

**International conference on public health & society  
(online)**

**Abstracts of 5<sup>th</sup> International Conference on  
Global Public Health 2019**

**Kathmandu, Nepal**

**17 - 18 October 2019**



**2019  
International Center for Research & Development  
Colombo, Sri Lanka**

**Published by**

**International Center for Research & Development**

International Center for Research & Development  
No. 858/6,  
Kaduwela Road,  
Thalangama North

[info@theicrd.org](mailto:info@theicrd.org)  
[www.theicrd.org](http://www.theicrd.org)

Published in Sri Lanka  
November 2019

**ISSN 2659-2487**



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### **Climate Change, Effects and We**

Dr. Deepak Kumar Yadav



*Additional Professor, SPH & CM, BPKIHS, Dharan, Nepal*

Climate change is affecting what human beings depend on and without which human beings would not survive. Not just air, soil, water but the whole eco-system is being affected and as scientists say humankind is in real danger. The plethora of effects is tremendous and unbearable.

The world has been experiencing the aftereffects of human irrational actions that have endangered one and all of species. In such a backdrop, low- and middle-income countries have very little spaces to act on for the betterment. But since the globalization has converted world into a digital village, there are hopes too.

My presentation will be a discourse on few practical approaches to which Nepal can leap forward.

## **KEYNOTE SPEECH**

### **Impact of Climate Change on spatial and Temporal Distribution of Water and Vector-borne Diseases in Nepal**

Meghnath Dhimal, PhD

*Chief Research Officer, Nepal Health Research Council, Ramshah Path Kathmandu, Nepal*

Climate change affects human health directly and indirectly. The greatest health effects of climate change occur in the most vulnerable populations residing in least developed countries who already suffer from the heaviest burden of disease but are historically least responsible for greenhouse gases emissions. Nepal is one of the most vulnerable developing countries in the world concerning the adverse effects of climate change. The aim of this paper is to highlight how climate change has affected spatial and temporal distribution of water and vector-borne diseases in Nepal. Vector-borne diseases such as dengue and chikungunya are recently emerged in Nepal few decades back, but they have rapidly expanded geographic range from plain areas to mountain areas as well as rural to urban areas. There is also clear trend of expansion of other vector-borne diseases such as malaria, Japanese encephalitis, lymphatic filariasis and leishmaniasis from sub-tropical areas to temperate areas including mountains in Nepal. Similarly, water-borne diseases diarrheal incidence has drastically increased with higher rates in mountain region indicating higher impact of climate change in highlands. In this paper, I will present evidences on early effects of climate change on water and vector-borne diseases and health sector responses to address these health risks of climate change in Nepal.

## **Climate Change and Tuberculosis: Implications for the National Tuberculosis Program of Nepal**

Bijay Maharjan<sup>1</sup>, Ram Sharan. Gopali<sup>1</sup> and Mamta Thapa<sup>2</sup>

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Climate change is a global issue. It affects the pattern and burden of diseases including tuberculosis. There is limited evidence of linkage between climate change and tuberculosis (TB). It is a scoping review following a five-stage version of Arksey and O'Malley's. The literature was searched using the keywords and its combination in Google scholar, and PubMed. Climate change affects TB through changes in climatic factors like temperature, humidity, precipitation, Vitamin D. Likewise; it influences TB transmission and development of latent to active TB through the pathways of extreme climatic events, population displacement, migration resulting greater number of vulnerable and risk population of tuberculosis. Similarly, these events disrupt TB diagnosis and treatment services. Nepal is one of the most vulnerable country to climate change where the temperature is increased by 0.060 degree Celsius annually, the mean rainfall has significantly decreased to an average of 3.7 mm (-3.2 percent) per month per decade. Furthermore, extreme climatic events are increasing in frequency and severity annually. It is estimated each year 45000 new TB cases occur in Nepal which shows a seasonal pattern and high variation in different geographical regions. So, it is obvious climate change impact tuberculosis particularly highly vulnerable districts to climate change. However, it is a complex relationship which needs to be understood by doing more research in climate change and TB. At the same time, the National Tuberculosis Program should develop interventions focusing vulnerable people affected by extreme events, and advocate for mitigating and adaptive strategies of climate change.

