are warranted to reduce the future burden of cardiovascular diseases.

Keywords

Cardiovascular diseases, controlled blood pressure, factor associated with hypertension, awareness, treatment, hypertension, NCD risk factors, Nepal.

2.1.11 Oral Health Status of Permanent First Molars among School Children Aged 8-12 Years in Kathmandu

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Background

Common oral diseases affecting school children are dental caries, gingivitis and malocclusion. Teeth mostly affected by dental caries in permanent dentition of children are permanent first molar. Permanent first molars are very important due to various reasons. They are most susceptible to caries, maintain arch perimeter, are key factors in occlusion, provide best anchorage, etc. Loss of this teeth leads to various problems like space management, tooth migration, the problem in mastication and malocclusion. This study aimed to assess the dental caries, gingival and oral hygiene status of first permanent molars among 8-12 year school children of Kathmandu.

Methodology

A cross sectional study was done among 220 schoolchildren of age 8-12 years, randomly selected from 2 private and 2 public schools of Kathmandu. Study duration was one month. Dental caries, gingival and oral hygiene status were measured by Decayed Missing Filled teeth (DMFT) index, Gingival index and Oral hygiene index-Simplified (OHI-S) respectively. Intra-examiner reliability was assessed by using the kappa coefficient (kappa value 0.89). Data was entered in Epidata 3.1 and analyzed in SPSS version 20.

Results

The prevalence of dental caries in first permanent molars for the study population was 54.5%. Mean DMFT scores of first permanent molars was 0.96±1.2. Out of 867 molars examined, 197 (22.7%) were decayed. 98.5% of the molars were erupted. Among the total study population, 184 (83.6%) had fair oral hygiene and 203 (83%) had gingivitis. There was a significant difference between private and public school children regarding gingival bleeding and oral hygiene status.

Conclusion

Finding of this study shows the need to improve oral health status of first permanent molars of school children. This could be done through promotion of dental health awareness and implementation of preventive and curative public health measures at school level.

Keywords

Dental caries, gingivitis, oral hygiene index, permanent first molar.

2.1.12. Microalbuminuria in Chronic Obstructive Pulmonary Disease Patients

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Background

Chronic Obstructive Pulmonary Disease (COPD) is a global disease which results due to the irreversible airflow limitation and its epidemiology is in increasing trend. Microalbuminuria (MAB) is believed to reflect a state of generalized endothelial dysfunction, and therefore it is an emerging therapeutic target for primary prevention strategies in COPD. The main aim of this study wasto determine urine microalbumin in COPD patients and asymptomatic smokers.

Methodology

This is a case control study involving two hundred and forty nine patients diagnosed with COPD, and ninety eight asymptomatic controls (smokers) who were matched according to age and sex. They were selected from OPD and IPD of Respiratory and Critical care unit in TUTH. Urine microalbumin, Arterial Blood Gas Analysis and Pulmonary Function Test were assessed in both groups. For comparison, COPD patients were divided into four different subgroups based on the duration of COPD. SPSS ver. 21.0 was used to analyze the data.

Results

The majority of patients with microalbuminuria (MAB) in this study were in the GOLD stage of I and II. Patients with COPD had significantly higher levels of microalbuminuria and lower spirometry parameters than control subject. Out of 249 COPD patients, 210 were with MAB and higher Urinary albumin creatinine ratio (UACR). COPD patients with MAB were more hypoxic and more hypercapnic compared to COPD patients without MAB but was statistically non-significant. 42 cases of COPD were under 5 years of duration having MAB (81.976±37.4175), 53 were in 5 to 10 years of duration having MAB (104.257±47.9539), 77 were in 10 to 15 years of duration having MAB (104.955±40.44) and finally 77 were above 15 years having MAB (146.442±46.83).

Conclusion

Microalbuminuria is increased in patients with COPD compared to healthy smokers. Its level is also increased as the disease progresses in terms of duration.

Keywords

Microalbuminuria, chronic obstructive pulmonary disease, pulmonary function test, arterial blood gas analysis.

2.1.13. Knowledge and Practice Regarding Breast Cancer Screening among Women Residing at Mahalaxmi Municipality, Lalitpur

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Background

Breast cancer is the second most common malignancy among Nepalese women, which accounts for 60% of the total cancer cases in females. Deaths from breast cancer were higher in developing countries compared with developed countries. Studies have shown that screening methods of breast cancer are most effective for decreasing breast cancer mortality.

Methodology

A descriptive cross-sectional study was carried out to find out the knowledge and practice regarding breast cancer screening among women. A total of 103 community women of age between 20-60 years of Mahalaxmi Municipality, Imadol-ward 1 were taken as sample size. Non-probability, purposive sampling was used. Self-developed semi-structured interview questionnaire was used for data collection.

Results

The findings of the study revealed that the majority of the respondents (64.1%) had moderate knowledge regarding breast cancer screening. The most of the respondents (96.1%) had a poor practice of breast cancer screening. There was a significant association of family history of breast cancer with knowledge score (p-value= 0.001) and practice score (p-value=0.013) regarding breast cancer screening.

Conclusion

Based on the findings, it can be concluded that though the majority of respondents had moderate knowledge regarding breast cancer screening, the most of the respondents had poor practice. So, it is necessary to raise the awareness regarding breast cancer screening by local bodies of community.

Keywords

Breast cancer, breast cancer screening, knowledge, practice.

2.1.14 A Study on Prehypertension and Its Associated Factors among Higher Secondary School Students In Eastern Terai, Nepal

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Background

Hypertension is the leading cause of death and disability worldwide. Adolescent prehypertension is a strong predictor of hypertension in adults. Prehypertension is now recognized as a potential candidate for cardiovascular intervention or risk reduction. It necessitates daily life adjustments to prevent development to hypertension. This study was aimed to find the prevalence of prehypertension among higher secondary school students and to identify the factors associated with it.

Methods

A cross sectional design had been used to study the prevalence of prehypertension (SBP≥120 and <140mmHg or 90-95th percentile, OR DBP ≥80 and <90mmHg, or 90-95th percentile) and the associated factors in higher secondary school students in Jhapa, Morang and Sunsari districts. Semi-structured questionnaire adapted from WHO STEPS instrument for NCD risk factor has been used after modification and pre-testing, along with anthropometric measurement and BP measurement.

Result

The study, consisting of 806 participants of age ranging from 15 to 19 years, with 57.1% female and 42.9% male, has showed the prevalence of prehypertension to be 20.8%, while 7.1% of them

were found to be suffering from hypertension. About a quarter of them (22%) were ever smoker, with half of those being current smoker. Among the participants, 37.3% of them had ever drank alcohol. Significant association of prehypertension and hypertension was seen with age, BMI, and ethnicity even after adjusting other confounders.The predictive model based on this study showed the probability of pre-hypertension in a person with none of the risk factors identified to be 6.5%, which increased by 9 folds (53.6%) in those with all those risk factors.

Conclusion

While there is a notable presence of hypertension, there is a significant presence of pre-hypertension among the adolescent population in this study. The probability of prehypertension among the students with the above risk factors was much higher in comparison to the students with no risk factors as above. This calls for a need of comprehensive action plan to identify potential interventions to bring down each modifiable risk factors.

Keywords

Prehypertension, Hypertension, Adolescents, NCD, Students.

THEME 2

Nutrition, Food Safety and Security

2.2.1 Women Empowerment and Nutritional Status of their Children in Rural Municipalities of Kaski District, Nepal

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Background

Under nutrition is a significant global public health threat, affecting the under-five children mostly in developing countries. Since women are the primary caregiver of the child so that empowerment status of mother can influence their child nutrition status. The objective of this study was to assess the women's empowerment and nutritional status of their children in rural municipalities of Kaski District.

Methodology

A cross-sectional analytical study was conducted among 300 mothers having children aged from six to fifty-nine months in the rural municipalities of Kaski District, Nepal. Proportionate population size sampling technique was used to select appropriate sample. Face to face interview technique was used with the respondents. Women empowerment was assessed by using composite index. Anthropometric measurements were obtained through Salter weighing scale, Bathroom weighing scale, stadiometer and Shakir's tape.

Results

Out of total 300 mothers having six to 59 months children, the result shows that, nearly half (49%) mother were highly empowered followed by moderate (43.7%) and low (7.3%) empowerment level. One-fourth of the children were stunted, seven percent children were wasted, 17.3% were underweight and 15% were acutely malnourished. There was a six-fold increase in odds of wasting (UOR= 5.7, 95% CI 1.172-27.175), thirty-five-fold increase in the odds of stunting (UOR= 35.0, 95% CI 11.042-110.935) and thirty-six-fold increase in the oddsof underweight (UOR= 35.7, 95%CI 9.759-130.959) among children whose mother had a low empowerment status compared to high empowerment status.

Conclusion

Mothers with low empowerment had children that were more underweight, stunted, wasted and malnourished. These results suggest that improving empowerment of mother could have a positive impact on child nutritional status.

Keywords

Women's empowerment, nutritional status, children.

2.2.2 Knowledge, Attitude and Practice of Hygiene among School Food Handlers in Kathmandu Metropolitan City

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Background

Hygiene practices among food handlers have gained considerable importance in each step of the food chain from production to preparation in eating places for example: canteen. Food consumption in out of the house has increased due to the living and working conditions of today's world.

Methodology

This was a descriptive cross sectional study conducted in selected public and private schools of Kathmandu Metropolitan City. Simple random sampling was done for the selections of schools. Then, food handlers of school cafeteria were included as a study unit. The sample size was 260 food handlers from 38 school canteen. Data was collected by face to face interview using a structured questionnaire. SPSS was used for data entry and analysis.

Results

The mean age of the respondent was 32 years (SD=0.497) with the minimum age being 17 and maximum being 62. Among respondents, this study identified level of knowledge among food handlers is good (68.1%) and the positive attitude and good practice were slightly above an average that is 51.9% and 52.7% respectively. These contribute in the unhygienic practices during the preparation and serving of foods.

The type of family was significantly associated with the knowledge (p=0.034). Knowledge (p=0.000) had significant association with an attitude towards personal hygiene. Respondents with inadequate knowledge were 4 times (OR=4.896) more likely to have a negative attitude towards hygiene than respondent with adequate knowledge. Types of family (p=0.047), knowledge (p=0.022), and attitude (p=0.031), had significant association with the practice on hygiene and sanitation.

Conclusion

This research concludes that the knowledge, attitude and practices were found above average and there is a room for improvement, so this study recommends that there is need of health awareness, strengthening and training program concerning food handler's education regularly held for better achievements and outcomes.

Keywords

Food hygiene, food safety knowledge

2.2.3 Understanding Barriers and Facilitators of Healthy Eating in Hospital Site Cafeterias in Central Nepal

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Background

Despite the evidence supporting the use of lifestyle interventions to prevent diabetes and improve glucose tolerance, their translation to the real world has been challenging. As an important way to translate existing knowledge to prevent diabetes, worksite interventions can help facilitate healthy food choices; for which, it is essential to understand the perception, facilitators and barriers to healthy eating at worksites. The study aimed to explore the perception of staffs on healthy eating as well as potential facilitators of and barriers to healthy eating among employees at the hospital site in Nepal.

Methodology

We conducted exploratory qualitative cross sectional study in Dhulikhel Hospital, Kathmandu University hospital. We conducted four focus group discussions with a total of thirty-three employees and 9 in depth interview among the canteen operator/administrative managers. The discussions were audiotape, transcribed verbatim, coded inductively and analyzed by a thematic method using RQDA software.

Results

Healthy eating was defined primarily in terms of hygienic and fresh foods, balanced diet, food groups like fruits and vegetables, low fat and spices, and low sugar. Major factors that promotes for healthy eating were availability of affordable healthy food options in the cafeteria, commitment from the cafeteria operator and managers, and health awareness to canteen operators and staffs. The most commonly reported barriers to healthy eating include: Unavailability of healthy options, limited human resources in the canteen, difficulty in changing habits, and price of some healthy food. The price was a major concern, especially for supporting staff in the hospital.

Conclusion

The findings suggest that the employees have a general understanding of healthy eating. Availability of healthy food options at an affordable price combined with an increase level of awareness can possibly lead to healthy eating practice in the worksite.

Keywords

Worksite, healthy eating, facilitators and barriers.

2.2.4 Treatment of Dysgeusia Related to Cancer and Its Treatment: A Systematic Review

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Background

Tastes change due to cancer and its treatment is the notorious side effect, adverse effect on appetite and weight. Even though taste change or dysgeusia is one of the major causes of poor nutritional status

in cancer survivors, it is not addressed as a significant problem and often left untreated. The main objective of this review was to explore the current knowledge on pharmacological and behavioral intervention for the treatment of cancer related taste change.

