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## Content

# Aging

1. **Elderly People and Decision Making Power in Family: An Empirical Study of Siliguri Elders.** Sourajit Roy. *South Asian Anthropologist, Vol 17, No 2, Sept 2017, Pp-201-210*

The decision making power of a person in family is an important indicator which expresses the status of that person in the family. It is wide believed that, traditional Indian society the decision making role in the family was in the hands of elderly persons. But, in the phase of modernization, this role of the aged people has largely eroded. In this context, this paper examines the decision making power of elderly persons in the family on the basis of some selected independent variables like age, sex, marital status, economic dependency and living arrangement. For this purpose, 286 elderly males and females were interviewed with an interview schedule from some middle class localities in Siliguri, West Bengal. Data analysis reveals that the decision making power of senior citizens in the family declines with the augmentation of age and loss of spouse. Widespread gender differences are also observed in this respect. The study further shows that economically independent aged and aged living in nuclear households participate more in family decisions than their counterparts.

**Keywords: Joint Family, Family Decision, Elderly Persons, Living Arrangements, Siliguri, West Bengal**

# Community Health

**2. Community Clinics Services in Bangladesh: Challenges and Opportunities.** Muhammad Mahmudur Rahman. *South Asian Anthropologist, Vol 17, No 2, Sept 2017, Pp- 179-186*

Health is globally recognized as a vital aspect of human development, without the development of health, overall development is not attainable. Bangladesh is a signatory to the declaration of Alma-Ata. Community health clinics were introduced as an important part of the national healthcare policy for ensuring primary healthcare in rural Bangladesh. The system of community health clinics in Bangladesh is contributing immensely in improving the public health status of the rural communities. The paper attempts to evaluate the challenges and opportunities of community health clinics in Bangladesh on the basis of some selected community clinics of Bangladesh, which included in brief discussion on the features of community health clinics in Canada too.

**Keywords: Community Health, Primary Health Care, Service Guidelines, Community Governed No-Profit, Prevention Programme**

## Diseases

**3. Correlation of thyroid hormone profile with biochemical markers of renal function in patients with undialyzed chronic kidney disease.** Swati Srivastava, Jitendra Rajput, Mayank Shrivastava, Ramesh Chandra, Mayank Gupta, Raman Sharma. *Indian Journal of Endocrinology and Metabolism, Vol 22, No 3, May-Jun 2018, Pp-316-320*

http://www.ijem.in/article.asp?issn=2230-8210;year=2018;volume=22;issue=3;spage=316;epage=320;aulast=Srivastava;type=0

Objective: The present study was conducted to evaluate the correlation of renal functions with thyroid hormone levels in patients with undialyzed chronic kidney disease (CKD). Literature shows significant alteration in thyroid hormone function tests in CKD patients who are receiving long-standing dialysis treatment. However, not much is described in those receiving conservative management without dialysis. Although CKD is associated with an increased prevalence of primary hypothyroidism, various studies on thyroid hormone status in uremic patients have reported conflicting results. Methodology: Thyroid hormone levels and biochemical markers of renal function were estimated in 30 undialyzed CKD patients and similar number of age- and sex-matched healthy controls, followed by statistical analysis and correlation. Results: Free triiodothyronine (FT3) and free thyroxine (FT4) were found to be significantly reduced ($P < 0.001$ for each) in undialyzed CKD patients whereas thyroid-stimulating hormone (TSH) levels showed statistically insignificant alteration in both groups. We also observed that urea and creatinine were negatively correlated whereas creatinine clearance was positively correlated with both FT3 and FT4 having high statistical (two tailed) significance with $P < 0.001$. Nonsignificant correlation was seen between blood urea and TSH ($r = 0.236$, $P = 0.069$), creatinine clearance, and TSH ($r = 0.206$, $P = 0.114$ Pearson's correlation coefficient). There is just significant positive correlation between the serum creatinine values and TSH ($r = 0.248$, $P = 0.049$). Conclusions: Thyroid hormones were significantly decreased in undialyzed CKD patients as compared to healthy controls.

**Keywords: Chronic Kidney Disease, Renal Function Tests, Thyroid Hormones**

4. **Study of visceral and subcutaneous abdominal fat thickness and its correlation with cardiometabolic risk factors and hormonal parameters in polycystic ovary syndrome.** Debarchan Jena, Arun Kumar Choudhury, Swayamsidha Mangaraj, Mamata Singh, Binoy Kumar Mohanty, Anoj Kumar Baliarsinha. *Indian Journal of Endocrinology and Metabolism, Vol 22, No 3, May-Jun 2018, Pp-321-327*

http://www.ijem.in/article.asp?issn=2230-8210;year=2018;volume=22;issue=3;spage=321;epage=327;aulast=Jena;type=0

Aim of the Study: This study aimed to compare the different adiposity parameters, namely visceral adipose tissue (VAT) and subcutaneous adipose tissue (SAT) between patients with polycystic ovary syndrome (PCOS) and controls. In addition, it aimed to correlate these adiposity indices with hormonal parameters as well as cardiovascular (CV) risk factors in patients with PCOS. Materials and Methods: Newly diagnosed PCOS patients of reproductive age group according to Rotterdam criteria were included. Age- and body mass index (BMI)-matched healthy females with normal menstrual cycles were taken as controls. All the study participants underwent detailed clinical, biochemical, and hormonal evaluation. Transabdominal ultrasound (US) was performed for detailed ovary imaging and assessment of adiposity (SAT and VAT) parameters. Results: A total of 58 PCOS patients and 40 age- and BMI-matched controls were included. PCOS patients had significantly higher levels of androgens ($P < 0.001$), elevated highly sensitive C-reactive protein ($P = 0.007$), and higher degree of insulin resistance ($P < 0.001$) than controls. PCOS patients had a mean SAT of 2.37 ± 0.7 cm and mean VAT of 8.65 ± 1.78 cm. These parameters were significantly higher than controls who had a mean SAT of 2.01 ± 0.7 cm ($P = 0.014$) and mean VAT of 7.4 ± 1.89 cm ($P = 0.003$), despite both groups having similar BMI. Among PCOS cohort, VAT correlated positively with total testosterone ($r = 0.295$, $P = 0.025$) and negatively with dehydroepiandrosterone sulfate ($r = −0.210$, $P = 0.114$). However, no significant correlation was observed between SAT and androgens in PCOS group. Conclusion: PCOS patients, whether obese or nonobese, had elevated visceral adiposity than controls. VAT correlated positively with adverse CV risk factors and testosterone in PCOS patients. Hence, a

simple and inexpensive ultrasonography screening of visceral fat may identify women who have adverse metabolic profile and enhanced CV risk.

**Keywords: Androgen, Highly Sensitive C-Reactive Protein, Insulin Resistance, Obesity, Polycystic Ovary Syndrome, Testosterone, Visceral Adipose Tissue**

**5. Impairment of health-related quality of life among Indian patients with hypothyroidism.** C Shivaprasad, Boppana Rakesh, Kolly Anish, Pullikal Annie, Goel Amit, CS Dwarakanath. *Indian Journal of Endocrinology and Metabolism, Vol 22, No 3, May-Jun 2018, Pp-335-338*

http://www.ijem.in/article.asp?issn=2230-8210;year=2018;volume=22;issue=3;spage=335;epage=338;aulast=Shivaprasad;type=0

Context: Health-related quality of life (HRQL) is an important outcome measure for various diseases, although there are sparse data regarding HRQL among Indian patients with hypothyroidism. Aims: This study aimed to assess HRQL among Indian patients with hypothyroidism using the SF-36 questionnaire. Methods: This cross-sectional study evaluated 244 consecutive patients with hypothyroidism who were treated at the Vydehi Institute of Medical Sciences and Research Centre in Bengaluru. All patients were >18 years old and visited the outpatient department for endocrine treatment. Perceived health status was evaluated using the SF-36 questionnaire. The patients' data were compared to data from 250 age-matched and sex-matched healthy controls. Results: Compared to the healthy controls, the patients with hypothyroidism had significantly lower scores for six of the eight SF-36 scales. No significant intergroup differences were observed in the “role emotional” and “social functioning” dimensions. Interpretation and Conclusions: Hypothyroidism was associated with reduced HRQL among Indian patients. These patients generally experienced greater reductions in physical dimensions, compared to social and emotional dimensions.