*Keywords: Climate change, Tuberculosis, Linkage, Nepal*

## **Perception of Climate Change among Alberta University Students**

Klaus Irrgang

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Climate change has become a global buzzword. The facts of this change have been extensively studied. Alberta more than any other province in Canada is economically dependent on oil and natural gas production, the very products indicated in anthropogenic climate change. The federal carbon tax was repealed in May 2019 in Alberta. The tension among politicians in trying to portray a positive and clean image of the province and downplaying anthropogenic influences on climate change on one hand and the scientific evidence on the other is obvious. How is all this reflected in the attitude of Albertans, specifically university students, the future leaders of the province and Canada? A cross sectional study was undertaken research was designed and administered to assess the attitudes of Alberta university students. Quantitative and qualitative methods were used. From the study it appears that students have their own opinion which lines up with the scientific facts, as 76 % of students think that climate change is real and due to man-made climate gases like CO<sub>2</sub>, and only 0.4 % disagrees with that notion. Students also believe they can make a difference on climate change. However, the majority of students are not sure how climate change affects communicable disease. This points to a lack of knowledge of Public Health as related to climate change and points to a need of supplying information on climate change as related to public health.

*Keywords: student opinion, climate change, anthropogenic influences*

**Transnational Inclusive Mental Health De-Stigmatising Education: An exploration of the means to engage global communities in mental health de-stigmatisation.**

Paul Illingworth

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Objectives: -

- Describe why there is a need to develop alternative mental health de-stigmatising education.
- Explain why Transnational Inclusive Mental Health De-stigmatising Education (TIMHDE©) could achieve positive change.

Some countries embrace, others exclude the mentally ill. The World Health Organisation (WHO) acknowledged high income countries often address this, but low/middle income countries often had a significant gap in how they measure the problem, and in strategies, policies and programmes to prevent it. Localised actions have occurred. The Hong Kong Governments 2017 international conference ‘Mental Health Matters: Overcoming the Stigma’, combined care providers, corporations, educators, government, public health specialists, health and human resource professionals, media and others to generate ways to reduce stigma. As a result, several developments have resulted. The 2018 London Global Ministerial Mental Health Summit united experts/high profile individuals to find solutions to reducing mental health (MH) stigma. Additionally, the UK Medical Research Council funded Professor Thornicroft, (expert in MH discrimination and stigma), to undertake a global study. These and other approaches are welcome and bring improvements, however they often rely on traditional westernised views/approaches. However, given rapidly changing demographic global dynamics and lack of evidence demonstrating progress towards positive mental health globally, it is time to consider alternative and transformative approaches encompassing diverse cultures and societies and align to the United Nations Sustainable Development Goals (UN SDG) specifically UN SDG 3 (Good Health and Wellbeing).

*Keywords: Mental Health, Transnational, De-Stigmatising, Education*

## **Development of Removal Technology by Hair for Preventing of Health Problems by Strontium-90**

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<sup>2</sup>*Anti-aging Center, Kindai University, Japan*

The largest concern on accumulated strontium-90 (<sup>90</sup>Sr) due to the emission from the Fukushima Daiichi Nuclear Power Plant (NPP) showed up after a massive quake on March 11, 2011, so efficient removal of <sup>90</sup>Sr is awaited from water environment. On the other hand, hair is an industrial waste that discarded in large quantity from hair salons. In this study, the reuse of hair for waste and the development of the removal technology of strontium ion were investigated. The adsorbent was used waste hair, which was washed with acetone and 0.01% Triton-X 100. And then hair was treated with EDTA-4Na solution adjusted to each concentration 10 (ED10), 25 (ED25), 35 (ED35), 40 (ED40), and 50 mg/L (ED50). The concentration of strontium ion in water was measured by ICP-OES (Thermo Fisher Scientific, US) the amount of strontium ion adsorbed onto ED25 was the largest of all. The amount of strontium ion adsorbed at an initial concentration of 1.0 and 10 mg/L is 0.38 to 0.50 mg/g and 0.44 to 2.53 mg/g, respectively. In the previous study, the amount of strontium ion adsorbed onto synthetic zeolite, beer lees and chitosan is 0.84, 0.40, and 0.06 mg/g respectively. The hair, which is treated with EDTA-4Na solution, would be useful for strontium ion adsorption in water environment.