Methodology

This systematic review was conducted in accordance with PRISMA guidelines to identify original articles on taste change. Multiple databases including; Scopus, Medline, EMBASE, CINAHL, and all databases via Pro quest were searched for an original article or studies related to taste change caused by cancer or its treatment. Relevant articles were subject to full text evaluation and assessed by Critical appraisal skills program (CASP) guidelines and Effective public health practice project (EPHPP) instrument.

Results

The search revealed 12 eligible studies 6 of which were randomized controlled trials Most of the studies used a standardized validated tool to measure taste change. Dysgeusia is common in cancer, 14 to 100% cancer patient reported it. Pharmacological management with zinc remains inconclusive, even though one study reports it as beneficial and two other studies reported null effect. Few studies suggested dietary modifications such as use of sugary, salty food are helpful to reduce the effect of dysgeusia.

Conclusion

Dietary counseling and informing the patient well about self-care strategies before treatment has consistently shown positive results in a taste change with strong statistical power. Other potential treatments for dysgeusia such as zinc, amifostine, megestrol acetate have inconsistent result.

Keywords

Cancer, taste alteration, dysgeusia, zinc, self-care strategies, treatment.

2.2.5 Factors associated with Discontinuation of Exclusive Breast Feeding among Mothers with Infants in Selected Hospitals, Mid-western region

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Background

Proper breast feeding provides all essential nutrients for the first 6 months and is the most cost-effective intervention for reducing childhood morbidity and mortality. Discontinuation of exclusive breastfeeding is the likely cause of infant morbidity and mortality. Thus the objective of the study was to find out the factors associated with discontinuation of exclusive breastfeeding among mothers with infants in selected hospitals.

Methodology

A descriptive cross sectional research design was used. A study was conducted in District hospital and Rapti sub regional of Dang. All together a total of 132 mothers was selected by using non probability purposive sampling technique. A semi structured interview schedule was developed by researchers

and data was collected by interview technique, from 2073-5-19 to 2073-6-15. Data was computed and analyzed with SPSS version 23 using descriptive (frequency, percentage, mean) and inferential (chi-square and odds ratio) statistics.

Results

The findings of the study revealed that, more than half of mothers (63.6%) have discontinued exclusive breastfeeding before 6months periods. Maternal age up to 25years, religion as Hindu, ethnicity as non Brahmin/Chhetri, family income enough for more than 6 months and surplus, nuclear family, institutional delivery, primi parity, antenatal visit and frequency of antenatal visits, number of postnatal visit, birth order, birth interval and breast problem were found as factors associated with discontinuation of exclusive breastfeeding. Of which mothers ethnicity as non Brahmin/Chhetri (p=0.04), family income enough for more than 6 months and surplus (p=0.01) and number of antenatal visit (p=0.01) had significant association with discontinuation of exclusive breastfeeding.

Conclusion

From the study findings, it is concluded that more than half of mothers had discontinued exclusive breastfeeding before recommended period, so there should be efforts on encouraging and counseling for exclusive breastfeeding up to six months among non Brahmin/Chhetri, higher income family and during antenatal check visit.

Keywords

Exclusive breastfeeding, mothers, discontinuation

2.2.6 Assessing agreement amongst dietary patterns while estimating the Colorectal Cancer Survival

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Background

Dietary patterns are increasingly used in epidemiological research, yet there have been few studies assessing if and how research results may vary across dietary patterns.

Methodology

This study aimed to compare agreement among dietary patterns while estimating survival outcome in the Newfoundland and Labrador Familial Colorectal Cancer cohort. Five common approaches were used to identify dietary patterns using 169-item food frequency questionnaire: Cluster Analysis (CA), Principal Component Analysis (PCA), Alternate Mediterranean Diet Score (AltMED), Recommended Food Score (RFS), and Dietary Inflammatory Index (DII) scores. A total of 532 cases diagnosed between 1999 and 2003 were followed until 2010. Overall Survival (OS) and Disease-Free Survival (DFS) times were calculated. Comparisons amongst patterns were made with adjusted Cox proportional Hazards Ratios (HRs), correlation coefficients and the distributions of individuals in defined clusters by quartiles of factor and index scores.

Results

A total of 170 cases died from all causes and 29 had a cancer recurrence/metastasis during follow-up. Processed meats as classified by PCA (HR 1.82; 95% confidence interval (CI) 1.07-3.09), clusters characterized by meat and dairy products (HR 2.19; 95% CI 1.03-4.67) and total grains, sugar, soft drinks (HR 1.95; 95% CI 1.13-3.37) were associated with poor DFS while low adherence to AltMED was associated with poor OS (HR 1.62; 95% CI 1.04-2.56). Prudent vegetable pattern, high sugar pattern, RFS and DII had no significant association with survival.

Conclusion

Survival estimation varied across dietary patterns and it was attributed to the differences in foundation of each dietary pattern.

Keywords

Colorectal Cancer, dietary patterns, factor analysis, cluster analysis, index analysis.

2.3.1 Factors Associated With Use of Maternal Health Services in Nepal: Analysis of the 2016 Nepal Demographic and Health Survey

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Background

Timely access to and use of health services are critical for improving maternal health services. The objective of the present study was to identify key factors related to antenatal care and institutional delivery services in Nepal.

Methodology

Data for the Nepal Demographic Health Survey 2016 (NDHS 2016) was analyzed. Women who have taken four or more antenatal checkup (ANC), and who delivered at a health Institutional were considered as outcome variables. Logistic regression analysis was used to compute odds ratio of the independent variables.

Results

69.4% women had taken four or more ANC and 60.6 % had given delivery at a health institution. Age of mother at birth of child, birth order, residence, province, education, wealth and ethnicity were significantly associated with use of maternal health service. Educated were 3.79 (CI 2.83-5.08, p<0.001) times more likely to take ANC 4 and 2.71 (CI 2.05-3.57, p<0.001) time more likely to give birth in a health institution. Richest women were 2.25 (CI 2.83-5.08, p<0.001) times more likely to utilize the ANC 4+ service and 9.48 (CI 6.46-13.91, p<0.001) times more likely to give birth in a health institution. Women in Province 7 were 3.16 (CI 2.14-4.67, p<0.001) times more likely to utilize ANC 4 or more service and 2.71 (CI 1.83-4.05, p<0.001) times more likely to give delivery in a health institution compared to women residing in Province 6.

Conclusion

Higher educated and richest women were found to use antenatal care and institutional delivery compared to the less educated counterparts. The finding reinforces the importance of empowering women with education and improving their economic situation.

Keywords

Maternal health, antenatal care, institutional delivery, demographic and health survey, Nepal.

2.3.2 Experiences of Women Affected With Uterine Prolapse: A Qualitative Study

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Background

Uterine prolapse is one of the major public health problems that negatively affect women's reproductive health and quality of life. Many women suffering in silence and it negatively influence their physical, psychological as well as social well being. The aim of this study was to explore the social and reproductive health problems associated with uterine prolapse.

Methodology

Qualitative design was adopted to conduct the study. In depth interview was done with 16 women who were diagnosed and treated for uterine prolapse in the last four years and data collection period was August to September in 2016 in Baitadi district of Nepal. The participants were selected purposively based upon women from different age group, ethnicities and types of uterine prolapse. The interview was focused to obtain the information about women's experiences of having prolapse and experience beyond treatment process. Interviews texts were analyzed by qualitative thematic analysis technique. Two main themes were identified to describe the women's experience regarding uterine prolapse and its treatment process.

Results

The result shows that uterine prolapse affects not only physical health but also psychological health and social well being of women. The sexual life of women also gets affected by uterine prolapse. The social stigma and fear associated with reproductive health further leads to delay in care seeking for women living with prolapse. Although the traditional treatments are not much more effective, still people have faith in it.

Conclusion

Uterine prolapse affects women's daily life and overall well being. Comprehensive management of uterine prolapse is essential for overall improvement of women's life.

Keywords

Uterine prolapse, women's health, experiences, Nepal.

2.3.3 Utilization of Maternal Health Services among Mothers Having Under Five Year Children of Tamang Community inNouakchott District

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Background

Maternal mortality is still a major health issue in Nepal. It is higher among disadvantaged and illiterate women living in rural areas. The major reasons for the deaths are low and inequitable utilization of maternal health services. Women are still lacking in the maternal health services due to lowersocioeconomic status, derived from the self-decision making power and autonomy, etc. The study aimed to assess the utilization of the maternal health services among mothers having under five years children of Tamang community.

Methodology

A descriptive cross sectional study design was used for the study. A total sample of 139 mothers having under five year children from the Tamang communitywas selectedpurposefully. Participant mothers were interviewed using semi-structured questionnaires while health care providers were interviewed using guidelines. The study was approved bythe Nepal Health Research Council and written consent was also taken from the participants prior to data collection. Data was coded, entered in Epidata, then transferred to SPSS software and analyzed.

Results

The average age of the mothers was 27 years and nearly half of the mothers were illiterate. Among 92.8% of the mothers who had come for Antenatal Care (ANC) check-up, only 57.4% had completed four ANC checkups. Similarly, more than two third (70.5%) of mothers had delivered their child at health institution. On the other hand, only 51.8% of mothers had visited for PNC checkup where only 47.2% of them had 3 PNC checkups. However, more than half of the mothers were unsatisfied and felt uncomfortable during receiving services from local health facility.

Conclusion

The study revealed that though the mothers had visited for the ANC and PNC checkups, complete visits were found to be very low. It is recommended to aware the mothers and health care providers of maternal health services and its utilization.

Keywords

Maternal health services, utilization, ANC, PNC, institutional delivery

2.3.4 A Comparative Study to Assess sFlt-1: PlGF Ratio in Pregnant Women with and without Preeclampsia

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Background

Preeclampsia is a disorder of widespread vascular endothelial malfunction that occurs after 20 weeks of gestation. Imbalance in, placental soluble Fms like tyrosine kinase -1 (sFlt-1) which is an antiangiogenic factor; and placental growth factor (PlGF) which is involved in angiogenesis during placenta and fetus development, prove to have a role in endothelial damage in Preeclampsia. This study was designed to compare sFLT1: PLGF ratio in pregnant women with and without Preeclampsia attending the Tribhuvan University Teaching Hospital (TUTH).

Methodology

A case control study was done in Gynecology and Obstetrics department of TUTH involving forty-four subjects with preeclampsia and forty-four age and gestational weeks matched, normal pregnancy as controls. Cases were divided into mild and severe group. Blood pressure, urinary protein, serum sFlt-1, serum PlGF and sFlt-1: PlGF ratio was compared in both case and control. Concentration of sFlt-1 and PlGF were measured with commercially available ELISA kits. SPSS ver. 17.0 was used to analyze the data.

Results

There was no significant difference in age and the period of gestation in both study groups. The mean concentration of sFlt-1 in preeclampsia was higher (2575.50 ±775. 03 pg/ml) compared with normal pregnancy (453.75 ± 156.24 pg/ml). The mean concentration of PlGF was lower in preeclampsia (86.31 ± 26.9 pg/ml) compared with normal pregnancy (155.41 ± 63.89 pg/ml). The ratio of sFlt-1 and PlGF concentration was significantly higher in preeclampsia (P value 0.000) than in normal pregnancy. Similarly, the diastolic blood pressure significantly correlated with the sFlt-1: PlGF ratio in pre-eclamptic group (p-value 0.000)

Conclusion

The sFlt-1 level is increased and PlGF level is decreased in preeclampsia compared to the normal pregnant women. The sFlt-1/PlGF ratio is significantly higher in women with preeclampsia than in normal control. This ratio can be a potential marker for diagnosis of preeclampsia.

Keywords

Preeclampsia; sFlt-1 (soluble FMs-like tyrosine kinase-1); PlGF (Placenta growth factor)

2.3.5 Maternal Healthcare Utilization and Choice of Place of Childbirth in Sindhupalchok District of Nepal

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Background

High maternal mortality rate is one of the major public health concerns in developing countries including Nepal. Most of the deaths are caused by pregnancy and childbirth related factors that are preventable by proper utilization of maternal health care services. The main objective of the study was to explore the utilization of maternal health care services and know about the choice of place of childbirth in Sindhupalchok district of Nepal.

Methodology

A descriptive cross-sectional study was carried out among 400 women who had given birth less than two years prior to the survey in Sindhupalchok district. Face to face interview method was applied using semi-structured questionnaire.

Results

A total of 400 women was included in the study among which 63.8% were between 15 and 25 years

of age and Hindu (72.7%). Most of the women had knowledge about danger signs during pregnancy (80%), safe motherhood programmes (74%) and safe delivery incentive (87.8%). The majority of the women (87%) had mass media exposure while only a quarter (25%) had autonomy and 65.5% of them had supernatural beliefs. More than half of the women (62%) utilized all services in the antenatal care package while the least utilized was institutional delivery (65%). It was found that the main reason for opting for institutional delivery was complication during home delivery (35.7%) while the main reason for home delivery was spontaneous delivery (31%). The result of multiple logistic regressions showed a significant association of place of current childbirth with occupation, previous place of childbirth, complication in previous childbirth, knowledge, supernatural belief, mass media exposure and autonomy.