**Keywords: Health-related quality of life, hypothyroidism, India, SF-36**

**6. Molecular profiling of follicular variant of papillary thyroid cancer reveals low-risk noninvasive follicular thyroid neoplasm with papillary-like nuclear features: A paradigm shift to reduce aggressive treatment of indolent tumors.** Nelson George, Amit Agarwal, Niraj Kumari, Sarita Agarwal, Narendra Krisnani, Sushil Kumar Gupta. *Indian Journal of Endocrinology and Metabolism, Vol 22, No 3, May-Jun 2018, Pp-339-346*

http://www.ijem.in/article.asp?issn=2230-8210;year=2018;volume=22;issue=3;spage=339;epage=346;aulast=George;type=0

Introduction: Encapsulated follicular variant of papillary thyroid carcinoma (EFVPTC) has been reclassified into noninvasive follicular thyroid neoplasm with papillary-like nuclear features (NIFTP) and invasive EFVPTC. NIFTP is considered a low-risk neoplasm. Therefore, follicular variant of papillary thyroid cancer (FVPTC) presently has two distinct histopathological subtypes – invasive EFVPTC and infiltrative/diffuse FVPTC. Molecular characteristics of these groups remain unclear. Methodology: Thirty FVPTCs (10 NIFTPs, 12 invasive EFVPTCs, and 8 infiltrative/diffuse variants) were reviewed and screened for BRAF and RAS mutations by restriction fragment length morphism-polymerase chain reaction (PCR) and Sanger sequencing. The mRNA expression levels of iodine-metabolizing genes were analyzed using real-time PCR. The mutations status and mRNA expression levels were correlated with clinicopathological features. Results: All 10 NIFTPs had predominant follicular pattern. One case showed NRAS mutation, whereas none showed BRAF mutation. All invasive EFVPTC had capsular and/or lymphovascular invasion and 4/12 showed lymph node metastasis. BRAF and NRAS were seen in three cases each of invasive FVPTC. All eight infiltrating/diffuse FVPTCs showed infiltration into adjacent thyroid parenchyma and lymph node metastasis. Conclusion: BRAF mutation was observed in 62.5% of cases; however, no NRAS mutation was found. Sodium iodide symporter (NIS) expressions in NIFTP were similar to that of normal thyroid tissue, whereas it was downregulated in invasive and infiltrative/diffuse FVPTC. Our study supports the argument that NIFTP can be considered as low-risk follicular thyroid neoplasm. Those tumors that harbor BRAF mutations may be offered a complete thyroidectomy because they

show decreased expression of NIS gene which confers a tendency to lose radioactive iodine avidity and further recurrence of the tumor.

**Keywords: BRAF Mutations, Infiltrative/Diffusing Follicular Variant Of Papillary Thyroid Cancer, Invasive Encapsulated Follicular Variant Of Papillary Thyroid Carcinoma, Iodine-Metabolizing Genes, Noninvasive Follicular Thyroid Neoplasm With Papillary-Like Nuclear Features, RAS Mutations**

**7. The impact of uniform capsular dissection technique of total thyroidectomy on postoperative complications: An experience of more than 1000 total thyroidectomies from an endocrine surgery training centre in North India.** Gyan Chand, Sudhi Agarwal, Anjali Mishra, Gaurav Agarwal, AK Verma, Saroj Kumar Mishra, Amit Agarwal, Ashok Kumar. *Indian Journal of Endocrinology and Metabolism, Vol 22, No 3, May-Jun 2018, Pp-362-367*

http://www.ijem.in/article.asp?issn=2230-8210;year=2018;volume=22;issue=3;spage=362;epage=367;aulast=Chand;type=0

Background: Total thyroidectomy (TT) with a uniform technique of capsular dissection (CD) is the preferred technique worldwide. The aim of study is to analyze the impact of uniform technique of CD for done as primary surgery at an endocrine surgery training centre. Patients and Methods: Retrospective review from 1995 to 2009. Data collected from hospital records and follow-up . Results: One thousand and thirty-eight cases were included, with mean age 42.91 ± 13.48 years; male:female – 1:2.2; mean duration of goiter – 99.83 ± 105.1 months; 67.8% were euthyroid and 30.7% – hyperthyroid at initial presentation; 35.5% were malignant. Surgery includes TT alone – 77.7% and TT with lymph nodes dissection – 22.3%; sternotomy required in 1.2% and thoracotomy in 0.1%; tracheomalacia present in 3.9%; however, tracheostomy required in 4.5% and parathyroid autotransplantation in 21%; Peroperative mean gross gland weight was 124.34 ± 129.85 g. Complications include hypocalcemia (temporary – 35.9%; permanent – 1.3%); recurrent laryngeal nerve palsy (temporary – 2.7%; permanent – 91%); hemorrhage – 1.3%; and various others. Conclusion: TT with uniform technique of CD is a safe procedure. Certain risk

factors may predispose to complications, which can be avoided and managed adequately if anticipated beforehand.

**Keywords: Capsular Dissection, Complications, Primary Total Thyroidectomy, Uniform Technique**

**8. Five-year retrospective study on primary hyperparathyroidism in South India: Emerging roles of minimally invasive parathyroidectomy and preoperative localization with methionine positron emission tomography-computed tomography scan.** VJ Mallikarjuna, Vivek Mathew, Vageesh Ayyar, Ganapathy Bantwal, V Ganesh, Belinda George, GN Hemanth, P Vinotha. *Indian Journal of Endocrinology and Metabolism, Vol 22, No 3, May- Jun 2018, Pp-355-361*

http://www.ijem.in/article.asp?issn=2230-8210;year=2018;volume=22;issue=3;spage=355;epage=361;aulast=Mallikarjuna;type=0

Background: Primary hyperparathyroidism (PHPT) is a common endocrine disease with a variable clinical presentation. PHPT is usually symptomatic at presentation in majority of the patients, especially in developing countries. As the accessibility to investigations, advanced imaging methods and surgical procedures are improving, the clinical profile of the patients with PHPT has undergone a palpable change compared to the earlier description. Hence we decided to look for a change in clinical, imaging and surgical outcomes of PHPT patients from South India. Methods: We collected the data on clinical presentation, biochemistry, radiological features and operative findings of patients with PHPT treated in our hospital from 2011-2015. Cases of PHPT were identified from the laboratory values using the biochemical criteria, after the exclusion of secondary and tertiary hyperparathyroidism cases. Results: Our study identified 54 patients (19 males and 35 females) with age ranging from 16 to 71 years. A Significant proportion(38.9%) of the patients were asymptomatic. Musculoskeletal symptoms (40.7%), renal manifestations (27.7%) and gastrointestinal system involvement (27.7%) constituted the other common modes of presentation. CNS involvement was seen in 3 patients.

A palpable nodule in the neck was detected in 4 patients. Interestingly 4 patients were managed for parathyroid crisis at presentation. Biochemical features included hypercalcaemia (100%) and hypophosphatemia (59%) with a mean intact PTH level of 602.0±721.3 pg/ml. Sensitivity of Ultrasonography and Tc99M Sestamibi was 72% and 70.6% respectively for detecting a parathyroid adenoma. Sensitivity of C11 methionine PET-CT was 71.4% in those patients who were negative for other imaging modalities. Forty three patients (79.6%) underwent minimally invasive parathyroidectomy. Conclusion: In South India we have a notable change in the clinical presentation of PHPT from a symptomatic to an asymptomatic state. C11 Methionine PET - CT is an emerging modality for preoperative localisation especially when other imaging modalities are negative and when a minimally invasive parathyroidectomy is desired.