*Keywords: Hair, Adsorption, Strontium, Water*

## **Concept and Application of Binary Logistic Regression analysis**

Prabhaker Mishra<sup>1</sup>, Uttam Singh<sup>2</sup>, CM Pandey<sup>3</sup>

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Logistic regression is a very popular statistical tool used in analyzing public health data. It is used to predict the outcome variable by using at least one predictor(s). This technique is used when outcome variable is categorical with binary nature while predictor is/are quantitative or qualitative variable(s). Based on number of independent variable(s), there are two types of regression analysis namely; univariate (used one independent variable) and multivariate (used  $\geq$ two independent variables). Unadjusted and adjusted odds ratio is calculated in univariate and multivariate analysis respectively. In multivariate analysis, only significant variables came out from the univariate analysis are included. There is various statistical software used for apply the binary logistic regression although only proper knowledge could ensure the appropriate use of this method. In this presentation, the basic concepts and how to apply of these methods as well as interpretation of the results will be discussed through appropriate examples.

*Keywords: Binary logistic regression, Outcome variable, Independent variable, univariate and multivariate, Unadjusted and adjusted odds ratio.*

## **Perception towards Graphic Health Warning Labels on Tobacco Products among Adults of Dhulikhel\***

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Graphic health warning labels is a strategy of World Health Organization anti-tobacco policy, in which texts and pictures in tobacco packs are used to disseminate information about harmful effects of tobacco consumption. The goal is to reduce use or encourage quitting among users, prevent non-users from initiating, and prevent former users from relapse. The government of Nepal has made maximum effort to disseminate health risk messages through this policy. But a large gap that exists between the intended and reached tobacco use habits doubts the effectiveness of policy. The study aims to assess perception towards graphic health warning labels on tobacco products among adults of Dhulikhel. A quantitative analytical cross-sectional study was performed with systematic simple random sampling technique to select the household to sample eligible adults. The data was collected by structured interview. Descriptive statistics (frequency and percentage) and inferential statistics (Chi-square test) were applied using Statistical Package for Social Science version 25 for data analysis. The level of perception was good among 64.2 % of the respondents whereas 35.8% had negative perception towards graphic health warning labels on tobacco products. The positive perception was significantly more common among females, those who had never consumed tobacco and former tobacco users. Hence, among nearly two third of the respondents, the graphic health warning labels on tobacco products were perceived to be effective.

*Keywords: Graphic health warning labels, perception, tobacco products*

\*In the partial fulfillment of bachelor's degree curriculum

## **Prevalence of Depression and Associated Factors among Women Prisoners, Nepal**

Deepika Rana

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Although women prisoners constitute a very small proportion of the total prison population (2–9% on average worldwide), the number of women in prison is increasing rapidly. They are considered as one of the most vulnerable group in a prison with high chance to develop mental health problems while in prison and self-harm or suicide attempt than male prisoners. The main objective of this study is to explore the prevalence of depression among the women prisoners at the central prison in Kathmandu valley. Cross-sectional study design was applied among 140 women prisoners using PHQ-9 and UCLA Loneliness Scale to measure the prevalence of depression and loneliness respectively. Logistic regression analysis using SAS software was done between socioeconomic demographic factors and depression, and also loneliness.

The prevalence of depression was found to be 43.6 % among the women prisoners which are higher than that in previous study done among male prisoners in Nepal. Higher association between depression and sleep adequacy and appetite were found along with numbers of other factors including employment in prison, support received inside prison, length of sentence and harassments between prisoners among other factors. Prison hygiene condition and food taste or quality also had its influence in the prevalence of depression among prisoners. Most of the prisoners considered employment in prison as one of the main factors affecting their mental health. Significant association of loneliness was also found with the support that the prisoners receive inside prison, appetite and sleep adequacy.