Conclusion

Behavior change communication and birth preparedness program need to be more intensively taken at community level with access to emergency obstetric care and transportation in order to increase maternal health care utilization especially institutional delivery care.

Keywords

Maternal health care utilization, institutional delivery, home delivery.

2.3.6 Does Readiness and Quality Affect Client's Satisfaction with Antenatal Care Services in Nepal?

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Background

Pregnancy and childbirth are a vulnerable period in women's life which has a lifelong impact on both mother and child's health. In Nepal, utilization of health care service during pregnancy has increased, but continued gains in maternal health will require improved availability, readiness and quality of antenatal care (ANC) services. They are vital for client's satisfaction and ultimately increasing service utilization. Thus, we assessed service readiness and quality as predictors of client's satisfaction with ANC services in Nepal.

Methodology

We used Nepal Health Facility Survey 2015 data, wherein 1,530 ANC exit clients were interviewed; among them, 569 ANC first visit cases were analyzed. Outcome variable-satisfaction was dichotomized into those who were very satisfied with the services received vs. others. Service readiness was assessed based on availability of staff, guideline and job-aid; equipment; diagnostic tests; and medicine and commodities. Service quality was assessed based on clients who received ANC services; reported being counseled on at least three pregnancies danger signs; recommended the facility to others; and reported no problems regarding waiting time. We performed binary logistic regression to obtain odds ratios (OR) with 95% CI.

Results

38% clients were very satisfied with the services. Satisfaction was significantly associated with service readiness (OR:1.8, 95% CI:1.0-3.1), nonpayment for service (OR:2.5, 95% CI:1.2-5.1), caste: Terai/

Madhesi (OR:3.1, 95% CI:1.4-6.5) compared to Brahman/Chhetri, province: Province 2 (OR:0.3, 95% CI:0.1-0.8) and Province 7 (OR:0.3, 95% CI:0.1-0.9) compared to Province 1. Service quality was not significantly associated with satisfaction.

Conclusion

Improving service readiness at facilities will increase client satisfaction. Clients are also more satisfied when they do not need to pay for services. Caste wise variation in satisfaction is also evident, but needs further exploration.

Keywords

Antenatal care, service satisfaction, service readiness, service quality, Nepal.

2.3.7 Comparative Study on Women Satisfaction of Childbirth between Birthing Center and Labor Room of Maternity Hospital, Kathmandu

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Background

The International Confederation of Midwives (2014) has stated that receiving care during childbirth by a qualified midwife and choosing the place of birth are basic rights of women. The main objective of this study was to compare the woman's satisfaction of childbirth in a birthing center and labor room.

Methodology

A descriptive, comparative study was carried out among 102 postnatal primi mothers who delivered either in a birthing center or labor room and was admitted in the postnatal ward of Paropakar Maternity and Women's Hospital for 2 weeks. Structured satisfaction tool was used to collect data by using non-probability purposive sampling technique where the interview was continued until the required sample size was not achieved. The obtained data were analyzed on the basis of the objectives of the study using descriptive statistics and inferential statistics.

Results

The findings revealed that the majority of the respondents, 78.4% were satisfied with childbirth in a birthing center whereas 54.9% in the labor room. There was statistically significant difference between interpersonal behavior (p=0.015), professional care by delivery room staff (p=0.001), involvement in decision making (p=0.003) and holding the baby (p=0.043) on the overall satisfaction of childbirth in a birthing center and labor room. Statistically, there was a significant association between respondents overall satisfaction of childbirth with the outcome of the baby and place of delivery at 0.05 significant levels.

Conclusion

Thus, based on the findings, the researcher concluded that the majority of the respondents had higher levels of satisfaction in a birthing center than labor room. The overall satisfaction level was satisfactory, but there is room for improvement, particularly in the labor room. Privacy was the important thing that was encountered by the women in the labor room so it is recommended for making partition to

separate beds to maintain privacy of the delivering women because such weakness may hinder in achieving higher levels of satisfaction.

Keywords

Childbirth, women, birthing center, labor room.

2.3.8 Determinants of Male Participation in Reproductive Health in Nepalese community

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Background

Although the role of men's involvement in reproductive health at present is well recognized, little is known about the influencing factors. The principal aim of the study was to determine the predicting factors from both wife's and husband's perspectives for male participation in reproductive health in Nepalese community.

Methodology

A community based cross-sectional study was conducted among 374 married couples living in Bungamati, Lalitpur, Nepal. The data were collected from March to July 2017 through paper and pencil based interview. The study adopted modified Safe Motherhood and Partnership Family Approach model and applied bi-variate analysis and logistic regression to find out the predicting factors for male participation in reproductive health.

Results

The age range of participants from the couples was 15-45 years and mean±SD age of marriage for husband and wife was 22.4±3.5 years. Majority of couples belonged to relatively advantaged janajatis and nearly 90% of them were from middle socioeconomic status. Chi-square analysis revealed 25 indicators from both male and female versions. However, regression analysis indicated husbands educational status, family income, awareness about immunization, discuss family planning with others and contacts with providers on family planning methods as significant predictors according to husbands version. Whereas, for wives, family income, women's occupation and husband: ever been to a health facility, discuss family planning with others, contact with providers on family planning methods and awareness about exclusive breastfeeding were strongly determined factors.

Conclusion

The participation of male involvement in reproductive health is low and is more concentrated on the low - income group. Husband's perspectives on influencing factors differ from that of wife's perspective. Therefore, our findings provide strong evidence on significance of communication between husband and wife on every reproductive health issues and also recommend for effective couple friendly maternal and neonatal health programs.

Keywords
Husband, male, Nepal, reproductive health.

2.3.9 Knowledge and Attitude on Sexual and Reproductive Health among Adolescents in Selected Public Schools, Lalitpur

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Background

Adolescents are a very crucial period in which rapid physical, biological, emotional and psychological changes occur so adolescents need complete, accurate, and age- appropriate sexual and reproductive health information. This study was aimed to identify the knowledge and attitude on sexual and reproductive health among adolescents.

Methodology

Descriptive cross- sectional research design was carried out among 440 adolescents from four public schools of Lalitpur, district by using cluster random sampling technique. The data were collected by using structured self- administered questionnaire and collected data were analyzed with descriptive and inferential statistics.

Results

More than half (53.4%) of respondents had adequate knowledge of the sexual and reproductive health. Mean and standard deviation of knowledge score were 33.86 ±8. 93. Adolescents, who was studying class 12 (OR=1.654, CI: 1.126-2.429) had significantly higher knowledge than the adolescents who were studying in class 11 (p =0.010). The majority (85.9%) of adolescents had knowledge about the correct meaning of reproductive health. Most (68.9%) of adolescents had knowledge about the legal age of marriage. Similarly, 77.8% adolescents of were aware about emergency contraception. Only 43.4% of respondents were aware that HIV/AIDS is not a curable disease. The majority (95.7%) of adolescents had a positive attitude on sexual and reproductive health. The majority (87.3%) of adolescents agreed that man can have sex before marriage and 73.1% of adolescents disagreed that woman should not have sex before marriage. There was significantly positive relationship between the knowledge and attitude on sexual and reproductive health (*p* =0.000).

Conclusion

In conclusion, in spite of having a positive attitude on sexual and reproductive health, most of the adolescents, agree on pre-marital sex. So it needs to be incorporated safer sex education in the school's curriculum and it should be provided through teaching, interpersonal communication, television.

Keywords

Knowledge, attitude, sexual and reproductive health, adolescents, public schools.

2.3.10 Quality of Life among People Living with HIV/AIDS in Bharatpur, Chitwan

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Background

The alarming increase of HIV/AIDS, inability to afford highly active anti-retroviral therapy, disability and stigma associated with the disease, loss of productivity due to illness, and chronic nature of the disease has made HIV/AIDS one of the most important public health problems in developing countries. The aim of this study was to assess Quality of Life (QOL) among people living with HIV/AIDS.

Methodology

A cross sectional study was done among 100 individuals attending the ART clinic of Bharatpur Hospital. Non-probability conveniences sampling technique was used to collect the data. Quality of life was evaluated using World Health Organization Quality of life questionnaire (WHO QOL-BREF instrument).

Results

This study reveals that the QOL median scores were higher in the environmental domain (25±2.6) and lowest in the social domain (11±1.4). The overall QOL median scores in the other two domains were physical domain (23±2.4), and psychological domain (19±3.1). The QOL scores of all four domains were positively associated with the total measure of the quality of life. Sex, Education, Marital status, Cause of HIV, Co-morbidities of illness, and Family support is statistically associated with overall Quality of Life.

Conclusion

Physicians, Nurses, health counselors caring for people living with HIV/AIDS should pay greater attention to the social relationship that shows less strong positive correlation with quality of life.

Keywords

Quality of life, HIV/AIDS.

2.3.11 Knowledge, Attitude and Practice on Contraception among Married Women of Reproductive Age Living in Squatters of Kathmandu Valley

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Background

Promotion of family planning has been shown to reduce poverty, hunger, maternal and infant mortality, and contribute to women's empowerment. Rapid growth of population in the urban squatters suggests the urgent need to drive up understanding the contraceptive use among them. This study aimed to assess the knowledge, attitude and practices on contraception, among MWRA living in squatters of Kathmandu Valley.

Methodology

A descriptive cross-sectional study was carried out in the squatters of Kathmandu valley in the year 2017. Proportionate probability random sampling technique was used for selection of 264 MWRA (15-49 years). A pre-tested structured questionnaire was used for data collection.

Results

Awareness of at least one contraceptive was found among 99.6% (n=263) respondents; Depo-Provera being most known methods. Out of the total, 69% (n=182) respondents had excellent knowledge and 84.5% (n=223) had a favorable attitude towards contraception. Couples using contraceptives were 43.9% (n=116); most commonly Depo-Provera (44.8%) and least commonly condom (4.3%). Demographic variables such as the age of women ($p<0.0001$), age of the marriage ($p=0.001$), ever given birth ($p<0.0001$), number of living child ($p<0.0001$), sex of living child ($p=0.015$) and age of youngest child ($p=0.003$) and socioeconomic factors like ethnicity ($p=0.010$), religion ($p=0.018$), employment status of women ($p=0.001$), occupation of husband ($p<0.0001$) and main source of household income ($p<0.0001$) were found significantly associated with the use of contraceptives.

Conclusion

Regardless of the excellent knowledge status and dominant favorable attitude, proportion of women using contraceptives was comparatively less. Couple counseling, availability of quality service forgovernment health institutions and generating employment opportunities for women can help in narrowing this gap. Increasing the knowledge and use of condoms and LARCs can also be beneficial.

Keywords

Knowledge, attitude, practice, contraception, squatters.

2.3.12 Knowledge, Attitude and Practice on Emergency Contraception among Undergraduate Students in Lalitpur District

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Background

Emergency Contraception (EC) is a method of contraception that can be used to prevent pregnancy in the first 5 days after sexual intercourse. Awareness of the EC is low among college students in Nepal. Therefore, the aim of the study was to evaluate the extent of the knowledge, attitudes and practice of ECPs and provide baseline data to assist policy makers and education planners in developing appropriate evidence-based strategies and curricula in school/college to prevent unintended pregnancy and unsafe abortion.

Methodology

Three hundred eighty (149 male and 231 female) samples of students were selected using probability proportionate sampling method. The data were collected using pre tested self-administered questionnaire. The association between knowledge, attitude and practice on the EC were assessed through univariate and bivariate analysis.

Results

Only 53.7% of the respondents had heard about emergency contraception. One hundred and ninety seven out of 380 respondents (i.e.51.8 %) had adequate knowledge of emergency contraception. Bivariate analysis shows that males were slightly more aware (55%) of the EC than were females (49.8%). Only 53.7% of the respondents had positive attitude towards emergency contraception. Out of total respondents, only 8.4% had used EC themselves or had a partner who had used them.

Conclusion

Half of the study population had adequate knowledge and positive attitude on EC. The remaining half still needs to be made aware and develop positive attitudes towards EC using various contemporary methods and media, which will eventually help in the promotion of sexual reproductive health preventing women from unintended pregnancy and unsafe abortion.

Keywords

Emergency contraception, knowledge, attitude, practice, undergraduate.

2.4.1 Depression and Stress among Tribhuvan University Students in Kathmandu Valley

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Background

University life is a transitional phase and students need to grow and adjust to the surrounding environment and failure to adapt to these environments lead to psychological morbidity. The presence of psychological morbidity like depression and stress among undergraduate university students is a growing concern worldwide and has been a neglected public health area. Very few studies have been done to document the burden of depression and stress. Therefore, this study was carried out to assess the prevalence of depression and stress among university students and their association with demographic, academic and personal factors.