**Keywords: C11 METHIONINE Positron Emission Tomography-Computed Tomography, Minimal Access Surgery, Parathyroid Gland Weight, 99mtc Sestamibi, Vitamin D**

**9. Prevalence of pediatric metabolic syndrome and associated risk factors among school-age children of 10–16 Years living in District Shimla, Himachal Pradesh, India.** Anmol Gupta, Amit Sachdeva, Narender Mahajan, Aakriti Gupta, Neha Sareen, Ravindra Mohan Pandey, Lakshmy Ramakrishnan, Hem Chandra Sati, Brij Sharma, Neetu Sharma, Umesh Kapil. *Indian Journal of Endocrinology and Metabolism, Vol 22, No 3, May-Jun 2018, Pp-373-378*

http://www.ijem.in/article.asp?issn=2230-8210;year=2018;volume=22;issue=3;spage=373;epage=378;aulast=Gupta;type=0

Introduction: Recently, an increasing trend in the prevalence of pediatric metabolic syndrome (PMS) among school-age children has been documented in different parts of India. There is lack of data on the prevalence of PMS and its associated risk factors among school-age children living in district Shimla, Himachal Pradesh. Hence, to fill in the gap in the existing knowledge, the present study was conducted. Methodology: A cross-sectional study was conducted during 2015–2016. Thirty

clusters (schools) were identified from a list of all schools using population proportionate to size sampling methodology. From each school, 70 children in the age group of 10–16 years were selected. Data was collected on the sociodemographic characteristics, anthropometry, waist circumference, blood pressure, and physical activity. Fasting venous blood samples were collected for estimation of blood glucose, triglycerides, and high-density lipoprotein levels. Results: The prevalence of PMS using International Diabetes Federation classification was 3.3% and using modified-adult treatment panel classification criteria was 3.5%. Risk factors identified to be associated with PMS among school-age children were (i) male gender, (ii) high family monthly income, (iii) sedentary lifestyle, (iv) consumption of evening snack, (v) television/computer viewing, and (vi) motorized transportation for commuting to school. Conclusion: The PMS prevalence was 3.3% in school-age children residing in District Shimla. There is a need to formulate interventions to prevent and correct metabolic syndrome among them for reducing early onset of cardiovascular disease during adulthood.

**Keywords: Diabetes, Dyslipidemia, Himachal Pradesh, Hypertension, Obesity, Pediatric Metabolic Syndrome**

**10. Prognostic value of thyroid profile in critical care condition.** Manish Gutch, Sukriti Kumar, Keshav Kumar Gupta. *Indian Journal of Endocrinology and Metabolism, Vol 22, No 3, May-Jun 2018, Pp-387-391*

http://www.ijem.in/article.asp?issn=2230-8210;year=2018;volume=22;issue=3;spage=387;epage=391;aulast=Gutch;type=0

Background: Patients suffering from critical illness admitted to the Intensive Care Unit (ICU) exhibit alterations in their thyroid hormone levels, collectively termed as euthyroid sick syndrome or nonthyroidal illness syndrome. Our study was conducted to determine the correlation between these changes in thyroid hormone levels and the prognosis of ICU-admitted patients. Methods: A total of 270 ICU-admitted patients without previous history of thyroid disorder were included in the study. We recorded their baseline characteristics, acute physiology and chronic

health evaluation (APACHE-II) score, thyroid hormone levels, lactate, and other parameters on admission. ICU mortality was the primary outcome. We analyzed the ability of each parameter to predict mortality in the participants. Further, we also evaluated whether the combination of thyroid hormone levels with APACHE-II score could improve the mortality prediction. Results: The mean age of the study population was 38.99 ± 18.32 years. A total of 81 patients (30%) expired during their ICU treatment. Both fT3 and fT4 levels were lower in nonsurvivors compared to survivors. Among the thyroid hormones, fT3 had the highest predictive value for ICU mortality, as seen by the largest area under the curve (AUC) value (0.990 ± 0.007) which was even greater than AUC of APACHE-II score (0.824 ± 0.051) and fT4 (0.917 ± 0.049). Univariate logistic regression analysis showed that fT3 (β = 140.560) had the highest predictive potential for ICU mortality compared with APACHE-II score (β = 0.776), fT4 (β = 17.62) and other parameters. Multivariate logistic regression analysis revealed that the combination of fT3 and APACHE-II (R2 = 0.652) was superior in predicting mortality than APACHE-II alone (R2 = 0.286). Conclusion: We observed that fT3 was the strongest predictor of ICU mortality compared to all other parameters included in our study. Further, the combination of fT3 levels and APACHE-II scores provided for a higher probability for predicting mortality in ICU patients.

**Keywords: Intensive Care, Sick Euthyroid Syndrome, Thyroid Profile**

**11. Intraoperative parathyroid hormone monitoring in guiding adequate parathyroidectomy.** Aabid Hassan Naik, Munir Ahmad Wani, Khursheed Alam Wani, Bashir Ahmad Laway, Ajaz Ahmad Malik, Zafar Amin Shah. *Indian Journal of Endocrinology and Metabolism, Vol 22, No 3, May- Jun 2018, Pp-410-416*

http://www.ijem.in/article.asp?issn=2230-8210;year=2018;volume=22;issue=3;spage=410;epage=416;aulast=Naik;type=0

Background: Parathyroidectomy has been traditionally performed through bilateral neck exploration (BNE). However, with the use of intraoperative parathyroid hormone (IOPTH) assay along with preoperative localization studies, focused

parathyroidectomy can be performed with good surgical success rate, multiglandular disease can be predicted, and hence recurrence and surgical failure can be prevented. Furthermore, it predicts eucalcemia in the postoperative period. The aim of this study was to evaluate the usefulness of IOPTH assay in guiding adequate parathyroidectomy in patients of primary hyperparathyroidism. Materials and Methods: Between year 2015 and 2017, 45 patients of primary hyperparathyroidism underwent parathyroidectomy with IOPTH assay employed as an intraoperative tool to guide the surgical procedure. Blood samples were collected: (1) at preincision time, (2) preexcision of gland, (3) 5-min postexcision of gland, and (4) 10-min postexcision of gland. On the basis of the Irvin criterion, an intraoperative PTH drop >50% from the highest either preincision or preexcision level after parathyroid excision was considered a surgical success. Otherwise, BNE was performed and search for other parathyroid glands done. Results: Ten-min postexcision PTH levels dropped >50% in 34 (75.6%) patients. True positive among them were 31 (68.8%), true negative 8 (17.7%), false positive 3 (6.6%), and false negative 3 (6.6%). We performed focused exploration at the outset in 40 (88.9%) patients and bilateral exploration for five patients as guided by preoperative localizing studies. Hence, IOPTH was helpful in guiding further exploration in 8 (17.7%) patients and prevented further exploration in 32 (71.1%) patients and also was able to predict eucalcemia in 97.7% patients at 6 months. Thus, IOPTH was able to obviate or to ask for additional procedure in 88.8% of patients. However, in three (6.6%) patients, IOPTH would guide unnecessary exploration and in equally, that is, three (6.6%) patients may require reoperation for unidentified parathyroids. Conclusion: IOPTH in adjunct with other localizing studies is very helpful for carrying out successful parathyroidectomy in uniglandular disease and predicting postoperative eucalcemia. However, more importantly, its role is valuable in equivocal imaging, in such cases, it prevents unnecessary exploration or helps in adequate parathyroidectomy.

**Keywords: Intraoperative Parathyroid Hormone, Parathyroid Hormone, Parathyroidectomy, Primary Hyperparathyroidism**

**12. Current Status of Chikungunya in Assam: A Six Month Study.** D Raja, C Phukan, B Das. *Assam Journal of Internal Medicine, Vol 8, No 2, Jul 2018, Pp-8*

http://apiassam.com/admin/files/ajim_july_2018.pdf

Background: Objectives: To determine the prevalence of the cases of Chikungunya and to correlate the clinical symptoms of Chikungunya with serological findings in patients attending Gauhati Medical College and Hospital. Material and Methods: The study was carried out among 1002 clinically suspected Chikungunya cases presenting with fever, headache, retro-orbital pain, back pain and arthralgia. The samples were tested for Chikungunya virus specific IgM antibodies, in the Department of Microbiology, Gauhati Medical College and Hospital. Detection of CHIK V IgM antibodies in serum of all subjects was carried out by ELISA kits procured from NIV, Pune. Age, sex wise distribution and the period of peak incidence of the positive cases was studied. Result: In the study, the seroprevalence of Chikungunya among the suspected cases was 13.77%. The prevalence of Chikungunya infection according to clinical symptoms were 98.55% fever, 68.84% headache, 28.98% retro-orbital pain, 27.53% back pain, 18.11% arthalgia. Gender wise distribution showed male and female ratio to be 1.15%.The metro population were infected more than the rural population. The maximum number of seropositive was seen among Kamrup Metro followed by kamrup (R) .The peak season was in the month of October and in the 20-29 years age group. Conclusion: Chikungunya is an emerging viral infection which is spreading to new areas in the region.Therefore it is essential to have a proper diagnostic laboratory support, proper surveillance system and public awareness to prevent the spread of the disease.