*Keywords: Depression; Loneliness; Prevalence; Women prisoners; Nepal*

## **Low Back Pain among Women Working in Agriculture: A Quasi Experimental Study**

Diana Padhi, Srinivasan Kannan

Providing people with ergonomic friendly workplace and newly innovative technology is very costly for a country like India. As the Prevalence of low back pain is increasing the immediate intervention possible is to teach those ergonomically friendly methods and some physical training. Ergonomic advice and physical training intervention to reduce back pain conducted among agricultural labourers of two districts of Odisha was studied. It aims to compare the effectiveness of (a) ergonomic advice and physical training (ERGPT) and (b) ergonomic advice (ERG) for low back pain among women work as agriculture manual labourers in age group of 20-50 years. Quasi experimental study design with a sample size of 390 was calculated using open epi 3. Interventions on ERGPT and ERG were given in two sessions for two groups with three weeks gap. Participants interviewed after five weeks of intervention and analysed to find the effectiveness of intervention using structured interview schedule developed for this purpose. In addition, Vas scale was used for measuring the pain intensity. Analysis were done using chi square test, Mann Whitney test and Wilcoxon tests to find out the difference between and within the two groups. Reductions of pain intensity were reported in both groups. Group with ERGPT reported more reduction in intensity of pain and both the groups had a difference of 0.48. Intensity of back pain in both groups were significantly different within the group as per Wilcoxon test. As per Mann Whitney test, two groups were significantly different in terms of intervention. An ergonomic advice with physical training has contributed to reduction of pain intensity and low back pain in comparison with only Ergonomic advice. It will be useful to recommend both ergonomic advices along with physical training for pain reduction among the women agricultural workers.

## **Parental Mediation and Internet Addiction in Adolescents of Bangladesh**

Rubaiya Matin Chandrimma<sup>1</sup>, Baizid Khorshid Riaz<sup>2</sup>, Ummul Khair Alam<sup>3</sup>, Irfan Nowroz Noor<sup>4</sup>, Bayzid Amin<sup>5</sup>

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Internet addiction among adolescents has become an emerging public health concern. Multiple studies concluded that general parental monitoring of adolescent's behavior and internet use can largely reduce the risks of problematic or addictive internet use. The objective of this study was to assess the association between parental mediation and internet addiction in adolescents. This cross-sectional study was conducted in two purposively selected secondary schools of Dhaka city from January to December 2018. Data were collected by face to face interview through a pretested semi-structured questionnaire from 350 (52.6% female and 47.4% male) conveniently selected internet users of class 8, 9 and 10 (aged 13-17 years). Parental Mediation was determined by using "Parental Internet Mediation Scale. Young's Internet Addiction Test (IAT) scale was used to measure the severity of internet addiction of the respondents. Among the participants, majority were Muslims (92.3%) from nuclear family (90.3%) and living with both parents (91.7%). Among 350 participants 39.4% respondents were normal internet users, 36.6% had mild internet addiction, 21.4% had moderate addiction and 2.6% participants had severe internet addiction. The study revealed that parental mediation has association ( $p=0.00$ ) with internet addiction. Participants', whose parental mediation was better, were less exposed to internet addiction. So, Parental mediation should be included in the policies to protect adolescents from internet addiction.

*Keywords: Parental Mediation, Internet Addiction, Addictive Internet Use, Adolescents*

## **Fundamental Study on Adsorption of Paraquat and Diquat by Basil Seed Preventing for Pesticide Poisoning**

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Death due to pesticide self-poisoning is one of the most serious public health problems in the world. Bipyridinium herbicides (e.g. paraquat and diquat) have strong toxicity for humans and sometimes lead to death also by unintentional exposure. Therefore, it is necessary to remove excessive herbicides from aqueous solution. The adsorption ability of paraquat onto various adsorbents has been studied. Recently, the waste biomass is gathering attention to remove paraquat. Basil (*Ocimum basilicum*) is a popular herb and it has mucilaginous seed generating hydrocolloid gel. In this study, we used for adsorbents, which were virgin basil seed (BS) and calcined basil seed at 1000°C (BS1000). The concentrations of paraquat and diquat in aqueous solution were measured by absorption spectrophotometry method. The chemical and physical characteristics of adsorbents were investigated, and the relationship between their characteristics and adsorption the adsorptabilities of paraquat and diquat were evaluated. The specific surface area of BS was increased by calcination. The amount of paraquat and diquat adsorbed onto BS1000 was greater than that onto BS. Moreover, the adsorptability of paraquat onto BS1000 was equal to that onto activated carbon. These results indicated that BS and BS1000 were useful for the removal of paraquat and diquat from aqueous solution and for adsorbent for first aid.