Methodology

In a cross-sectional survey, a self-administered, pre-tested questionnaire including Depression, Anxiety and Stress Scale (DASS 42) was used to collect information on demographic, academic and personal and factors. All students present on the day of survey and ready for informed written consent were provided with a questionnaire. Scores for each of the respondents over each of the sub-scales were calculated as per the severity-rating index.

Results

The prevalence of depression, anxiety and stress among students was substantially high with 43.1% as depressed and 41.6 % as stressed. Depression was found to have a statistically significant association with religion (p=0.008), interest in the field of study (p=0.001), parental relation (p=<0.05), parental pressure (p=0.001) and confidant (p=0.004). Similarly, stress was found to have a statistically significant association with course of study (p=0.036), occupation status of the mother (p=0.036), interest in the field of study (p=0.006), parental relation (p=0.001), peer relationships (p=0.015), and confidant (p=0.015).

Conclusion

The highest prevalence of depression and stress among university students is an alarming figure that needs an urgent attention and warrants towards strategic planning with need for primary and secondary prevention measures.

Keywords

DASS-42, depression, stress, university students.

2.4.2 Relapse Problem among Clean Addicts in Kathmandu District

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Background

In Nepal it is estimated that the number of drug abusers in the country will reach 2.25 million in 2020. This study was undertaken to find out the factors associated with relapse problem among clean addicts in Kathmandu district.

Methodology

It is a cross-sectional study conducted among participants who were previous drug users and completed treatment package offered by rehabilitation centers in Kathmandu district during the period of first Baisakh 2072 to that of 2073 through anonymous self-administered questionnaire. Systematic random sampling was used to select the participants from 45 rehabilitation centers currently functioning in Kathmandu district. Bivariate analysis was done by using the Chi - square test.

Results

Among 276 participants, 56.2% were relapsed after their treatment. Main reasons for initiation of ever use of drugs were for curiosity (42%) and peer influence (40.6%). Presence of peer influence was higher among participants who used drugs again after treatment (OR=3.29, CI=1.05-5.56). Whereas respondents having good family support were found to be more protective than no family support (OR=0.44, CI=0.27-0.71). Moreover, the association between status of satisfaction towards the treatment received from the rehabilitation center and relapse was found to be highly statistically significant (OR=0.27, CI=0.16-0.44).

Conclusion

This finding has shown that relapse among clean addicts is found to be higher and main associated factors are lack of family support, peer pressure and satisfaction level of participants regarding services offered by rehabilitation centers. The concerned authority of Kathmandu district should organize appropriate programs for prevention of relapse among clean addicts.

Keywords

Clean addicts, drug, Kathmandu district, rehabilitation center, peer influence.

2.4.3 Knowledge and Personal Belief on Mental Illness among Bachelor Level Students inside the Ring-Road of Kathmandu Valley

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Background

A mental illness is a psychiatric disorder that causes mild to severe disturbances in thought or

behavior, resulting in an inability to cope with life's ordinary demands and routines. In the developing countries, mental illness is more often associated with stigma than in more developed countries. The present study was intended to assess the knowledge and personal belief in mental illness among bachelor level students inside the ring-road of Kathmandu Valley.

Methodology

The study was conducted among bachelor level students inside the ring-road of Kathmandu Valley using descriptive cross-sectional study design. A total of 430 samples was taken using a simple random sampling technique from 6 colleges selected by convenient method. MS-WORD, MS-EXCEL 2007 and SPSS program were used for data entry, analysis and management. Significant relationship between dependent and independent variables was studied using chi-square tests.

Results

Among 430 respondents, the majority of respondent (51.2%) were female. The mean age of respondents was 20.57 years and the standard deviation was 1.492 years. In our study, it was found that out of total respondents, the majority of the respondents (59.3%) knew about the meaning of mental illness. The majority of the respondents (61.4%) said that the common character seen in mentally ill people is aggression/destructiveness. With the majority of 96%, respondents said that mental illness could be prevented.

Conclusion

The study shows the majority of respondents (56.8%) have inadequate knowledge regarding mental illness and 43.2% had adequate knowledge. The majority of respondents (97.9%) had a positive perception towards mental illness and only 2.1% had negative perception. However, a significant association was not found between the Knowledge of Mental Illness and Personal Belief.

Keywords

Mental Illness, knowledge, personal belief.

2.4.4 Postpartum Depression and its Associated Factors among Women of Godavari Municipality, Nepal

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Background

Postpartum depression (PPD) is defined as development of a major depressive episode with onset during pregnancy or within 4 weeks after childbirth. It has been reported as a common psychological health problem affecting 10-15% of women worldwide with the onset within two to six months post childbirth and may also occur later during the first postpartum year. The duration of postpartum depression frequently depends on severity and time to onset of treatment.

Methodology

A community based cross sectional study using the EPDS was conducted among 195 mothers within six months postpartum period. Descriptive statistics were reported for demographic, socioeconomic, pregnancy and delivery related factors of the participants as frequencies and percentage. Chi-square

test and logistic regression was used to find out the association between variables. Furthermore, the odds ratio was reported to show the strength of association between variables.

Results

The overall prevalence of postpartum depression was found to be 19% using the EPDS at the cutoff point of ≥13. The age range of the participants was between 16 and 43 with the mean age of 25.8±4.4 years. One-third of the participants (34.9%) were married at an early age of under 20 years. Most of the participants (93.9%) included in the study were between their second to sixth postpartum month. The factors such as educational level and occupation of women, intent of pregnancy, family support and pregnancy related problems/complications were found to be associated with PPD.

Conclusion

The study concluded that almost one fifth postpartum women were suffering from postpartum depression. Emphasis should be given to education and empowerment of women as well as for the provision of proper family support and care during pregnancy as well as the postpartum period to prevent the occurrence of depression among mothers after childbirth.

Keywords

Postpartum depression, prevalence, associated factors, Nepal.

2.4.5 Parental Stress and Coping in Rearing Children with Intellectual Disability

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Background

The birth of a healthy newborn causes varying degrees of stress in parents, which infer even more stress in case of intellectual disability (ID). But this is not always true as some parents may not feel that intellectual disability increases stress. So, the study was conducted to identify parental stress and coping with rearing children with ID in Kathmandu Valley.

Methodology

Descriptive study design was adopted to conduct the study. Probability Proportional to Size sampling was done for sampling. "Parental Stress Scale" Berry &Jones (1995).

Results

Findings showed that 76.1% respondents were mothers with overall mean age 46.28±12.73 years. Maximum respondents were Janajati (63.1%), Hindu (83.3%), literate (65.8%), employed (59.0%), married (87.8%), from the nuclear family (65.3%) and Lalitpur district (46.4%). Similarly, 50.5% respondents have three or more children and 95.5% have only child with ID. Male child with ID was higher (58.6%). Maximum children with ID were young adults (40.1%), and first child (44.1%). Co-disability was present in 39.2% children with ID, mostly speech problem (38.5%). Likewise, maximum respondents have moderate level of stress (54.5%) and moderate level of coping (86.9%). The findings also revealed that there is an association between the respondents' level of stress with

the sex of the parents (p=0.028), their education (p=0.009), having three or more children with ID (p=0.010), and mostly child with co-disability (p=0.019). Likewise, there is an association between coping and literate respondents (p=0.002). Anxiety related to children's future after parent's death was the major stress expressed by 19.8% respondents. Sharing feelings with friends, relatives and/ or organization were the major coping used by the maximum (44.6%) respondents.

Conclusion

Thus, it can be concluded that maximum respondents had moderate knowledge and moderate practice.

Keywords

Parental Stress, coping, caring children with intellectual disability.

Health System, Financing, Health Information Technology, Health Policy and Health Workforce

2.5.1 Knowledge and Practice Regarding Endotracheal Care among the Health Professional of Shahid Gangalal National Heart Center, Nepal

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Background

Endotracheal Care is the collective care, including hand washing, maintaining sterile technique before and after suctioning of Endotrachea, suctioning of oral and nasal airway, adequate humidification, hyperventilation, alertness about the complication. The objective of this study was to assess the Knowledge and Practice regarding Endotracheal Care among the Health Professional.

Methodology

A descriptive cross sectional study design was used with a sample of 61 and was selected by non-probability purposive sampling technique. The participants were asked semi-structured questionnaire. Collected data were entered in SPSS software version20. Descriptive statistics were used to describe demographic data. To determine the association of knowledge with socio-demographic factors chi-square test was used and Pearson'scorrelation technique was used to describe the relationship between knowledge and practice.

Results

About 62% of respondents were aged more than 26 years, 41% completed bachelor of nursing, 30% had work experience of 1 to 5 years, 54% were married and about 40% worked in ASICU. Level of knowledge was good among 60% and fair among 39.3%. Level of practice was good among 86.9% and fair among 13.1%. The mean score of knowledge was 78.4%, whereasthe mean score of practice was 90.4%. There was a significant association of the working unit with knowledge (Chi-Square "p" value=0.009). No significant association of practice was found with education, working unit and marital status. Correlation of Knowledge and practice showed a significant relationship between them which indicate that knowledge increases; practice is also increases by29. 9%.

Conclusion

Level of practice is higher than level of knowledge despite of highest education level, it may be due to longer working experience in the same critical care unit. Therefore study shows that for the training, in-service education is required to the nurses in ordered to upgrade knowledge both practically and theoretically.

Keywords

Knowledge, practice, health professional, endotracheal care, endotracheal suctioning.

2.5.2 Cost-effectiveness Analysis of Oral Hypoglycemic Agents for Type-II Diabetes at TUTH

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Background

Since diabetes mellitus is a chronic illness, given the similar effectiveness between different drugs, it is rational to choose the most economical one. This study aimed to determine the most cost-effective oral hypoglycemic in type-2 DM without compromising in its quality.

Methodology

An observational follow-up study conducted at the Diabetes counseling center, TUTH, in which 63 newly diagnosed DM patients were taken during August-December 2016. Effectiveness of drug therapy for different treatment regimens was evaluated in follow-up cases achieving glycemic control, i.e. Fasting Blood Glucose (FBG) <130 mg/dl (12). This was done from FBG-I values, obtained during diagnosis and after 3months±15days (FBG II) for each patient by analyzing them statistically by Wilcoxon signed-rank test.Drug acquisition costs were calculated from MRP of generic of DDA list of fixed drug prices. Cost-effectiveness analysis was done by obtaining an incremental cost-effectiveness ratio (ICER) for 3 months between the two most effective treatment modalities.ICER = [Cost of Drug A–Cost of Drug B] ÷ [(FBG IA–FBG IIA) – (FBG IB–FBG IIB)](Where, A=Most effective therapy, B=2nd most effective therapy).

Analysis was done by SPSS-20. The normality of the data was tested using Shapiro-Wilk test. Wilcoxon Signed rank test was applied for testing for significant change in FBG.

Results

The p-value was less than 0.01 for normality of FBG level using Shapiro-Wilk test. By Wilcoxon test, biguanides only group (p=0.001) and a combination of biguanides-sulphonylureas group (p=0.028) were the highly effective therapies. ICER was found to be Rs. 9.4 per mg/dl decrease in blood glucose.

Conclusion

ICER of a combination of sulphonyl urea-metformin to metformin alone = Rs. 9.4 per mg/dl decrease in blood glucose, i.e. an increased cost of minimum ~ Rs. 9/- is required for every 1 mg/dl decrease in fasting blood glucose levels.

Keywords

Diabetes mellitus, cost effectiveness analysis, biguanides, sulpgonylureas, FBG.

2.5.3 Seroprevalence of Hepatitis-c Virus and Tuberculosis Co-infection among HIV Infected Individuals

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Background

HIV is the chronic viral infection documented worldwide. It infects and destroys helper T cells (CD4) leading to number of immunological deficiencies among which Hepatitis-C Virus (HCV) and Tuberculosis (TB) are major. HCV is an RNA virus that infects the liver and is a leading cause of deaths in HIV/HCV co-infected patients. Tuberculosis is a disease caused by *Mycobacterium tuberculosis*, which affects mainly the lungs and is transmitted exogenously. The aim of this study was to examine HCV and tuberculosis co-infection in HIV positive patients to recognize the prevalence rates of co-infection in these patients.

Methodology

This hospital based cross-sectional study was carried out on 90 HIV positive individuals visiting the ART center of Western Regional Hospital. The patients were counseled and samples were taken. Samples were processed by ELISA and analyzed by SPSS. HCV, pulmonary TB and extra pulmonary TB were measured for all participants.

Results

For HCV 82 (91.9%) were negative and 8 (8.1%) were positive and for pulmonary TB, 88 (97.8%) were negative and 2 (2.2%) were positive, whereas for extra pulmonary TB, 9 (10%) were positive and 81 (90%) were negative. In multivariable analysis, these co-infections were found higher in the age group 35-50, male and married. Prevalence of HCV and pulmonary TB showed significant values (p-0.039). Similarly, significant value was also shown in HCV infection among male and IV drug users, whereas in TB, significant value was shown among smokers.