**Keywords: Chikungunya; Capture Linked Immunosorbant Assay, Seropositivity**

**13. Prevalence of Sepsis among Diabetes Mellitus Patients admitted in a Tertiary Care Hospital.** P. Dihingia, S. M. Baruah, T. K Das, C. Dutta, N. J. Kakati. *Assam Journal of Internal Medicine, Vol 8, No 2, Jul 2018, Pp-13*

http://apiassam.com/admin/files/ajim_july_2018.pdf

Background: Diabetes is associated with an increased susceptibility to infection and sepsis. The main reason for which diabetes predisposes to infection appears to be abnormalities of the host response, defects in humoral immunity attributable for hyperglycaemia. The aims of this study were to describe the prevalence of sepsis among diabetes patients both urban and rural population in the Assam Medical College, a tertiary care hospital in the upper Assam. Methods: This cross-sectional hospital-based study was carried out in the in patients of our unit. The survey was conducted in the period between March 2016 and Feb 2017 for a period of 1 year among the diabetes patients. The subjects were assessed clinically and information were obtained from the routine Diabetic profile. Results: Total number of diabetics in our study was 171 among which 27(15.78%) were having sepsis. Urinary tract infection (UTI) and Respiratory tract infection (RTI) were found to be the most common source of sepsis. Conclusions: Infection remains an important cause of morbidity and mortality in diabetics, probably due to abnormalities of the host response, particularly in neutrophil chemotaxis, adhesion and intracellular killing. Hence strict glycemic control and early diagnosis and treatment of infection can prevent sepsis and mortality from diabetes.

**Keywords: Urinary tract infection, Respiratory tract infection, Infection**

**14. Prevalence of UTI and Pattern of Micro-organisms involved in Diabetes Mellitus.** J Das, G C Deka, A K Borah, M Handique. *Assam Journal of Internal Medicine, Vol 8, No 2, Jul 2018, Pp-16*

http://apiassam.com/admin/files/ajim_july_2018.pdf

Introduction: Infections are more common in diabetics than their nondiabetic counterparts and causing frequent morbidity and mortality. UTIs being the most common infections in diabetic patients which is very difficult to treat because of its frequent recurrence and associated burden of medical costs. Aim of the study: This study was done to determine the prevalence of urinary tract infection in diabetic patients, the various micro-organisms involved and its pattern of sensitivity and resistance to various available antimicrobials in our hospital set up. Materials and

Method: This is a hospital based prospective, observational study done in a tertiary care hospital for a period of one year. Admitted cases of diabetes mellitus with UTI in medicine wards were taken for the study with the exclusion of pregnant women, renal impairment (CKD and AKI), cases who received antimicrobial drugs during past one month, diabetic patients on wheelchair, with severe psychiatric disorders, under urinary catheterization, and refusal to give their informed consent. Also immunocompromised states like HIV, patients on steroids, malignancy and transplant recipients were excluded. Results: In our study, we have included total 151 diabetic patients for study. Among them 107(70.86%) cases were male and 44 (29.14%) were female. Out of 151 patients 65 (43.04%) had UTI. We encountered 45.45% of female (n=20) having UTI in comparison to 42.05 % of male (n=25). Also, the most common age group that had UTI was 51-60 years of age (45%) in female and 61-70 years of age in male (40%). E. coli (64.61%) was the most common organism causing UTI followed by Klebsiella pneumoniae (13.84 %) and Staphylococcus aureus (4.61 %). Antimicrobial sensitivity pattern revealed that amikacin, nitrofurantoin and imipenem were most sensitive antibiotics whereas Linezolid, Amoxyclave and Norfloxacin were least sensitive anti-bacterial we encountered. Conclusion: High prevalence of UTI in diabetic patient with female predominance along with significant associations between UTI and glycemic control have been observed in our study. This study will help physician to select empirical antibiotics for UTI in diabetes especially in this part of our country.

**Keywords: Urinary Tract Infections, Microorganism, Diabetes Mellitus, Culture, Susceptibility Test, Glycemic Control**

**15. Tanner's target height formula underestimates final height in Asian Indians – A cross-sectional observational study.** Sridevi Atluri, Kavya Bharathidasan, Vijaya Sarathi. *Indian Journal of Endocrinology and Metabolism, Vol 22, No 4, Jul-Aug 2018, Pp-441-444*

http://www.ijem.in/article.asp?issn=2230-8210;year=2018;volume=22;issue=4;spage=441;epage=444;aulast=Atluri

Introduction: Target height (TH) calculation by Tanner's formula has been shown to be inaccurate in many countries However, there is no published data on the accuracy of TH calculation by Tanner's formula in Indians. Hence, this study was conducted to assess whether Tanner's TH formula is an accurate tool to predict final height in Asian Indian population and to identify new TH formulae or models to better fit Indian population. Material and Methods: This is a cross-sectional, questionnaire-based study conducted in a tertiary care hospital from South India. A total of 396 questionnaires were randomly distributed to undergraduate medical students who were instructed beforehand to get their heights and heights of their parents and siblings between the age of 18 to 24 years of age measured by a nearby pediatrician. From 396 questionnaires, data of 481 young adults and their parents were obtained. Target height was calculated by Tanner's formula and compared with attained height. Results: The study comprised of 197 males and 284 females. Sons and daughters were 2.34 ± 7.19 cm and 1.58 ± 5.68 cm taller than TH. Son's height had best correlation with TH (r = 0.408), whereas daughter's height had best correlation with maternal height (r = 0.560). Both males (0.263 vs 0.365) and females (0.319 vs 0.560) had relatively weaker correlation with paternal heights than maternal heights. Target height explained 29.7% and 16.7% of variance in daughter's and son's height, respectively. Using the parental heights as variables, multiple regression yielded 50.03 + 0.172 (father's height) +0.510 (mother's height) and 74.09 + 0.236 (father's height) +0.377 (mother's height) as the best models to predict daughter's and son's height, respectively. Conclusion: Our study suggests that Tanner's TH formula underestimates final attainable height in Asian Indians.

**Keywords: Parental Heights, Tanner's Formula, Target Height**

**16. Assessment of glomerular and tubular function in the evaluation of diabetic nephropathy: A cross-sectional study.** Sandeep Kumar Agarwal, Uma Kaimal Saikia, Dipti Sarma, Runi Devi. Indian Journal of Endocrinology and Metabolism, Vol 22, No 4, Jul-Aug 2018, Pp-451-456

Background: Diabetic nephropathy (DN) occurs in 20%–40% of patients with diabetes, and it is characterized by proteinuria and progressive loss of renal functions ultimately leading to end-stage renal disease. Classically, albuminuria is

regarded as a consequence of diabetes-induced glomerular damage. It is now being appreciated that the renal tubulointerstitium also plays a role in the development of DN.[1] Urinary cystatin C (UCC) is an emerging marker of DN. It is totally catabolized by proximal tubular cells and is not normally present in the urine. However, in the presence of tubulopathy, it is excreted in urine, and serum levels also are elevated due to lack of catabolism. Materials and Methods: The present study was conducted to evaluate the presence of glomerulopathy and tubulopathy in patients with type 2 diabetes mellitus (T2DM) and to correlate them with established risk factors for nephropathy. We aimed at evaluating the level of UCC as a marker of tubulointerstitial damage in patients with T2DM in relation to the level of albuminuria and other parameters. Seventy-two patients with T2DM (mean age, 47.44 ± 10.40 years) and 45 healthy age- and sex-matched subjects were evaluated for UCC, serum creatinine, and urinary albumin-creatinine ratio (UACR) along with other parameters. Results: Of the 72 patients included in the study, microalbuminuria was found in 26% and macroalbuminuria in 10% of cases. UCC was significantly higher in micro- and macro-albuminuric groups in comparison with normoalbuminuric patients and correlated positively with UACR. Among the 46 patients with normoalbuminuria, 11 had elevated UCC levels indicating early tubular dysfunction. Conclusions: This finding may support the hypothesis of a "tubular phase" of diabetic kidney disease preceding overt DN, and hence, the use of UCC measurement for early evaluation of renal involvement.