*Keywords: Paraquat, Diquat, Adsorption, Pesticide poisoning*

## **Evidence on Applicability of a Rapid Health Assessment in India**

Prerna, Makkar<sup>1</sup>; Pankhuri, Mishra<sup>2</sup>; Ayushi, Singh<sup>3</sup>; Karishma, Vats<sup>4</sup>; Wilima, Wadhwa<sup>5</sup>

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ASER Centre, the research and assessment arm of Pratham Education Foundation sees measurement as the first stage of action and uses primary research to push and give empirical foundations to policy and planning discussions. ASER Centre conducts one of the largest education surveys covering nearly 600,000 children, where citizens use a simple assessment to measure learning levels across rural India. This paper presents the applicability of an 'ASER approach' to the health sector. Over a period of 5 years, as a first module of ASER Health, a simple assessment was designed and piloted extensively, collecting information from mothers with children up to one year of age. Various sampling strategies and operational models were tested in several pilot surveys and nearly 5000 mothers and their children were surveyed in geographically diverse areas. These have led to a refined survey tool and roll-out strategy that is robust, frugal and rapid. The survey tool uses the KAP Framework, to understand the knowledge, practice and access to services of the mother with regards to her own and her children's health and nutrition. Currently, no major large-scale surveys in India capture this information. In capturing reasons for behaviours, in addition to relevant indicators for health and nutrition, such a survey would provide reliable, frequent and actionable indicators to policy makers and practitioners.

*Keywords: citizen-led assessment, rapid health survey, KAP framework*



## **Pattern of Antibiotic Prescribing in Public and Private Health Facilities in Nepal**

Anant Nepal<sup>1</sup>, Delia Hendrie<sup>1</sup>, Suzanne Robinson<sup>1</sup>, Linda Selvey<sup>2</sup>

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<sup>2</sup>*School of Public Health, the University of Queensland, Herston Rd, Herston Qld 4006, Australia*

**Background:** Inappropriate antibiotic use is a factor driving the emergence of antibiotic resistance worldwide. Understanding the prescribing practices helps to initiate policies to control antibiotic misuse. The study aimed to obtain information on the antibiotic prescribing of public and private health facilities in Nepal.

**Methods:** Patients' administrative records collected from six public health facilities and exit interviews conducted with patients at 33 private facilities of Rupandehi district of Nepal. The World Health Organization's (WHO) standard measure for antibiotic prescribing was used to determine appropriate antibiotic use. Antibiotic prescribing rates were investigated using descriptive analysis. Chi-square tests and regression analysis applied to explore factors associated with antibiotic prescribing.

**Results:** Overall 44.0% (3654 of 8297) of patients were prescribed at least one antibiotic, with the prescribing rate higher in public (44.7%) than private health facilities (38.4%). The most commonly prescribed class was Cephalosporins in both public (29.9%) and private (38.0%) facilities, while Ceftriaxone accounted for highest rate of antibiotic used in public (22.9%) and Cefixime in private (16.9%) facilities. High prescribing rates of antibiotic for selected conditions (e.g. diarrhoeal cases, respiratory tract infections) appeared contrary to international recommendations. Being younger and older age increased the possibility of an antibiotic prescription in both sectors ( $p < 0.001$ ).

**Conclusion:** Antibiotic prescribing rates were high in both sectors compared with WHO guidelines, indicating a need for policy intervention targeting prescribers. This study provides useful information to assist in formulating policies and guidelines to promote more appropriate use of antibiotic and to limit the spread of antibiotic resistance.

*Key words: antibiotic use, antibiotic prescribing, health facility, Nepal*

## **A Study of Pulmonary Function Test in Traffic Policemen of Gangtok, East Sikkim, North East India**

Dr. Sujata Gurung, Dr. D.K Jha.

*Department of physiology, Sikkim Manipal Institute of Medical Sciences, Gangtok, India*

**Background:** The work or the occupational environment plays a major role on the health of the exposed. Traffic related air pollution is an important occupational health hazard to the traffic police personnel.

**Objectives:**

- (1) To evaluate the pulmonary function test parameters in traffic policemen of Gangtok
- (2) To measure the pulmonary function changes and compare the findings with general police personnel
- (3) To assess the effect of exposure to long term vehicular pollution.