Conclusion

The result of our research suggests the need for regular screening of the patients to detect these Co infections, so that it can aid to reduce mortality of HIV infected individuals due to HCV and TB.

Keywords

HIV, HCV, TB, ELISA.

2.5.4 Does Poor Benefit from Free Health Care Policy? Empirical Evidence from Nepal

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Background

Government of Nepal introduced free health care policy in 2008 where essential health care services including some essential drugs are provided for free to all the citizens. The policy primarily targeted the poor. Several years since the introduction of free care policy, there is no empirical evidence suggesting whether the policy has been pro-poor? Hence, we analyze the impact of free health care policy on health care utilization and out-of-pocket spending (OOP) at public facilities.

Methodology

We develop a theoretical model for the choice of health care provider as revealed by the individual's (from various socio-economic strata) response towards the introduction of the free health care policy.

Then we use the data obtained from second and third waves of Nepal Living Standard Survey and apply difference-in-difference method for analyzing the impact.

Results

The result shows that the utilization of public cares normally increase by individuals at the lower end of endowment distribution. However, further disaggregation by the socio-economic status of individuals - not contradictory to the theoretical prediction - show that the utilization by the poorest cohort is less significant than the middle income cohorts. The result also shows that there is no effect on reducing the OOP expenditure.

Conclusion

Financial intervention by reducing user is an important strategy to induce patients to seek for modern care. It is also important to increase awareness, particularly among the poor people about the intervention and the benefits of seeking modern care. Since the study shows no effect of the policy on reducing the OOP expenditure, institutional and financial sustainability of the intervention is also important policy issues.

Keywords

Free care, health, socio-economic status, Nepal.

2.5.5 Human Resource in Dentistry: Present Status and Future Prediction

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Background

In recent years, dental health service, education and production have increased remarkably. The study of health-economic aspect of dental health human resource regarding demand and supply is imperative. The present study aimed to discuss the present status and future projection of dentists in Nepal.

Methodology

The data on dental health human resource was collected through a nationwide survey among Nepali dentists using a structured questionnaire. The institutional information was gathered from various government and private health institutions, universities and dental colleges. The service mapping data on dental health and the dentist-population ratio was devised. The future projection of the number of dentists was estimated using linear regression analysis. Prediction for the year 2030 to meet sustainable development goals was calculated.

Results

There are presently 13 dental colleges and 6 postgraduate institutes offering dental programs in Nepal. The current estimate of the number of dentists registered with medical council is 2100; this figure has grown exponentially in recent years and is bound to be double in following four years. The allocation of dental health service is urban-centered and dental health manpower recruitment is minimal in the public health sector.

Conclusion

Long term strategy for human resource production and supervision of dental health institutions are necessary. Proper planning and allocation of dental health human resource are required as per the federal system of the country.

Keywords

Demand and supply, dentist, human resource for health, sustainable development goal.

2.5.6 Stress: How is it Affecting Service Delivery and Health of Nurses?

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Background

Job stress is the harmful physical and emotional response which occurred when the requirements of the job do not match the capabilities, resources and need of the workers and it leads to negative impacts on health, wellbeing and job performance. Stress in health care professionals is negative with attending adverse psychological and physiological changes leading to decreased productivity, disease and it acts as a barrier to provide quality of care. This is the descriptive and qualitative study on "Stress: How is it affecting service delivery and health of nurses?" The main objective of this study was to explore the experience cause of stress, its effects and coping strategies adopted by them to combat with stress.

Methodology

In depth interview was done till data saturation with fifteen nurses working in hospital of Pokhara sub metropolitan. The nurses were selected purposefully to include different age group, marital status, hospitals, working wards, duration of working experience, etc. from whom the data was collected with full consent and maintaining confidentiality. And the interview texts were analyzed by Conventional Qualitative Content Analysis technique.

Results

Three domains or areas were identified from the study. They were the causes of stress, effects of stress and coping strategies which further included different categories and sub categories for which both the organizational and personal & social factors were responsible for causing stress in the working environment. Nurses when working under the stressful condition will affect the organization, patients and nurses themselves too. They even adopted various coping strategies to combat with stress based on the scenarios and situations.

Conclusion

Various health problems were created after an experience of stress whose outcome was reduced power and will to work well and thus leading to diminished individual efficiency and organizational productivity.

Keywords

Nurse, service, stress .

2.5.7 Perception of Nursing Students towards Clinical Learning Environment in Selected Colleges of Kathmandu

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Background

The nursing education encompasses the theory and practical learning. The theoretically learned knowledge is only successfully completed by the real practical application. This practical application takes place in the clinical environment where they are exposed during their practical session. Despite the clinical placement being an essential part of learning in nursing the clinical environment where students are exposed are rarely known. Hence, the attempt has been made to study the same with the aim of assessing the perception of nursing students towards their Clinical Learning Environment (CLE).

Methodology

A descriptive cross-sectional study was conducted in 151 B.Sc. Nursing students in the Nepal Medical College and Om Health Campus studying in second, third and fourth year. A self-administered questionnaire and validated Clinical Learning Environment, Supervision and Nurse teacher evaluation scale was used to assess the perception on CLE.

Results

Good perception of 76.8% towards Clinical Learning Environment was found in the study that was highly related to supervisory relationship with mean score of 3.64 where the mean score among sub-dimensions of CLES+T ranged from 2.92 to 3.64. Significant association were found between attending university (p=0.001), year of study (p=<0.001), clinical placement (0.27), total duration of clinical placement (p=0.21) and overall perception towards CLE.

Conclusion

There exists a good perception towards CLE among the B.Sc. Nursing students studying in the Nepal Medical College and Om Health Campus. Further enhancement of satisfaction to clinical experience can be made by promoting existing supervisory relationship and making improvement in nursing care on the ward.

Keywords

Perception, B.Sc. Nursing students, clinical learning environment, CLES+T evaluation scale.

2.5.8 Use of Technology Forimproving Maternal and New Born Health Services in Remote areas of Nepal- Early Learning

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Background

Nepal is a country with high maternal and newborn mortality. The stagnant nature of morbidity and mortality on maternal and child health is a big challenge for Nepal. The revolution of internet technology in Nepal demandsits optimal utilization by the health care seekers.The emergence of eHealth strategy in Nepal aligns with the global need of use of technology to address public health issues across geographical variances and health system inaccessibility.

Methodology

This paper presents programmatic field experience on eHealth orientation in Nepal. The program was conducted in ten earthquake affectedremote sites of Nepal aggresively influencing health delivery system in those areas on 2015. eHealth was oriented among member of local government representative, health workers, member of health facility operation management committee and female community health volunteers. The program was supported by UNICEF and implemented in Nepal by Golden community in close coordination with Ministry of Health.

Results

The experience shows that it is feasible to implement eHealth program in large scale. The community people as well as health workers can be benefited by the program. The young and adolescent people can be more benefited by the program. The program can be strategic hit toward reducing maternal and neonatal mortality and morbidity. The use of technology will help toward timely referral, use of service, increase coverage of Antenatal and Postnatal checkup, access to primary health care. Mobile and internet service can be utilized as better means of IEC and BCC activities. The literacy level of FCHVs is the major challenges of the program. The application can be used from abroad as well as Nepal in minimal cost.

Conclusion

The programmatic experience concluded with strong recommendation that ICT in health care service delivery can be fruitful in Nepal. The opportunity is further flourished by eHealth strategies and health polices of Nepal. Improvised health status of mother, child and adolescent in Nepal is possible by providing related health expertson hand through ICT.

Key words

Health care, Technology, Nepal, Maternal and Newborn health, Remote Areas .

2.6.1 Prevalence and Associated Factors of Childhood Overweight/ Obesity among Primary School Children in Lalitpur District

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Background

Childhood overweight/ obesity has become a major public health concern globally because of its adverse health consequences and escalating prevalence. The factors underlying the disease conditions manifested during adulthood commonly originate in childhood. Nepal is going through a transition where under-nutrition co-exists with obesity. This study was carried out to determine the prevalence and associated factors of childhood overweight/ obesity among urban primary school children.

Methodology

A cross-sectional survey was conducted in May-October 2017. Data was collected using structured self-administered questionnaire to parents of children aged 6-13 years old studying in grades 1-5 in private schools of Lalitpur, Nepal. Students were selected using two-stage cluster random sampling of 10 schools. Height and weight measurements of 575 children were taken and BMI-for-age-sex was calculated. Data were analyzed using SPSS version 21. Associated factors were examined using Chi-square tests followed by binary logistic regression analyses.

Results

The study found that out of 575 students, 107 (18.6%) were overweight and 41 (7.1%) were obese. Male students, children of age-group 10-13 years, large-for-gestational-age at birth were found more likely to be overweight/ obese. Education of parents'- university level, and mothers with some profession were other factors associated with childhood overweight/ obesity. Likewise, students consuming energy-dense-less-nutrient food (OR= 3.18, CI: 2.03-4.95), lacking active travel to and from school (OR= 3.52, CI: 2.05-6.05) and having sedentary behaviors (OR= 4.08, CI: 1.97-8.44) were likely to be overweight/ obese.

Conclusion

More than one quarter of the children in urban Lalitpur were found to be overweight/ obese. School health programs and awareness campaigns aiming to reduce intake of energy-dense foods and promote an active lifestyle, including active transportation to school among children are imperative. Future studies to objectively measure the type and amount of food intake and physical activity of students are recommended.

Keywords

BMI, childhood overweight/ obesity, prevalence, child health.

2.6.2 Influence of Parental Child Feeding Practices in Children's Dietary Intake and Weight Status

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Background

The feeding habit of parents is a significant marker of child's nutritional status since children have less control over their dietary intake. The aim of the study was to assess the influence of parents' feeding techniques on weight status and dietary intake of the children.

Methodology

A descriptive cross-sectional study using non-probability purposive sampling was carried out and data were collected from two private schools within the Kathmandu Valley by using a structured questionnaire. Anthropometric data were collected using standard height and weight scales. The parental feeding technique was assessed by using Child Feeding Questionnaire (CFQ) and dietary recall was approximated using standardized utensils. Anthro Plus software designed by WHO was used to identify the weight status of the children. Mann Whitney U, Kruskal Wallis H and Spearman Rank correlation were used for data analysis.

Results

In the study, 8% of the children were found overweight and another 8% were obese. Likewise, 31.2% of mothers and 37% of fathers were found to be overweight. Type of the family and activity level of the child was found to be significantly associated with child's weight status. Similarly, a BMI of father and mother was found to have weak, positive and significant (ρ=0.206 for fathers, ρ= 0.307 for mothers) correlation with weight status of the child. CFQ subscale concern about child's overweight was found to be positively correlated (ρ= 0.232) with weight status of the child. Similarly, the weight status of the child and dietary intake of the child was also found to be positively correlated (ρ= 0.307).

Conclusion

This study concludes that parental BMI positively influences child's weight status and parents who show more concern about their child being overweight; interestingly have children with higher weight status. Likewise, higher the dietary consumption, higher is the child's weight status. It is recommended that childhood overweight/obesity should be evaluated with great concern.

Keywords

Parental influence, childhood obesity, child feeding questionnaire, dietary intake.

2.6.3 Causes and Consequences of Child Marriage in Kapilvastu District, Nepal

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Background

Globally, Nepal has one of the highest rates of child marriage, with 27% of women aged 15 to 19 years old married by the age of 18. There is limited evidence about effective interventions to reduce child marriage and yet it can have detrimental health effects on adolescents. This community-based formative research was conducted to inform the development of interventions to reduce child marriage.

Methodology

We used a qualitative methodology, collecting data in Kapilvastu District. We purposively sampled 10 marginalized couples between 18 to 35 years old who were married below the age of 18. Trained qualitative researchers took informed verbal consent and conducted separate semi-structured interviews using topic guides. They discussed the causes and consequences of marriage. Data were recorded, transcribed, translated to English, and analyzed using descriptive content analysis.

Results

The average at marriage was 13 years, and the average age of living together was 17 years. Marriage was often caused by a desire to maintain family honor, and gain religious merit. The shame of having an unmarried child (or being unmarried yourself) motivated marriage. Fear about lack of marriage prospects for poor families also pushed parents to marry their children, seeking lower dowries, and better chance of a 'good' family. Other factors like lack of education, the use of marriage to anchor working boys in the household, and ensuring marriage of uneducated girls were also found to be the drivers of child marriage. Married couples usually knew about family planning before marriage, but rarely had the chance to discuss their options. Child marriage caused mental distress in many couples.

Conclusion

It is important to address the social context to prevent child marriage, and provide support to discuss family planning and relieve mental stress. Interventions should include those who were married as children, enabling them to tell their stories to provoke community discussion and awareness.

Keywords

Adolescent health, child marriage, family planning; health promotion; mental health.