**Keywords: Cystatin C, Diabetic Nephropathy, Urinary Albumin-Creatinine Ratio**

**17. A study on psychiatric disorders, body image disturbances, and self-esteem in patients of Cushing's disease.** Akanksha Sharma, Neena Sawant, Nalini Shah. *Indian Journal of Endocrinology and Metabolism, Vol 22, No 4, Jul-Aug 2018, Pp-445-450*

http://www.ijem.in/article.asp?issn=2230-8210;year=2018;volume=22;issue=4;spage=445;epage=450;aulast=Sharma

Background: Cushing's disease (CD) is a rare endocrine disorder associated with increased serum levels of cortisol secreted due to an underlying tumour in pituitary.

Psychiatric disturbances like depression, psychosis, mania along with body image disturbances are seen in patients of CD. Hence, we undertook this research to find the prevalence and type of psychiatric disorders, body image disturbances, and self-esteem in patients of CD. Materials and Methods: Thirty-five patients diagnosed as CD as per the standard criteria by the endocrinologist were recruited after informed consent and ethics approval. Proforma with demographic details, Structured Clinical Interview for DSM-IV, Beck Depression Inventory (BDI), Rosenberg Self-Esteem Scale, and Body Image Concern Inventory were used for assessment of the aims. Results: 65% patients had psychopathology with 21% patients having major depressive disorder, 62% patients had mild, and 28% had moderate depression on BDI. 50% patients had body image disturbances and 60% had low self-esteem. Depression was found to have a negative correlation with self-esteem and positive correlation with body image disturbances. Conclusion: A high prevalence of psychopathology is seen in patients of CD which may often go undetected. Liaison with the endocrinologist would also work towards improving the issues of body image disturbances and self-esteem for better prognosis for the patient.

**Keywords: Body Image Disturbances, Cushing's Disease, Psychiatric Morbidity, Self-Esteem**

**18. Reduced diabetes mellitus-related comorbidities by regular self-monitoring of blood glucose: Economic and quality of life implications.** Viswanathan Mohan, Jayashree A Mapari, Pratibha D Karnad, Jasdeep S Mann, Vikalp K Maheshwari. *Indian Journal of Endocrinology and Metabolism, Vol 22, No 4, Jul-Aug 2018, Pp-461-465*

http://www.ijem.in/article.asp?issn=2230-8210;year=2018;volume=22;issue=4;spage=461;epage=465;aulast=Mohan

Objectives: The objective of the study was to understand the role of self-monitoring of blood glucose (SMBG) for better management of glycemic fluctuations, reducing the risk of complications, and the associated cost benefits for diabetes patients in India. Materials and Methods: An Excel-based Cost Impact Model was developed to analyze the impact of SMBG by calculating the savings over a 10-year time period. A

literature review was undertaken to model the impact of SMBG on the risk of complications and cardiovascular morbidities. The model was developed based on inputs from previous studies. Results: In the base case, SMBG cohort was associated with a 10-year discounted cost of INR 718,340, resulting in an estimated saving of INR 120,173 compared to no SMBG cohort. Implementation of a once-daily SMBG protocol, for a decade, can reduce the complication-related costs. More frequent SMBG and tri-monthly hemoglobin A1c tests along with lifestyle changes can significantly reduce the financial burden on the patient over the lifespan. Conclusion: Our study has shown that proactive management of diabetes with SMBG can improve treatment outcomes and reduce morbidity and mortality associated with this disease. Near-normal blood glucose levels can bring in cost savings in the form of reduced long-term complications and avoidance of repeated hospitalization for the management of such complications, along with an improved quality of life.

**Keywords: Control And Complications, Current Status Of Diabetes Care, Diabcare India, Diabetes Mellitus, Self-Monitoring Of Blood Glucose**

**19. Serum lipid and leptin concentrations in patients with Sheehan syndrome.** Shahnaz A Mir, Tabinda Shah, Hardeep Singh, Iram Shabir, Bashir A Laway. *Indian Journal of Endocrinology, Vol 22, No 4, Jul-Aug 2018, Pp- 466-468*

http://www.ijem.in/article.asp?issn=2230-8210;year=2018;volume=22;issue=4;spage=466;epage=468;aulast=Mir

Background: Sheehan syndrome (SS) refers to the occurrence of hypopituitarism after parturition. Hypopituitary adults with growth hormone (GH) deficiency have abnormal body composition with increased fat mass. As leptin is secreted almost exclusively by fat cells and the circulating leptin level is proportional to total fat mass, it is expected that abnormal elevations of leptin concentrations are found in GH deficient hypopituitary patients. The present study was undertaken to evaluate the anthropometric, lipid and leptin levels in patients with SS. Materials and Methods: Thirty patients with SS and 30 age and body mass index (BMI) matched

controls were part in this study. All patients were stable on conventional replacement therapy for at least 6 months before the study. The subjects underwent detail clinical, biochemical, and hormone analysis. Results: Patients with SS on conventional replacement therapy showed significantly higher mean triglyceride, total cholesterol, low density lipoprotein cholesterol and lower high density cholesterol concentrations. The leptin levels were significantly raised in the patients with SS on standard replacement therapy compared with controls. The difference was more marked in obese cases versus obese controls than in lean cases and controls (P = 0.001). Conclusion: SS, a cause of GH deficiency. Our study demonstrated that patients with SS have an abnormal lipid profile, and raised leptin levels as compared to age and BMI matched controls.

**Keywords: Leptin, Lipid Profile, Sheehan Syndrome**

**20. Efficacy and safety of biosimilar growth hormone in Indian children.** Vaman Khadilkar, Veena Ekbote, Anuradha Khadilkar, Ankita Maheshwari. *Indian Journal of Endocrinology and Metabolism, Vol 22, No 4, Jul-Aug 2018, Pp-525-529*

http://www.ijem.in/article.asp?issn=2230-8210;year=2018;volume=22;issue=4;spage=525;epage=529;aulast=Khadilkar

Objective: To study efficacy and safety of use of biosimilar growth hormone (GH) in Indian children with growth disorders. Materials and Methods: We studied 322 children (May 2012–2017) with growth disorders including growth hormone deficiency (GHD), multiple pituitary hormone deficiency (MPHD, idiopathic short stature (ISS), small for gestational age (SGA), and Turner syndrome (TS). Children were treated either with innovator molecule (Norditropin) or biosimilar GH (Headon) with standard dosage protocol for 1 year. Height and weight was measured using standard protocol. Height and BMI for age Z-scores (HAZ, BMIZ), height velocity (HV), and HV Z-score (HVZ) were computed from available data. Results: Mean age of the studied children (n = 322) was 9.6 ± 4.1 years, 32% children had GHD, 39% had ISS, 11% had MPHD, 12% had SGA, and 6% children had TS. There were no serious adverse events; three patients recorded eight instances of

headaches, two had rash at injection site, and one each had hives and facial edema. Reactions were mild and were treated symptomatically. At the end of the 1 year of GH therapy, change in HAZ was similar in children from both the innovator and biosimilar GH groups. Similarly, the HV and HVZ were also similar in children from both groups and all the studied growth disorders. Conclusion: Biosimilar GH was effective and safe for treatment in children with growth disorders where GH use is indicated. However, in the view of scarcity of such data a longitudinal study with large sample size is warranted.