**Methods:** Accordingly, 40 traffic policemen and 40 general duty policemen matched for height, weight and BMI were studied under case and control groups. After screening for exclusion criteria, Spirometric pulmonary function test's evaluation was done. The indices measured included (1) Forced vital capacity (2) Forced expiratory volume in one second (FEV1) (3) FEV1 / FVC Ratio (4) Peak expiratory flow rate (PEFR) (5) Forced mid expiratory flow (FEF 25-75%). The PFT's results of the subjects and controls were compared using student's t test and the p value computed against the degree of freedom.

**Results:** The traffic policemen showed decrease in various PFT parameters as compared to controls in terms of **FVC(L) 3.26(± 0.45) versus 3.33(±0.32)** p =0.42, **FEV1(L) 2.61(±0.39) versus 2.73(± 0.35)** p =0.15, **FEV1/FVC 80.06(±3.15) versus 81.84(± 3.68)** p =0.12, **FEF25-75%(L/sec) 3.27(± 0.67) versus 3.35(± 1.14)** p =0.35, **PEFR(L/sec) 5.14(± 1.59) versus 5.20(± 1.98)** p =0.72. Though the PFTs parameters were decreased in the traffic policemen, it was not statistically significant.

**Conclusion:** Present study indicates that exposure to low level of air pollution in Sikkim did not significantly affect the pulmonary function in traffic policemen of Gangtok. These findings support the data released by the Environment Sustainable Index released on 13 June 2012 which has rated Sikkim as among the six most environmentally sustainable states of India with air pollution levels well below the National ambient air quality.

**Keywords:** *Traffic policemen, Pulmonary function tests, Automobile pollution.*

## **Opportunistic Screening of Obesity and Cardiovascular Disease Risk Factors in Tertiary Eye and ENT Hospital, Nepal**

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Obesity has become a global epidemic with a rise in non-communicable diseases. It is now becoming the problem of low- and middle-income country like Nepal. Though large number of people passes through Hospitals annually, obesity and cardiovascular disease risk factor screening in hospital outpatient have received little attention. This hospital-based cross-sectional descriptive study was conducted from July 2018 to June 2019 among outpatients in a tertiary Eye and ENT hospital in a semi-urban area of Nepal to ascertain the hospital-based detection of obesity and cardiovascular disease risk factors in a randomly selected sample of 3,193 participants from 16,604 outpatients visited in Health Promotion Unit. The mean age of the participants was 51.61 ( $\pm$  12.56) years. The prevalence of overweight and Obesity were 40.7% and 15.7% respectively. The prevalence of increased-risk (WHtR  $\geq$  0.5) and Very High Risk (WHtR  $\geq$  0.6) were in 53.0% and 31.5% respectively. Pre-hypertension and hypertension were in 44.7% and 28.9% respectively. Random blood sugar “140 mg/dl to <200 mg/dl” and “ $\geq$ 200 mg/dl” were in 10.5% and 4.0% respectively. Detection of RBS $\geq$ 200 mg/dl among overweight and obese was 6.9% and 7.9% respectively and hypertension among overweight and obese were in 30.0% and 37.8% respectively. As hospitals attract large crowds and provide excellent opportunities for screening, not only of patients but also of their attendants, simple opportunistic screening of obesity and cardiovascular disease risk factor in hospitals could detect large number of people at risk, as well as for providing opportunities for health promotion to a captive population.

*Keywords: Obesity, Cardiovascular, Nepal, Risk*

## **Blood Pressure of Adolescents Residing in Arsenic Endemic and Non-Endemic Areas of Bangladesh**

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Hypertension is a health issue that has been related to arsenic exposure through drinking water in adults. It is expected that adolescents having arsenic exposure in utero and/or during the early years of life would have higher blood pressure parameters compared to that in adolescents having no such exposure. The current cross-sectional comparative study included an arsenic exposed group (373) consisting of adolescents whose drinking water source was arsenic contaminated and their mothers showed signs of arsenicosis; the comparison group included adolescents (375) whose drinking water arsenic content was <0.05mg/L and their mothers had no signs of arsenicosis. The exposure group consisted of 171 males and 202 females, while the non-exposed group consisted of 224 males and 151 females. Systolic and diastolic blood pressures both in males and females were higher in the arsenic exposed compared to the non-exposed group ( $p < 0.001$ ). Even after adjustment for the effects of age, family history of hypertension, BMI, duration of residence in current household, time spent out of the household, the mean values of systolic and diastolic blood pressures for both males and females were still found to be significantly higher in arsenic exposed group than in non-exposed group.