2.6.4 Health Risk Behaviors among Secondary Level Students in Pokhara Valley: A School-based Health Survey

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Background

Adolescents are more vulnerable to be exposed to various health risk behaviors due to experimentation and lack of knowledge and awareness in making right choices. It can lead to various health problems resulting in increased morbidity and mortality among adolescents. This study was conducted using the guideline of Global School-based Student Health Survey (GSHS) developed by WHO in 2001. The objective of this study was to estimate the prevalence of health risk behaviors among the secondary level students in the Pokhara Valley.

Methodology

A descriptive cross-sectional study was conducted using stratified cluster sampling techniques. A

self-administered questionnaire was developed based on GSHS tool. Ethical clearance was obtained from Nepal Health Research Council.

Results

There were total 1190 respondents from 5 Public and 11 Private schools. The school response rate was 100 % and the student response rate was 95.35 %. The prevalence of current use of tobacco, alcohol and drug was 15.9%, 17.1%, and 4.1% respectively. Mean age of first sexual intercourse was found to 14.69 years. Two third (66.4%) of the respondents had sexual intercourse one or two times in the past 12 months and 21.4% of the respondents did not use a condom during sexual intercourse. Students using packet food as a snack was common and nearly three fourth (75.7%) of the students reported having restaurant food in past 7 days. Out of 1188 respondents, 43.1 percent students were physically inactive in the past 7 days. The proportion of students injured in the past 12 months was 42.2 % and fall was the major cause attributed to 58.8% of total injury. More than one fourth (29%) students were involved in fighting one or more time in past 12 months.

Conclusion

This study shows the evidence of a high prevalence of various health risk behaviors among the adolescents.

Keywords

Adolescent health, health risk behavior, adolescent & health.

2.6.5 Early Marriage and Adolescent Pregnancies in Nepal: Promoting Gender Equity

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Background

South Asia presents a large proportion of young people globally, where adolescent pregnancy is common with early marriage as the dominant precursor. Nepal in terms of socio-cultural context and outcomes mirrors the South Asian phenomenon. Addressing gender inequity in Nepal requires an understanding of social determinants and relevant policy, but could benefit from gender transformative approaches. The main aim of the study was: - in a South Asian context, how can we understand gender affecting early pregnancy; and what prospects might surface to promote male involvement in a gender transformative approach?

Methodology

A qualitative approach to a documentary research 92 papers. Selection criteria were sourced authority and relevance. Documents included peer reviewed journal papers on gender and early marriage/ adolescent pregnancy in Bangladesh, India, Sri Lanka and Nepal; relevant published government policy; and global actors' policy briefs and gender transformative approach published between 2000-2015.

Results

Key factors affecting gender inequity involved patriarchal societies where women depend on men in public life, family and relationships for decision-making; caste and dowry systems impacting economic status challenging gender equity; barriers to access education undermining empowerment; and socio-cultural values on virginity and fertility weakening adolescent girls' voice. Both low and high castes are vulnerable to early marriage and adolescent pregnancy. Global actors' policy briefs broadly addressed key social determinants. Nepal has key policies in place, but was lacking consistency across policies while enforcement was challenged.

Conclusion

Socio-cultural and policy factors create gender inequity fueling early marriage/adolescent pregnancy in South Asia. Nurturing a gender transformative society requires addressing males through media, religion, education, family and policy.

Keywords

Early marriage, adolescent pregnancies.

2.6.6 Life Satisfaction and Insomnia among Community Dwellers Elderly of Lalitpur

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Background

Life satisfaction is an important component of successful aging. This study aimed to identify life satisfaction and insomnia among community dwellers elderly of Lalitpur.

Methodology

A descriptive cross-sectional study was conducted. Non-probability proportional quota sampling technique was used for selecting 501 samples. The data collection was made from 1st to 20th of April 2017 by using a structured interview schedule on socio-demographic information, Satisfaction with Life Scale to measure a life satisfaction, Pittsburgh Insomnia Rating Scale to identify the prevalence of insomnia among respondents were used. Data were edited, classified, and coded manually. Then, double data entry and data cleaning were done using Epi data software and data analysis were done using SPSS software version 16. Descriptive as well as inferential statistics were used for analyzing data.

Results

The study showed that 31.9% and 35.7% of respondents were highly satisfied and satisfied with their life respectively. However, 6% and 0.6% of respondents were dissatisfied and extremely dissatisfied with their life respectively. The current study reveals that 50.5% of respondents had insomnia and 49.5% respondents did not have insomnia. Ethnicity, current job status, and health problems during night sleep were associated with life satisfaction. Similarly, age, marital status, educational status, current job status, current physical health problems, presence of disease, taking medication at present and health problems during night sleep were associated with insomnia.

Conclusion

It is concluded that elderly people were satisfied towards their life and insomnia were prevalent among them. Therefore, the concerned authority should plan to create awareness program regarding ways of maintaining life satisfaction and managing sleep problems which will help elderly to stay healthy and improve their quality of life.

Keywords

Life satisfaction, elderly.

2.6.7 A Study of Perception of Male Adolescents regarding Sexual Harassment in Bhaktapur District

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Background

Sexual-harassment is defined as any unwelcome sexual advances, requests for sexual favors and other verbal or physical conduct of sexual nature. It is hard to identify sexual-harassment, since; the way in which the victim perceives defines it. Sexual-harassment is complex and is the outcome of varying level of perception about gender roles and power distribution in the society. Male are usually involved in as well as accused of sexual-harassment while there are instances where male are also harassed, it seems important to know what male perceive about sexual-harassment. The study aimed to explore the perception of male adolescents on sexual-harassment. Being in the transition period, adolescents are at high risk of harassing and being sexually harassed.

Methodology

A descriptive cross-sectional study was applied to study the perception of male adolescents on sexual-harassment using a semi-structured, self-administered questionnaire. Total 202 male adolescents studying in grade 11 and 12 in 8 different higher secondary schools in Bhaktapur District participated in the study.

Results

They easily understood direct and suggestive physical behavior as sexual-harassment, but a very little perceived verbal and non-verbal behavior as sexual harassment. Only 10% had a good perception of physical forms of sexual-harassment, while, and 4% and 2% had a good perception of verbal and non-verbal sexual-harassment. 83% perceived that the way a girl dresses are the reason for her sexual-harassment. Similarly, 49% of male adolescents have gender inequitable perception which is significantly associated with perception of sexual-harassment (p = 0.00).

Conclusion

Sexual harassment is the manifestation of a complex mix of patriarchal practices, gender based violence in Nepalese society. Deeply rooted gender norms are responsible factors that influence the perception regarding sexual-harassment. The power imbalance between male and female is a major contributor of sexual-harassment, therefore, to address this issue, men and boys should be regarded as the part of the solution rather than accusing them as the cause.

Keywords

Adolescents, gender, male, perception, sexual harassment.

2.6.8 A Multi-hospital Mannequin Study to Evaluate the Efficacy of a Ventilation Function Monitor– Saving Lives of Newborns from Intrapartum Deaths

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Background

Every year, 2.9 million newborns die globally due to three main reasons: infections, intrapartum conditions and preterm birth complications. The first minute after birth is a critical period for 10 million newborns who do not breathe at birth. Intrapartum-related neonatal deaths can be reduced by 30% with resuscitation training. However, several observational studies have shown that skilled health providers failed to effectively ventilate non-crying babies at the time of birth. To improve Quality Improvement (QI) solutions, a new technology-based solution (*Monivent Neo* training) has been proposed to improve the ventilation skills and clinical performance of health workers.This novel technology primarily intends to improve ventilation skill and clinical performance ultimately leading to remarkable reduction in intrapartum-related deaths.

Methodology

This is a nested study in a large-scale QI project (Nepal Perinatal Quality Improvement Project – NePeriQIP) carried out in 12 different hospitals. *Monivent Neo* provides continuous and real time feedback to health care providers regarding their ventilation skills (optimal tidal volume) through real-time interpretations (leakage %, ventilation rate) of their performance displayed on the monitor synced with the sensor attached to the ventilator. Health care providers underwent this test in a simulated setting after being trained in Helping Babies Breathe (HBB).

Participants were randomly selected for visible and hidden sessions i.e. ventilation skill of trained health care providers was tested with the monitor visible to them or hidden from them. The ventilation skills of health workers were assessedusing Confidence Evaluation Tool and Objective Structured Clinical Examination (OSCE)simultaneously during the test.

Results

Health care providers will be expected to have built confidence during ventilation with the monitor visible and their performance improved.

Conclusion

Out of several technological and non-technological based QI solutions, this innovation could be incorporated in resuscitation training to hone ventilation skills of health care providers and build their confidence in ventilation contributing to increased survival of newborns due to intrapartum related deaths.

Keywords

Monivent, intrapartum, ventilation.

2.6.9 Scaling up Quality Improvement Intervention for Perinatal Care in Nepal (NePeriQIP): a Cluster Randomized Trial

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Background

There has been remarkable progress in reducing the number of child deaths globally and in Nepal, in recent decades. However, 2.9 million babies die every year within the first month of life and an additional2.6 million babies are stillborn globally. In this context, the global Every Newborn Action Plan (ENAP) has defined priority actions to address preventable causes of neonatal mortalityi.e. preterm birth complication, intra-partum related complications, and infections. Nepal Perinatal Quality Improvement Project(NePeriQIP) intends to scale up a quality improvement (QI)intervention for perinatal care according to WHO/National guidelines in hospitals of Nepal using the existing healths ystem structures. The project is a Child Health Division, IMNCI Section initiative to help improve newborn morbidity and mortality. This will directly support Nepal's Every Newborn Action Plan (NENAP). The intervention builds on previous research on the implementation of Helping Babies Breath (HBB)equality improvement cycle in a tertiary healthcare setting in Nepal. The objective of this study is to evaluate theeffect of this scaled-up intervention on perinatal health outcomes.

Methodology

A package of multi-faceted quality improvement interventions is being administered to 12 public hospitals of Nepal. The QI interventions will utilize a combination of three different implementation strategies (1) Facilitation, (2) Training, and (3) Audit and Feedback, with the aim to strengthen the health care system through improved quality improvement processes and information systems, and thereby improving quality of perinatal care. Each strategy will have different components. Components may overlap and will be delivered as a package. NePeriQIP will be rolled out in three phases: *Preparatory Phase, Implementation Phase and Sustainability Phase* over 15 months in each hospital.

Results

The project is a scale-up of HBB-QIC study conducted in a tertiary hospital of Nepal. The findings have shown that with basic HBB-QIC, 50% of mortality can be reduced during the intrapartum period while 70% mortality can be reduced during the newborn period with basic Sick Newborn Care Unit (SNCU) services. Besides, newborn care packages bundled together will have a significant impact on the overall outcomes of newborns through a bundled intervention approach involving structures, systems and processes in place for quality improvement for perinatal care in hospital settings that is scalable and sustainable.

Conclusion

NePeriQIP will help develop a multifaceted strategy for how quality of perinatal care can be improved in a hospital setting and aims to generate evidence for better perinatal care outcomes in health facilities.

Key Words

NePeriQIP, Quality Improvement (QI), perinatal

2.7.1 Indoor Carbon Monoxide (CO) Exposure and its Association with Exhaled CO in Woman Exposed to Different Cooking Fuel Smoke at Chitwan, Nepal

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Background

Indoor air pollution (IAP) has been established to have adverse impacts on human health. More than 4 million premature deaths from illness attributable to household air pollution were reported by WHO in 2016. Only a few studies within the Hindu Kush Himalaya (HKH) region of Nepal have focused on the effects of exposure to IAP. In this study we quantified the exposure of women to indoor CO and estimate subsequent changes in exhale breath CO due to short term exposure to IAP during cooking with different cooking fuel (biomass, liquefied petroleum gas, biogas).

Methodology

This study was conducted across four different villages of Chitwan, Nepal. Out of the total participants enrolled for the campaign, we found valid measurements for 59 healthy, non-smoker women in the age group of 20-30 years. Factory calibrated exhale CO monitors (Micro CO (Care Fusion UK)) and Indoor Air Quality probes (Greywolf, USA), were used to determine Exhale breath CO and Indoor CO concentration.

Results

The median pre cooking CO levels were almost similar in the different fuels used; biomass- 4 ppm, biogas- 3.2 ppm, LPG- 4.7 ppm and mixed 3.7 ppm. However, the median exhaled CO during cooking was raised by 2.9 ppm in people using biomass and by approximately 1 in other fuels. Median Indoor CO was also similar during precooking in all fuels; however, there was an average increment by 6.7 p.m. in biomass use. A positive, statistically significant correlation ($r=0.401$, $p=0.002$) was obtained between CO levels during cooking and exhale breath CO levels.

Conclusion

This indicates that the enhancement in CO levels was largely due to the burning of biomass whose chronic exposures have been linked to various health hazards. The results of this study can be beneficial to health practitioners and policy makers.

Keywords

Cooking fuels, CO, biomass, indoor air pollution.