**Keywords: Biosimilar GH, Efficacy of GH, Growth Disorders, Growth Hormone, Indian Children**

**21. The risk of developing obesity, insulin resistance, and metabolic syndrome in former power-sports athletes - Does sports career termination increase the risk.**
Mohammadreza Emami, Amir Behforouz, Lida Jarahi, Ahmadreza Zarifian, Amir Rashidlamir, Masoud Mahdavi Rashed, Homa Khaleghzade, Zahra Ghaneifar, Mohammad Safarian, Mohsen Azimi-Nezhad, Hossein Nikroo, Mohsen Nematy.
*Indian Journal of Endocrinology and Metabolism, Vol 22, No 4, Jul-Aug 2018, Pp- 515-519*

http://www.ijem.in/article.asp?issn=2230-8210;year=2018;volume=22;issue=4;spage=515;epage=519;aulast=Emami

Introduction: Obesity is associated with several complications like metabolic syndrome. Many professional athletes adopt a sedentary lifestyle after retirement. This study was aimed at assessing the risk of developing obesity, insulin resistance (IR), and metabolic syndrome among former power-sports athletes, compared with age-matched active athletes and nonathletes. Materials and Methods: The study was conducted in Mashhad during 2012–2014. The individuals were recruited through announcements and were divided into three groups of active athletes (n = 34), ex-athletes (n = 30), and nonathletes (n = 30). Demographic and anthropometric data were collected and biochemical factors including low-density lipoprotein cholesterol (LDL-C), high-density lipoprotein cholesterol (HDL-C), total cholesterol, triglycerides (TG), fasting plasma glucose, insulin, and high-sensitive C-reactive

protein were measured. Results: Ex-athletes had significantly higher mean values of weight, body mass index, diastolic blood pressure, LDL-C, insulin, homeostatic model assessment (HOMA) IR, and HOMA β-cell function (HOMA-%β-cell) compared with active athletes and nonathletes ($P < 0.001$, $P < 0.001$, $P < 0.001$, $P = 0.03$, $P = 0.01$, $P = 0.02$, and $P = 0.01$, respectively). However, mean values of HDL-C was significantly lower in ex-athletes compared with nonathletes ($P < 0.001$). The prevalence of metabolic syndrome showed no significant difference among three groups, although its mean was higher among ex-athletes. Conclusions: The results showed that abandoning regular athletic exercise and weight cycling in power sports athletes leads to adverse outcomes such as obesity and IR. Although higher IR might not necessarily result in metabolic syndrome in short term, it could cause metabolic syndrome in the long run.

**Keywords: Former Athlete, Insulin Resistance, Metabolic Syndrome, Obesity, Risk Factor**

**22. The burden of severe hypoglycemia on quality of life among diabetes mellitus patients in a tertiary level hospital of Bangladesh.** Afsar Ahammed, Faruque Pathan, Faria Afsana, Imran Ahammed, Ahmed Salam Mir, Abdullah Yusuf. *Indian Journal of Endocrinology and Metabolism, Vol 22, No 4, Jul-Aug 2018, Pp-499-504*

http://www.ijem.in/article.asp?issn=2230-8210;year=2018;volume=22;issue=4;spage=499;epage=504;aulast=Ahammed

Objective: This study aimed to determine the impact of hypoglycemia on health-related quality of life from a patient perspective. Materials and Methods: A cross-sectional study was conducted in 164 type 2 diabetes patients admitted due to severe hypoglycemia from August 2015 to October 2016 at Bangladesh Institute of Research and Rehabilitation in Diabetes, Endocrine and Metabolic Disorders, in Dhaka. Impact of severe hypoglycemia on health-related quality of life in diabetic patients was evaluated using the disease-specific questionnaire audit of diabetes-dependent quality of life-19 (ADDQOL-19). Results: The median ADDQOL score was calculated at −3.31. Totally, 88 (53.7%) patients reported an ADDQOL score of − 3.31 or more,

and 76 (46.3%) patients had an ADDQOL score of less than −3.31 (lower quality of life [QoL]). After considering weighting, "Freedom to eat" (mean Weighted Impact Score-6.32 ± 1.94) was the most and "Holidays" (mean Weighted Impact Score-0.96 ± 0.19) was the least affected QoL domains, respectively. In multivariate logistic regression analysis, severe hypoglycemia impact on ADDQOL was related with age (odds ratio [OR] 0.932, 95% confidence intervals [CIs] 0.897–0.969, P < 0.001), sex (OR 0.088, 95% CIs 0.023–0.338, P < 0.001), glycated hemoglobin (%) (OR 0.613, 95% CIs 0.422–0.890, P = 0.010), and marital status (OR 9.264, 95% CIs 2.467–34.790, P = 0.001). Conclusions: The results of this analysis suggest hypoglycemia impacts heavily on the well-being and quality of life of people with diabetes, and every effort should be made to minimize hypoglycemia while aiming for good glycemic control.

**Keywords: Audit of Diabetes-Dependent Quality of Life-19, Quality of Life, Severe Hypoglycemia, Type 2 Diabetes**

**23. The impact of thyroiditis on morbidity and safety in patients undergoing total thyroidectomy.** Krishnan Ravikumar, Sankaran Muthukumar, Dhalapathy Sadacharan, Umadevi Suresh, Thalavai Sundarram, Selladurai Periyasamy. *Indian Journal of Endocrinology and Metabolism, Vol 22, No 4, Jul-Aug 2018, Pp-494-498*

http://www.ijem.in/article.asp?issn=2230-8210;year=2018;volume=22;issue=4;spage=494;epage=498;aulast=Ravikumar

Background: The indications for surgery in thyroiditis vary from compressive symptoms to cosmesis. We analyzed the complications in patients who underwent total thyroidectomy (TT) in goiters associated with thyroiditis. Materials and Methods: This retrospective study was done in an endocrine surgical center over 4 years. A total of 724 patients, who underwent TT for benign thyroid disorders, were included in the study. Patients were divided into two groups based on histopathology into Group A (nonthyroiditis cases) and Group B (thyroiditis cases); Group B is subdivided into Group B1 (nodular goiter with associated thyroiditis) and Group B2 (Hashimoto's thyroiditis). The preoperative parameters analyzed were serum calcium, serum Vitamin D, serum parathyroid hormone (PTH), and vocal

cord status. The intraoperative parameters observed were operating time, parathyroid preservation, and autotransplantation and course of recurrent laryngeal nerve (RLN). Postoperative parameters monitored were serum calcium, serum PTH, serum magnesium, signs and symptoms of hypocalcemia, and vocal cord status. Follow-up was done at 6 months with serum calcium, serum PTH, and video laryngoscopy. Results: Both groups were age and sex matched. All preoperative and intraoperative parameters were comparable among groups. Both transient complications (<6 months) were higher in Group B than A. Transient hypocalcemia was higher in Group B (39.70%) than Group A (24.77%) (P = 0.001). Transient hypocalcemia was higher in Group B1 (36.58%) than Group B2 (44.44%) (P = 0.014). Transient RLN palsy was higher in Group B (9.55%) than Group A (7.52%) (P = 0.040). Transient RLN palsy was higher in Group B1 (8.53%) than Group B2 (11.11%) (P = 0.039). Permanent hypoparathyroidism and permanent RLN palsy were comparable between the Groups A and B and between Groups B1 and B2. Conclusion: The incidences of transient complications are higher in patients with thyroiditis. Careful analysis of surgical indications will avoid unnecessary surgery in thyroiditis cases.

**Keywords: Hypocalcemia, Recurrent Laryngeal Nerve Palsy, Thyroiditis**

**24. Discrepancy between the recommended and functional cut offs of Vitamin D among under-five children: Experiences from a pilot study.** Suchitra Surve, Shahina Begum, Sanjay Chauhan, Ikram Khatkhatay, Beena Joshi. *Indian Journal of Endocrinology and Metabolism, Vol 22, No 4, Jul-Aug 2018, Pp-473-478*

http://www.ijem.in/article.asp?issn=2230-8210;year=2018;volume=22;issue=4;spage=473;epage=478;aulast=Surve

Background and Objectives: Vitamin D is a key determinant of bone health and calcium homeostasis in children. Vitamin D deficiency (VDD) in early years may have an effect on total bone mass and risk of osteoporosis. Despite widespread prevalence of VDD among children, there is limited information in under-five age group. The objectives of the current study were to estimate the community-based prevalence of VDD and to identify the factors associated with children aged 1–5

years. Materials and Methods: A community-based cross-sectional study was conducted among 201 apparently healthy children (aged 1–5 years) in an urban slum of the selected geographical area in Mumbai. VDD was defined as serum 25-hydroxy Vitamin D (25[OH]D) levels <20 ng/ml as per the US Endocrine society classification. Results: The prevalence of VDD was found to be 74.6% (95% of confidence interval [68.6–80.6]). It was significantly higher (P = 0.04) among children staying indoors (44.8%). 25(OH)D was negatively correlated with parathyroid hormone (PTH) ([r = −0.199, P = 0.005]) and Alkaline phosphatase ([r = −0.140, P = 0.05]). However, the increase in PTH was observed when 25(OH)D levels were <10 ng/ml unlike anticipated increase at <20 ng/ml. Conclusion: The study revealed a high prevalence of VDD in 1–5 years age group. It was observed that the outdoor activities and sun exposure have a significant association with Vitamin D status. Majority of children had normal PTH levels despite VDD. The study endorses the importance of sun exposure and throws light on that fact that functional cutoffs for VDD may be lower in under-five children and also highlights the need of redefining cutoffs of Vitamin D among the Indian children.