*Keywords: Arsenic, Blood Pressure, Adolescents*

## **Family Planning Services and Commodities for Garment Workers in Bangladesh: A Situation Analysis**

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The readymade garments sector of Bangladesh is now the biggest earner, accounting for 83% of total export earnings of the country. The sector reduces the poverty rate of the country by ensuring employment of around four million workers through 4000 factories. `Nirapod-2, the project for empowering women on Sexual & Reproductive Health & Rights and choice of safe Menstrual Regulation (MR) & Family Planning (FP) intervened in 40 readymade garment factories to increase awareness and knowledge of, demand for and supply of family planning information and services among the workers. The project conducted a study in 6 RMGs in 3 districts of Bangladesh. The study used mixed methods and SPSS software was used for data analysis where respondents were 150. Through the study it is found that after project intervention 100% of RMG workers became aware of at least one of the family planning methods, there is a rise of 75% of workers who are now using any of the modern FP methods and 63.3% female workers can jointly make decisions regarding use of FP. Thus, study can conclude that RMG workers in the project areas are now more conscious about their health care system and FP rights. At the same time care seeking behaviour has also improved greatly. It can be recommended that to meet the current demand of FP methods among the married garment workers these activities can be replicated nationwide involving government, non-government organizations and private sectors.

*Keywords: Family Planning Methods & Commodities*

## **Domestic Violence during Pregnancy and Women's Health Status: A Community Based Study in India**

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Domestic violence during pregnancy is considered a public health problem with adverse physical and mental health consequences. Present study aimed to examine the association of domestic violence against women during pregnancy with their physical and mental health status. This community based, cross sectional study was carried out among 787 ever married, ever pregnant urban and rural women aged upto 60 years, from Delhi, India selected through cluster sampling followed by systematic random sampling. Data were collected using pretested structured questionnaires. Descriptive and multivariate analysis was done using Stata 11.0.

The prevalence of psychological, physical, sexual, physical or sexual violence and any form of violence during pregnancy was 42.8%, 17.1%, 15.6%, 18.5% and 43.2 % respectively. Women who had experienced domestic violence were more likely to report poor physical and mental health status; and suicidal tendencies as compared to women who had not experienced violence.

The results suggest that the prevalence of domestic violence during pregnancy is considerably high in Delhi with significant association with women's health. This highlights the need to develop public health interventions.

*Keywords: Domestic violence, pregnancy, women's health*

## **A Cross-Sectional Survey of Birth Preparedness and Complication Readiness Practice among Pregnant Women of Butwal Sub- Metropolitan, Rupandehi, Nepal**

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**Introduction:** Complications during the pregnancy and childbirth are still a leading cause of maternal morbidity and mortality in Nepal. Insufficiency or lack of birth preparedness and complication readiness is the most common reason; thus, the study assessed the knowledge and practices on it.

**Methodology:** A cross-sectional study was conducted with randomly selected 311 pregnant women attended in antenatal care clinics of Butwal sub-metropolitan, Nepal. Questions related to pregnancy issues and the key danger signs during pregnancy, childbirth, and postpartum were asked. Five components of birth preparedness practices were included and women who answered 'yes' to three or more items were labeled 'well prepared'. Chi-square test was used to measure the association between dependent and independent variables.

**Results:** The study found 53%, 50%, and 43% of pregnant women had good knowledge on danger signs during the pregnancy, childbirth and postpartum respectively. Overall, 58% of women were well-prepared for birth and its complications, however most of them were less papered to identify the supportive person (72%), mode of transport (72%) and possible blood donors (98%). Education of women and their husbands, occupation, number of antenatal visits in current pregnancy, knowledge about danger signs during each period was significantly associated with the practices of birth preparedness ( $p < 0.05$ ).

**Conclusion:** An education campaign is required to increase the level of knowledge of pregnant women about danger signs during the postpartum period. The husband or family members to be more involved with the birth and its preparedness, and informed new mothers need comforting and supporting.