2.7.2 Personal Exposure to Particulate Matter During Cooking with Different Cooking Fuels: A Cross-sectional Study in Rural Dwellings of Chitwan, Nepal

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Background

Solid fuel is used in about two-thirds of households in Nepal and its use are more common in the rural settings. The most regularly used solid fuel is wood. In urban areas, however, the most frequently used fuels are electricity, liquefied petroleum gas and biogas. In high concentrations, the inhalable Particulate Matter (PM) emitted from these sources is documented to have many health hazards. We aimed to assess the level of exposure of women to PM in the various phases of cooking.

Methodology

An analytical cross-sectional study was conducted in four villages of Chitwan, Nepal during the summer of 2017. The participants were healthy, non-smoker women between 20-30 years of age. Out of the total participants enrolled in the campaign, we analyzed data for 65 women, who had valid measurements available. The measurement of PM was done using 'Aerocet-831 handheld particle counter'.

Results

Among the 65 participants, the most commonly used fuel for cooking was biomass and the least common one was biogas. The medians for both, PM 2.5 and PM 1 were higher during cooking period when compared to pre-cooking and post cook time. Additionally, houses using biomass had relatively higher median values for PM 2.5 and PM 1, when compared to other fuel types. Furthermore, a statistically significant difference was seen between the different fuel types and the median PM 2.5 values during precooking (p=0.009) and cooking (p= 0.002).However, statistically significant difference was seen between the different fuel types and the median PM 1 values during cooking time only (p= 0.001).

Conclusion

The exposure to PM is more during cooking time and with biomass fuel use. So the women using biomass fuel will be at higher risk of acquiring health hazards related to PM.

Keywords

Cooking fuels, indoor, particulate matter, PM 2.5, PM 1, emission, biomass.

2.7.3 Occupational Safety and Health Status among Workers of Textile Industries in Bhaktapur District

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Background

Occupational safety and health is the major public health concern. The study suggests that each year approximately 20,000 workers meet accidents on working site which lead to nearly 200 lives lost in Nepal. Occupational safety and health needs cannot be overlooked at industrial sectors as many people get exposed to different hazards and experience different health problems. The improper working conditions and poor use of Personal Protective Equipment (PPE) are major contributing factors for poor occupation safety and health status. This study aimed to assess the occupational safety and health status among workers of textile industries in Bhaktapur district.

Methodology

A descriptive cross sectional study was conducted among textile industry workers of Bhaktapur district. Total 130 workers were interviewed and the working environment was observed from 11 functional textile industries. The study was conducted from May to December 2017. Ethical approval was granted by the Nepal Health Research Council and verbal consent was also taken from the participants prior to interview. Data management and analyses were done in in EpiData and IBMSPSS 16 V.

Results

Out of the total 130 participants, the majority (68.5%) has heard about OSH, however, only 56.9% of the participants had overall knowledge on OSH. Similarly, only 51.5% of participants were found to be practicing PPE. About 72.3% have experienced some kinds of physical health problems during and after work. None of the industries had exhaust system, more than two third industries also do not have a proper fire precautions system and only 36.4% industries have found their worksite cleaned and ordered. Additionally, all participants were found to be exposed to organic dust during their work.

Conclusion

The study concludes that the OSH status of textile industry workers were poor, use of PPE was also found to be very low. Moreover, the implementation OSH related regulations were also not satisfactory.

Keywords

Occupational safety, health hazards, textile industries.

2.7.4 Personal Exposure to Particulate Matter during Cooking with Different Cooking Fuels: A Cross-sectional Study in Rural Dwellings of Chitwan, Nepal

Smriti Pant[1], Parth Sarathi Mahapatra[2], Anobha Gurung[2], Sudesha Khadka [1], Samikshya Neupane[1], Leela Paudel[1], Ram Krishna Chandyo[1], Sunil Kumar Joshi[1], Siva Praveen Puppala[2]

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Background

Solid fuel is used in about two-thirds of households in Nepal and its use are more common in the

rural settings. The most regularly used solid fuel is wood. On the other hand, in urban areas, the most frequently used fuels are electricity, liquefied petroleum gas and biogas. In high concentrations, the inhalable Particulate Matter (PM) emitted from these sources is documented to have many health hazards. We aimed to assess the level of exposure of women to PM in the various phases of cooking.

Methodology

An analytical cross-sectional study was conducted in four villages of Chitwan, Nepal during the summer of 2017. The participants were healthy, non-smoker women between 20-30 years of age. Out of the total participants enrolled in the campaign, we analyzed data for 65 women, who had valid measurements available. The measurement of PM was done using 'Aerocet-831 handheld particle counter'.

Results

Among the 65 participants, the most commonly used fuel for cooking was biomass and the least common one was biogas. The medians for both, PM 2.5 and PM 1 were higher during cooking period when compared to pre-cooking and post cook time. Additionally, houses using biomass had relatively higher median values for PM 2.5 and PM 1, when compared to other fuel types. Furthermore, a statistically significant difference was seen between the different fuel types and the median PM 2.5 values during precooking (p=0.009) and cooking (p= 0.002). However, a statistically significant difference was seen between the different fuel types and the median PM 1 values during cooking time only (p= 0.001).

Conclusion

The exposure to PM is more during the cooking time and with the biomass fuel user. So the women using biomass fuel will be at higher risk of acquiring health hazards related to PM.

Keywords

Cooking fuels, indoor, particulate matter, PM 2.5, PM 1, emission, biomass.

2.7.5 Assessment of Renal Function and Severity of Muscle Injury in Patients with Organophosphorus Poisoning: A Hospital Based Study

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Background

Organophosphorus (OP) poisoning is a common health problem in Nepal. Cholinesterase level in blood is quantitated for monitoring of its severity. This study aimed to assess the biochemical markers of renal function test and muscle enzymes in patients with organophosphorus poisoning and their correlation with plasma cholinesterase level.

Methodology

A hospital based cross sectional study of 103 OP poisoned patients with plasma cholinesterase assay requisition to the Clinical Pharmacology lab, TUTH was carried out from May 2017 to October 2017. The grading of clinical severity of OP poisoning was done according to plasma cholinesterase performed in the clinical pharmacology laboratory of TUTH using spectrophotometer. Biochemical analysis for serum urea, creatinine, total CPK and LDH were done in clinical biochemistry laboratory of TUTH using BT 3500 analyzer.

Results

Out of total 103 OP poisoned patients, 40 were severe; followed by 30 latent, 21 moderate and 11 mild cases. The mean level of serum urea and CPK in each severity group increased with the severity of poisoning with a significance level at $p = 0.003$ and $p<0.001$ respectively. There was a strong negative correlation between plasma cholinesterase and serum CPK (r=-0.898).

Conclusion

Serum CPK can be used as an alternative marker in assessing the severity of OP poisoning in primary health care centers where cholinesterase assay is not readily available. There is an increasing tendency towards acute renal failure with the severity of poisoning.

Keywords

OP poisoning, cholinesterase, urea, creatinine, LDH, CPK.

2.8.1 Parental Misuse of Antibiotics in the Management of Upper Respiratory Tract Infection in Children Attending a Tertiary Hospital in Nepal

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Background

Antibiotics are one of the most regularly sold drugs in developing countries and various reports suggest the irrational use of antibiotics in the form of self-medication. The irrational use of antibiotics has lead to the public health problem of antibiotic resistance. In Nepal, antibiotics can be purchased from pharmacies without any prescription. WHO has included data from Nepal which shows antibiotic resistance for six combinations of bacterial pathogens and antibiotics. Children are vulnerable to infections and need the appropriate treatment to limit the development of antibiotic resistance. Hence, it is essential to understand parents' administration of treatment to their children.

Methodology

This was a hospital based cross-sectional study, using a structured questionnaire involving 276 parents with children 1 to 14 years of age at Kanti Children's Hospital in Nepal. Systematic sampling method was used to select the parents. This research aimed to study the proportion of antibiotic misuse among parents of URTI affected children as well as factors influencing antibiotic misuse. Descriptive statistics, univariate and multiple logistic regressions were used for data analysis.

Results

The proportion of parental misuse of antibiotics in URTI was 34.8%. Multiple logistic regression showed that four significant (p-value<0.05) variables influenced parental antibiotic misuse. The results showed that father's with education status of high school and below (ORadj=3.50, 95% CI=1.34-9.10), having inappropriate belief on antibiotic use in URTI (OR adj=3.63, 95% CI=1.89-6.96), information gained from elsewhere other than from a medical doctor (ORadj=3.81, 95% CI=2.07-7.04) and perception of parents of the cost of medicines to be cheap and reasonable (OR adj=2.23, 95% CI= 1.02-4.89) were more likely to practice antibiotic misuse in URTI.

Conclusion

The findings of the study could provide baseline information about the situation of antibiotic misuse in children and also help in suggesting a new approach to promote rational use of antibiotics in Nepal.

Keywords

Parental misuse of antibiotics, children, URTI, tertiary hospital, Nepal.

2.8.2 Availability, Affordability and Price Variations of Cardiovascular Drugs in Kathmandu Metropolitan City

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Background

Treatment of cardiovascular diseases may be affected by availability of medicines, price variation and affordability of the medicines prescribed. The study aimed to explore the availability, affordability and price variations of cardiovascular medicines.

Methodology

A cross sectional study was designed to explore the availability, affordability and price variations of cardiovascular medicines from ten hospitals pharmacy and thirty community pharmacies away from hospital area. The study was conducted in 30 wards of Kathmandu Metropolitan City. Total 58 medicines were surveyed. Purposive sampling was used as the sampling method. A questionnaire was developed as a research tool. The analysis was done in Microsoft Excel 2007.

Results

Availability of cardiovascular medicines in community pharmacy was 48.27% and 72% in hospital pharmacy. Out of 24 cardiovascular medicines listed in the National Essential Medicines List, 45.83% were available in the community pharmacy whereas in the hospital pharmacy 83.33% was available. Most of the cardiovascular medicines to be used for 30 days cost less than per day salary (Rs.541) of the lowermost civil servant of Nepal Government. However, Warfarin 1, 2 and 5 mg for 180 days and Telmisartan 80 mg for 30 days costs more than per day wage. Domestic brands of diuretics were expensive compared to the international brands. Price of Amlodipine 10 mg, Metoprolol 12.5 mg were below the price fixed by Nepal Government, whereas the price of 7 medicines was above the fixed price of the medicines.

Conclusion

The study showed 48.27% and 72% cardiovascular medicines, including injections were available in community pharmacy and hospital pharmacy respectively. Price variation was 0.82%-87.50%. Domestic brands were cheaper in comparison to the international brand for most of the drugs.

Keywords

Cardiovascular medicines, availability, price variation, affordability, national essential medicines list.

2.8.3 Analysis of Drug Promotional Literatures Distributed by Pharmaceutical Companies in Nepal

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Background

Drug Promotional Literatures (DPLs) are usually relied upon for drug promotion; however, studies have shown them to contain several pitfalls. WHO has time and often revised the guideline to address the issue and WHO Ethical Criteria for Medicinal Drug Promotion (WHO-ECMDP) was established. Based on this guideline, several regional as well as national guidelines have been formulated. Though laws to regulate drug promotion are existent, studies have shown problems with DPLs in Nepal also. This study was carried out to analyze the DPLs distributed by pharmaceutical companies in Nepal as per WHO-ECMDP.

Methodology

A descriptive (cross-sectional, observational) study over a period of one year was conducted at Department of Clinical Pharmacology, Maharajgunj Medical Campus, TU. Pharmaceutical companies registered at Department of Drug Administration, Kathmandu and consenting for the study were requested to provide ten unique DPLs of their products. Collected DPLs were analyzed for inclusion of essential information as per WHO-ECMDP, level of biasness. Different DPLs were also classified and compared for these aspects.

Results

A total of 48 pharmaceutical companies were included in the study. DPLs (372) were analyzed during the study. Adherence to criteria concerned with the positive attributes of the promoted medicine was found to be higher; most of the DPLs adhered in 5-8 criteria of WHO-ECMDP and were categorized into grade B. Difference in adherence as well as number of biased DPLs was also seen when DPLs were compared on a different basis.

Conclusion

Adherence to WHO-ECMDP was found to vary when DPLs were classified as per pharmaceutical company, type of formulation being promoted, and type of DPLs.

Keywords

Drug promotional literatures, WHO-ethical drug criteria for medicinal drug promotion, drug promotion, and drug act 1978.

2.9.1 Bacterial Etiology of Lower Respiratory Tract Infections and Their Antimicrobial Susceptibility Pattern among Patients Visiting a Tertiary Care Hospital of Kathmandu, Nepal

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Background

Lower respiratory tract infections (LRTIs) are one of the major public health problems affecting all age groups worldwide. Antimicrobial therapy is usually indicated, but resistance towards commonly used therapeutic antimicrobial has compromised the therapy. In this study, we aimed to determine the bacterial etiology of lower respiratory tract infections and their antimicrobial susceptibility pattern at a tertiary care teaching hospital in Nepal.