**Keywords: Hypovitaminosis D, Under-Five Children, Vitamin D, Vitamin D Deficiency**

**Maternal and Child Health**

**25. Awareness of Maternal Health Policies and Birth Preference Practices among Rural Khasi Women of Umsaw Nongbri Village, RiBhoi District, Meghalaya.** Nutan Kumari Jha, Rajnish K Singh, Anil Kishore Sinha. *South Asian Anthropologist, Vol 17, No 2, Sept 2017, Pp-157-162.*

Present study emphasis on the child delivery practices among rural Khasi women of Umsaw Nongbri Village of Meghalaya, India. Total 74 deliveries by 31 pregnant mothers, visiting Health Sub-Centres of village Umsaw Nongbri, participated in this study. Data were collected and analysed for variables like education, socio-economic status, awareness of maternal health policies and preferences for place and type of deliveries from the respondents, like institutional deliveries, non- institutional deliveries or home deliveries. In spite of maternal health programmes and high awareness among the Khasi mothers of the village about the types of deliveries, it was observed that traditional birth practices were preferred over institutional birth practices.

**Keywords: Maternal Health Policies, Awareness, Institutional Delivery, Non-institutional Delivery, Safe Delivery**

**26. Etiological Profile of Patients Presenting with Altered Mental Status : A Hospital Based Study from North-eastern India.** C P Thakur, D Das, K Bhattacharjee. *Assam Journal of Internal Medicine, Vol 8, No 2, Jul 2018, Pp-23*

http://apiassam.com/admin/files/ajim_july_2018.pdf

Background: Altered mental status is a common chief complaint among older emergency department patients. Acute changes in mental status are more concerning and are commonly precipitated by an underlying medical illness that can be potentially life-threatening and are associated with a multitude of adverse outcomes. The evaluation should focus on searching for the underlying etiology. The study was conducted to identify the etiological profile and to illuminate the various associated clinical features and their outcomes. Material and Methods: A single centered prospective observational study was carried out on patients presenting with altered mental status in the emergency at SMCH, Silchar, Assam from September 2016 to December 2017. Results and Observations: In 300 patients with altered mental status recruited, 176 (58.6%) were male and 124 (41.4%) were female. The majority of patients 188(62.7%) were above 60 years of age. Their average age was 58.43±17.11 years. The most common diagnoses accounting for altered mental status were neurological 37.66% (n=113), metabolic 16.33% (n=49), infection 18.67% (n=56), toxicological 10.67% (n=32). Total mortality rate was 16.33% (n=49). Conclusion: Altered mental status is an important warning signal for ED patients because of its potentially fatal and reversible effects. The most frequently encountered diagnostic categories causing it were neurological, intoxication and metabolic diseases. Prompt evaluation and treatment are essential to decreasing morbidity and mortality associated with altered mental status.

**Keywords: Altered Mental Status, Emergency Department, Demographic Characteristics, Clinical Feature, Etiology, Mortality.**

**27. Association between long work hours and depressive state: a pilot study of propensity score matched Japanese white-collar workers.** Mitsuo Uchida and Hiroshi Morita. *Industrial Health, Vol 56, No 3, May 2018, Pp-207*

http://www.jniosh.go.jp/en/indu_hel/doc/IH_56_3_207.pdf

Although long work hours have been associated with various physical health problems, studies of their association with mental health have yielded inconsistent results, due to differences in study settings, study outcome and/or unmeasured background factors. In this study, we used a propensity score method to evaluate the association between work hours and depressive state. A total of 467 Japanese white-collar workers were surveyed and divided into long and regular work hour groups according to overtime work records. Propensity score matching was performed based on 32 individual background and workplace factors, yielding 74 pairs of propensity-matched subjects. CES-D score, an indicator of depressive state, did not differ significantly among the two groups (p=0.203). However, work motivation, work control, social support and emotional stability correlated with CES-D score. These findings suggest that work control and social support factors are more associated with depressive state than control of work hours. These results also suggest that it is possible to use propensity score matching to evaluate the association between work hours and mental health in occupational study settings. Further studies, in larger populations, are required to determine the association between work hours and mental health parameters.

**Key words: Long Work Hours, Mental Health, Depressive State, Propensity Score, Occupational Health**

**28. Investigation of the key determinants of Asian nurses' quality of life.** Sachiko Makabe , Yanika Kowitlawakul, Mohd Said Nurumal, Junko Takagai , Orn-Anong Wichaikhum, Neyzang Wangmo, Suk Foon Yap, Wipada Unaviktikul,Junko Komatsu , Hideko Shirakawa , Yutaka Kimura And Yoshihiro Asanuma. *Industrial Health, Vol 56, No 3, May 2018, Pp-212*

http://www.jniosh.go.jp/en/indu_hel/doc/IH_56_3_212.pdf

The study aimed to compare nurses' quality of life and investigate key determinants among Asian countries with different economic status. A cross-sectional survey was conducted across five Asian countries (Japan, Singapore, Malaysia, Thailand, and Bhutan). Quality of life (WHOQOL-BREF), job stress (National Institute of Occupational Safety and Health questionnaire), and demographic data were assessed. Stepwise multivariate linear regression analysis was performed to identify the key determinants of quality of life. Participants were 3,829 nurses (response rate: 82%) with a mean age of 33 ± 10 yr and majority were women (92%). Regarding quality of life, Bhutan yielded the highest scores, followed by Malaysia, Thailand, Singapore, and Japan, and these results were statistically significant. The key determinants that were significantly related to quality of life were "stress coping ability," "life satisfaction," "Japan," "social support," "job stress," and "Singapore" (adjusted R2 =0.46). In conclusion, nurses' quality of life differs across Asian countries and is not linked to the country's economic development. To maintain a good quality of life for nurses, an international exchange program like international nursing conferences for work environment and staff coping strategies is recommended to broaden institution' minds and share experiences and exchange views to be able to realize their own problems and discover global solutions to them.

**Key words: Asian Nurses, Quality of Life, Occupational Health, Stress at Work, Hospital**

**29. Towards A Wearable Sensor System For Continuous Occupational Cold Stress Assessment.** Hanne Austad, Øystein Wiggen, Hilde Færevik And Trine M. Seeberg. *Industrial Health, Vol 56, No 3, May 2018, Pp-228*

http://www.jniosh.go.jp/en/indu_hel/doc/IH_56_3_228.pdf

This study investigated the usefulness of continuous sensor data for improving occupational cold stress assessment. Eleven volunteer male subjects completed a 90–120-min protocol in cold environments, consisting of rest, moderate and hard work. Biomedical data were measured using a smart jacket with integrated temperature, humidity and activity sensors, in addition to a custom-made sensor belt worn around the chest. Other relevant sensor data were measured using commercially available sensors. The study aimed to improve decision support for workers in cold climates, by taking advantage of the information provided by data from the rapidly growing market of wearable sensors. Important findings were that the subjective thermal sensation did not correspond to the measured absolute skin temperature and that large differences were observed in both metabolic energy production and skin temperatures under identical exposure conditions. Temperature, humidity, activity and heart rate were found to be relevant parameters for cold stress assessment, and the locations of the sensors in the prototype jacket were adequate. The study reveals the need for cold stress assessment and indicates that a generalised approached is not sufficient to assess the stress on an individual level.