**Keywords:** *Pregnancy, Danger signs, Knowledge, Birth preparedness*

## **Clinical and Laboratory Characteristics of sepsis in Children under Five with Pneumonia**

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Sepsis is a potential complication of pneumonia among under 5-year-old children. This study aimed to determine the symptom, diagnosis, treatment, management and prevention of sepsis in pneumonia children. We performed unmatched case-control design. Children of either sex, aged 0–59 months with history of cough or difficult breathing and radiologic pneumonia, which were assessed for sepsis at admission constituted the study population. Children who were assessed to have sepsis constituted the cases, and those without sepsis constituted the controls. Among 258 children admitted to the Dhaka Hospital of icddr,b, 151 were considered as cases and 107 were controls. Comparison was made between children with clinically defined sepsis and without sepsis. A multivariate logistic regression analysis showed that clinical dehydration (odds ratio [OR] = 1.89, 95% confidence interval [CI], 1.11-3.23,  $p < 0.05$ ) is the common clinical sign and change of total WBC count ( $p < .004$ ), immature poly ( $p < .044$ ), bacterial growth on blood culture ( $p < .037$ ) are the laboratory characteristics of sepsis. Coagulase-negative *staphylococci* were isolated in 8% of clinical sepsis followed by *Acinetobacter* species (2.4%). The mortality rate (odds ratio [OR] = 3.02, 95% confidence interval [CI], 1.11-8.64,  $p < 0.027$ ) is high among the children with sepsis, specifically the children under age of 2 months. Imipenem has been shown 100% sensitive against bacterial isolates from blood culture of the children. In resource poor setting simple clinical and laboratory characteristics in these children will help to have early diagnosis and treatment that will help to reduce mortality.

*Key words: Pneumonia, sepsis, dehydration, mortality*

## **Management of an Internal Disaster: A Real Time Incident**

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Health facilities are usually well prepared to grapple with external crisis situations, but internal hazards are more crucial and may necessitate immediate evacuation of healthcare facility. This study delineates a true Operation Room (OR) fire incident and details the challenges encountered by OR staff in preserving both life and property. The institute has in place a robust fire fighting and fire prevention system with fully equipped with advanced fire fighting equipment and trained manpower. A horrible arching sound burst opened with a bright white fire flame in one of OR. The immediate actions, as expected, put in were evacuation of patients, dousing and containment of fire and smoke. Within no time fire personnel rushed to the site and fire was extinguished within three to four minutes, yet, whole OT complex was engulfed with smoke and dust. Heating and Air Conditioning (HVAC) and Electrical supply was cut off. After two hours, fire department gave the clearance; and work to restart the services was initiated. The debris were removed, complete area was washed, carbolised, electricity and HVAC supply restored and all patients were transferred back to their respective wards. Within 72 hours out of seven OR, five were made functional, while two OTs were closed air tight for further repair and renovation. SWOT analysis was done to bridge the gaps found, mitigate and strengthen the services. The occurrence of such incidents is detrimental to patients, public as well as healthcare staff. Careful coordination and continuous training and regular fire drill exercises can improve the overall outcomes and minimize the possibility of these potentially fatal problems.

*Keywords: Healthcare, Fire, Operation theatre, Operation room*

## **A Comparative Study of E-Waste Awareness and Practice among Medical and Engineering Students in Pondicherry**

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With advancing science and technology, the numbers of electrical and electronic products developed each day are on rise. This has substantially increased the amount of e-waste generated globally and in India. The ill effects to health and environment, due to e-waste are constantly studied. The first step to regularize this is to find the existing awareness and practices among the public and then filling the gaps. This study is a cross sectional study conducted among the engineering and medical college students using a pre-designed questionnaire. There were 578 engineering and 401 medical students in total. Medical students had more knowledge on health and environmental hazards associated with e-waste as compared to engineering students. Both groups didn't have adequate knowledge on the existing legislative policies. Engineering students will go for recycling of electronic gadgets than medical students. Both the group was used to buying new gadgets even if the older one was in good working condition. But medical students were more in favor of buying branded products while many engineering students agreed that they were in the habit of getting second hand items.

*Keywords: E waste, Awareness, Knowledge*