Methodology

This was a laboratory based descriptive cross sectional study carried out atthe Manmohan Memorial Teaching Hospital during the period of February 2017 to July 2017. A total of 874 sputum samples was collected, cultured and the isolated organisms were processed for Antibiotic Susceptibility Testing. Methicillin resistant *Staphylococcusaureus* (MRSA) screening, phenotypic detection of Extended Spectrum Beta Lactamase (ESBL) and Metallo Beta Lactamases (MBL), and biofilm detection were also performed.

Results

Out of 874 sputum samples, 280 (32.0%) showed significant growth. The most predominant pathogens isolated were *Streptococcus pneumoniae* 50 (17.8%) followed by *Klebsiella species* 42 (15.0%), *Haemophillus species* 38 (13.7%), *Acinetobacter baumanii calcoaceticus complex* 36 (12.8%), *Escherichia coli* 36 (12.8%), *Pseudomonas aeruginosa* 20 (7.1%), Yeast cells 18 (6.4%), *Staphylococcus aureus* 10 (3.6%), *Citrobacter freundii* 10 (3.6%), *Citrobacter koseri* 10 (3.6%), and *Enterobacter aerogenes* 10 (3.6%). Multidrug resistance was found among 34.1% of the isolates. Among them, 8.4% were ESBL producers and 4.5% were MBL producers. MRSA was detected in 90% *Staphylococcus aureus* isolates. Gram positive organisms exhibited maximum sensitivity to Levofloxacin (100%) and Ampicillin (93.33%) while Gram negative organisms showed a variable response towards different antibiotics. Biofilm formation was found among 4.3% of isolates.

Conclusion

Identifying the etiological agents causing LRTIs and determining their antibiogram is of key importance in empirical therapy.

Keywords

Lower respiratory tract infections, bacterial isolates, antibiogram, multidrug resistance, ESBL, MBL, MRSA, biofilm, Nepal.

2.9.2 Compliance to Directly Observed Treatment Short Course (DOTS) Chemotherapy among the Pulmonary Tuberculosis Patient in Kathmandu District of Nepal

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Background

Compliance to therapy is one of the important factors that affect the outcome of therapy. Non - Compliance may result in acquiring drug resistance, requiring more prolonged and expensive therapy that is less likely to be successful than the treatment of drug susceptible tuberculosis. The main aim was to study the various aspects of compliance to directly observe therapy (DOT) for the treatment of tuberculosis patient in Kathmandu district and to find the reason of Non-Compliance of DOTS therapy among the patient.

Methodology

A descriptive cross sectional study was conducted from August- December 2017 in Kathmandu district. 22 DOTS centers were selected for the study. The registered patients taking the continuous DOTS regimen were the respondent. The DOTS centers were selected randomly and the respondent was selected purposefully.

Results

Totals of 160 patients of Tuberculosis were interviewed for compliance study. The majority of the study population was in the age group of 15 - 50 years, which is the productive age. The study revealed that 96% of the study populations were compliant to DOTS therapy. Of these, 80% showed excellent and regular compliance followed by nearly 16 % better compliance. And 4% participant were non compliant to DOTS therapy. The majority (94%) of the compliance patients has short travelling time and most of the compliance (80%) travelled by foot to visit in the DOTS clinic with bearing no travelling costs. The main reason for Non- compliance was found to be being moved away from treatment centers and toxicity of drugs. The traditional risk factors for non compliance like socio-demographic factors, timing, travel cost, long waiting period at DOTS clinic were not major hurdles for treatment adherence.

Conclusion

The study revealed that compliance of DOTS was significantly higher among those who have good knowledge about various aspects of the disease. Accessibility and availability of the service are the major influencing factors for the compliance.

Keywords

Tuberculosis, compliance, adherence, directly observed therapy.

2.10.1 Clinico-microbiological Profile of Surgical Site Infection and Their Antibiotic Sensitivity Pattern among Postoperative Patients Admitted in Tertiary Care Hospital, Kathmandu, Nepal

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Background

Surgical site infection (SSI) is one of the most common post-operative complications which are responsible for great morbidity, mortality and economic burden among the hospitalized postoperative patients. Though it can be prevented to a great extent by antimicrobial prophylaxis and advanced surgical techniques, increasing prevalence of multidrug resistant bacteria (MRSA, MLSB, VRE, ESBL, AmpC-β-lactamase, MBL and KPC) poses a therapeutic challenge. The aim of this study was to determine the microbial agent responsible for SSI with their antibiotic susceptibility pattern.

Methodology

This study was conducted from October 2016 to September 2017: among patients developing SSI following gastrointestinal Surgery (followed up for clinical signs of SSI for 30 days). The samples from these patients were collected and processed according to standard methods.

Results

A total of 832 patients had undergone gastrointestinal surgery during the study period. Among them, 162 cases (19.5%) developed SSI. The most common types of wound were dirty wound (49%) and most common type of SSI was superficial (72.2%). Out of total 166 organisms isolated; 164 isolates were bacteria while 2 were *Candida* spp. The most common isolate was *E. coli* (29.5%), followed by *Staphylococcus aureus* (11.5%). A high prevalence of multi drug resistance (75.9%) was seen among gram negative bacteria where 28.6% were ESBL producer, 7.1% were AmpC-β-lactamase producer, 17% were MBL producer and 4.5% were KPC-producers. Similarly, among the gram positive bacteria; 60.4% were MDR, 47.4% of *S. aureus* isolates were MRSA; 53.8% of CoNS were methicillin resistant; 18.8% of *Staphylococcus* spp. Produced iMLSB resistance; 14.3% of Enterococcus spp. was VRE.

Conclusion

The burden of MDR bacteria was too high, gram negative bacteria being more resistant than gram positive bacteria. This necessitates the rational antimicrobial use and continuing surveillance of bacterial antimicrobial sensitivity tests at local level.

Keywords

SSI, gastrointestinal surgery, MDR, ESBL, MRSA.

2.10.2 Non-fermentative Gram Negative Bacilli Infection and Their Antimicrobial Susceptibility Pattern among Hospitalized Patients in a Tertiary Care Hospital, Kathmandu

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Background

Non-fermentative gram negative bacilli (NFGNB) cause a wide variety of infections in hospitalized patients and they have emerged as important multidrug-resistant (MDR) nosocomial bacterial pathogens. The rise in incidence of these infections and resistance to a wide range of commonly used antibiotics necessitates their identification and determination of antibiogram pattern.

Methodology

This cross-sectional study was conducted at the Department of Clinical Microbiology, Tribhuvan University Teaching Hospital (TUTH), and Kathmandu from January 2017 to December 2017. The NFGNB isolated from different clinical specimens from patients hospitalized to different wards of TUTH were identified by standard microbiological testing. Antibiotic susceptibility testing was performed as per the CLSI guidelines and MDR rate was determined.

Results

A total of 402NFGNB were isolated and most of them were from respiratory tract specimens (43.0%) followed by pus (24.6%), and other specimens and were isolated from ICU patients (39.1%). The most common NFGNB were *Acinetobacter baumannii* (44.0%) and *Pseudomonas aeruginosa* (40.0%) and others were *Burkholderia cepacia* complex (Bcc) (8.2%), *A. calcoaceticus* (2.7%), *A. lwoffii* (2.5%), *A. haemolyticus* (0.7%), *Stenotrophomonas maltophilia* (1.0%), *P. stutzeri* (0.5%) and *Sphingobacterium multivorum* (0.2%). They were resistant to most of the first line antibiotics tested and the most effective antibiotics were Colistin sulfate and Polymyxin B. The MDR rates were 91.0%, 73.3%, and 78.8% among *A. baumannii, P. aeruginosa* and Bcc, respectively.

Conclusion

NFGNB can cause a vast variety of infections and most of them, causing infections in the hospitalized patients were *A. baumannii* and *P. aeruginosa*. Higher rates of MDR among these bacteria are worrisome and the rate is higher than previous studies. NFGNB lead to high morbidity and mortality as we are left with the only option of treating them with potentially toxic antibiotics like Colistin sulfate and Polymyxin B. Proper identification, AST, judicious antibiotic use and rigorous infection control will help to fight against these MDR bacteria in the effective management of hospitalized patients.

Keywords

Acinetobacter, MDR, Pseudomonas.

2.10.3 The pharmacological importance of Lentinus edodes

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Background

Lentinus edodes is the second major produced mushroom in the world because of its high nutritive and pharmacological values. It is used in the treatment of a various diseases, including, AIDS/HIV, cancer, fatigue, hepatitis, high cholesterol, hypertension, intestinal parasites/worms, respiratory infections, diabetes and allergies.

Methodology

The *information* on *L. edodes* was collected from various journals, websites and books which were additionally revised to ascertain use parts, studied model, ethno medicinal use with different mechanism of action.

Results

By analyzing different articles of various journals, websites and books, this review accumulate information about list of pharmacologically important compounds: lentithionine, lentin, eritadiene, mannoglucan, lectin, lentinan. These compounds have been isolated intracellularly (fruiting body and mycelia) and extracellularly (culture media). These compounds possess various pharmacological activities like, antitumor, antiviral, antibacterial, antifungal, antidiabetic, antioxidant, hemagglutinating, hypolipidemic and hepatoprotective activities. In addition, this review enlists commercial products of *L. edodes*- sugar coated tablet, powdered extract, syrup, wine, tea, capsule, injection (1 mg/vial).

Conclusion

In this review, an effort has been made to highlight the potential medicinal activity of *L. edodes* which is used to cure of various diseases.

Keywords

Antioxidant, antitumor, eritadiene, lentinus edodes, pharmacological values.

2.11.1 Risky Road Behavior among Youth of Higher Secondary and Undergraduate Level Students of Kathmandu District

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Background

Globally among the teens and youth of age 15 -29 leading cause of death is road traffic accident. In Nepal 43.7% of accidents are caused because of the negligence of the driver. With the rise of income and ineffective mass transportation burden of injury is likely to rise.

Methodology

A cross sectional study was conducted in higher secondary and undergraduate level students. The institution as well as classes was selected randomly. Questionnaires were self-administered to 415 participants and for the driving behavior those who ride a two wheeler were only requested to fill so sample size of it is 136. For association Chi square test was used.

Results

98.1% were found to have a supportive attitude towards safe pedestrian practices. Among the 14 questions related to risky road behavior, slowing/stopping the traffic for crossing scored the highest (91.8%). The least risky behavior (94.9%) was holding the moving vehicle while riding cycles. As for the driving behavior among 136 participants, the proportion of bike rider having a license was 50.7%. 71.1% of the respondent exhibited at least one of the risky driving behaviors. 41.9% of the respondents rode without wearing helmet, 42.6% used a cell phone while driving and 44.9% had close chase the other vehicles. 45 out of 136 had accidents in last 12 months. License holder ($X^2 = 2.34$, p = 0.028), those who were more experienced ($X^2 = 6.78$ p = 0.005) and participants who had accidents exhibited greater risky behavior ($X^2 = 2.94$, p = 0.017).

Conclusion

Our study demonstrated that although the attitude regarding the risky road behavior is good the behavior regarding road and driving behavior was not satisfactory. Future research should aim to find the reason regarding the cause of reckless driving and careless walking.

Keywords

Risky road behavior, pedestrian behavior, driving behavior, youth, Nepal.

2.11.2 Introduction of Disability Cards: A Study on Disability Policy Implementation in Okhaldhunga VDC, Okhaldhunga, Nepal

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Background

In 2008, the Nepal Government revised its disability policy in 1994 into a disability card policy. In this policy, there are four different categories, based on severity. Cardholders are entitled to monthly allowances and social benefits. Till date, there is limited information available about the local implementation and reception of the policy among persons with disability, especially in rural Nepal. Thus, a study was conducted to map the local implementation of the new disability card policy in the Okhaldhunga VDC.

Methodology

The study was carried out in Okhaldhunga VDC in 2012. Institutional ethnography method was used. Snowball sampling was done and data were collected using in-depth interviews with open-ended questions among 47 people with disability. Among them ten were purposefully selected for repeated in-depth interviews and participant observation. Analysis of the study was done with conversation analysis using transcripts of tapes and field notes.

Results

We found that economic improvement can improve social life. At the governmental, institutional level, a limited involvement of locals and lack of consideration of the local context were the main reasons for lack of a good implementation. The reasons indicated were: lack of awareness among the person with disabilities about the policy and benefits, difficulties and challenges in accessing card and benefits, withholding the card, and lack of involvement and participation of Disabled people´s organization (DPO) and persons with disability.

Conclusion

The study indicates that the situation of people with disabilities is one of the important development problems in Nepal. If the issue of disability is not addressed timely, it will have an enormous impact on socioeconomic development at all levels of society. Furthermore, more studies on disability with nuanced analysis are required in the field.

Keywords

Disabilities, disability policy, policy implementation.