**Key words: Cold Stress, Decision Support, Wearable Sensors, IREQ, Occupational Health**

**30. Exploring how a traditional diluted yoghurt drink may mitigate heat strain during medium-intensity intermittent work: a multidisciplinary study of occupational heat strain.** Karin Lundgren-Kownacki, Mats Dahl, Chuansi Gao, Kristina Jakobsson. *Industrial Health, Vol 56, No 2, Mar 2018, Pp- 106-121*

https://www.jstage.jst.go.jp/article/indhealth/56/2/56_2017-0030/_pdf/-char/en

It is common practice in India to consume the dairy drink buttermilk as a way of mitigating occupational heat strain. This paper explores the thermoregulatory and hydration benefits of drinking buttermilk but also the impacts of work in a hot

environment on the gut microbiota, renal and cognitive function. Twelve healthy participants were subjected to a 3-h period of medium load physical intermittent work in a climatic chamber (34°C, 60% RH). The subjects were given water, buttermilk (700 ml) or no rehydration at random. Mean body temperatures when no rehydration was given were significantly higher ($p \leq 0.001$). When subjects drank water or buttermilk they had a lower sweat rate than with no rehydration ($p \leq 0.05$) and the perception of feeling hot, uncomfortable, thirsty and physically exerted was significantly reduced ($p \leq 0.05$). A hormonal stress response at the end of the exposure was seen when not drinking ($p \leq 0.05$). No differences in cognitive abilities and gut microbiota were found. The exposure lowered the renal blood flow suggesting an acute impact of short term heat exposure. It was also found that buttermilk has a protective effect on this impact. Our results demonstrated that keeping hydrated by water/buttermilk consumption mitigates heat strain in well-nourished subjects.

**Keywords: Occupational Health, Heat Strain, Heat Stress, Yoghurt/ Analysis, Hydration Management, Climate Change**

**31. Fluctuations in heart rate variability of health care workers during four consecutive extended work shifts and recovery during rest and sleep**. Elisabeth M. Goffeng, Karl-Christian Nordby, Mika P. Tarvainen. *Industrial Health, Vol 56, No 2, Mar 2018, Pp- 122-131*

https://www.jstage.jst.go.jp/article/indhealth/56/2/56_2017-0100/_pdf/-char/en

The aim of this study was to investigate fluctuations in heart rate variability (HRV), which reflect autonomic nervous system (ANS) function and potential psychological and physical strain, among 24 health care workers during work and sleep during four consecutive extended work shifts. Data included 24/36/12 h of HRV measurements, two logbooks, and a questionnaire. A cross-shift/cross-week design was applied. HRV was measured during work, leisure time, and sleep. The HRV data included time-domain [mean RR, SD of normal to normal R-R intervals (SDNN), and root mean square of the successive differences (RMSSD)] and frequency-domain [low frequency (LF)/high frequency (HF) ratio] parameters. HRV

parameters revealed significant differences among work, leisure time, and sleep. Mean RR, RMSSD, and SDNN values were lower and the LF/HF ratio was higher on the first versus last day of the work period; however, the differences were most prominent in the morning hours. The results indicate higher levels of cardiovascular stress on the first versus fourth day of the working period, and measurements at night indicate a satisfactory recovery from the extended shifts.

**Keywords: Autonomic Nervous System, Stress, Health Care Workers, Extended Working Hours, Compressed Working Week**

**32. Genotoxic effects of occupational exposure to benzene in gasoline station workers.** Eman Salem, Islam El-Garawani, Heba Allam, Bahiga Abd El-Aal, Mofrih. *Industrial Health, Vol 56, No 2, Mar 2018, Pp- 132-140*

https://www.jstage.jst.go.jp/article/indhealth/56/2/56_2017-0126/_pdf/-char/en

Benzene, a hazardous component of gasoline, is a genotoxic class I human carcinogen. This study evaluated the genotoxic effects of occupational exposure to benzene in gasoline stations. Genotoxicity of exposure to benzene was assessed in peripheral blood leucocytes of 62 gasoline station workers and compared with an equal numbers of matched controls using total genomic DNA fragmentation, micronucleus test and cell viability test. An ambient air samples were collected and analyzed for Monitoring of benzene, toluene, ethyl benzene and xylene (BTEX) in work environment and control areas. DNA fragmentation, micronucleus and dead cells percent were significantly higher in exposed workers than controls. Level of benzene, Toluene, Ethyl benzene and xylene in the work environment were higher than the control areas and the permissible limits. Gasoline station workers occupationally exposed to benzene are susceptible to genotoxic effects indicated by increased DNA fragmentation, higher frequency of micronucleus and decreased leukocytes viability.

**Keywords: Benzene, Genotoxic Effect, DNA Damage, Micronucleus, Cell Viability**

**33. Examination of validity of a conditioned odor aversion (COA) procedure using low-dose of organic solvent as an applied procedure of the conditioned taste aversion.** Rieko Hojo, Mitsutoshi Takaya, Akinori Yasuda, Masao Tsuchiya, Yasutak. *Industrial Health, Vol 56, No 2, Mar 2018, Pp- 141-149*

https://www.jstage.jst.go.jp/article/indhealth/56/2/56_2017-0041/_pdf/-char/en

Smell of very low dose of chemical might evoke subjective physical symptoms in human by some process of learning named the aversion conditioning. But few scientific evidences of the hypothesis have been reported so far. Validity of conditioned odor aversion (COA) using low-doses of organic solvent as odor conditioned stimulus (CS) was examined. In conditioning phase, water-deprived male Sprague-Dawley rats were presented low, medium or high dose solution for 30 min followed by 0.3 M Lithium Chloride (LiCl) solution or saline injection. The xylene solution and drink water were simultaneously provided on the next day as two-bottle test. Consumption of medium dose of xylene solution was significantly decreased in LiCl injection group as compared with saline group. There was no difference between LiCl and saline injected animals in low group. Animals in high dose did not access to xylene even on the conditioning. These results indicate that animals showed high sensitivity for discrimination against concentration of xylene and that the medium dose of xylene functioned as the CS. We concluded that the COA used in the present study may be one of useful procedures to investigate olfaction of animal.

**Keywords: Conditioned Odor Aversion, Lithium Chloride, Odor, Rat, Xylene**

**Sociological Study**

**34. A Review of Study of Literature Relating to Coastal Disaster in Bangladesh.** Shamim Hamide. *South Asian Anthropologist, Vol 17, No 2, Sept 2017, Pp-121-132*

Although there has been a tremendous advancement of social sciences, yet the focusing on natural disaster and coastal study has still remained to be part of natural sciences. Social scientists remained laggards up until two decades ago. Even then, the focus of sociologists regarding natural disasters has been very narrow, due to a multitude of factors involving shallow theoretical framework, neglect of grounded theory, shying from multidisciplinary approaches, and inabilities of borrowing concepts from related disciplines. Among the array of natural disasters, riverbank erosion receives even a smaller portion of attention in social science research. This slowly occurring phenomenon is rampant in deltaic planes of Asia and Africa. It is, however a major cause of disaster in coastal flood- plains of Bangladesh, which is the focus of this research paper. After outlining studies relevant to Bangladeshi riverbank erosion and disaster studies, this paper highlights the need for sociological research in this field and proposes a hypothetical conceptual framework based on general systems theory to aid aspiring researchers to unravel sociological concepts and constructs related to damages caused by riverbank erosion and overcoming them in a way which would make such research valuable to academicians and policymakers alike.

**Keywords: Coastal Disaster, Sociological Study, Bangladesh**

**35. Concept of Diseases and Treatment among the Toto of Jalpaiguri District, West Bengal.** Amitabha Sarkar. *South Asian Antropologist, Vol 17, No 2, Sept 2017, Pp-133-144*

The influence of external environment which includes altitude, temperature, topography, fauna and flora which strongly bears upon not only the livelihood or sustenance activities but also on disease pattern and its treatment. To the tribal conception of diseases and its ailment has altogether different meaning which are chiefly linked with their belief system. In their celestial world there are number of benevolent and malevolent spirits which they appeased time and again. It is also believed that when a person becomes ill, it is thought that he offends any of them and mystical power punishes him by ill health and diseases. The total cultural cognition of diseases and ailments is directly influence by not only the environment but also the social system and the cultural values which are followed by application of herbal therapy. The present paper highlights among the Totos- a particular vulnerable tribal group (PVTG) of West Bengal who are secluded in only one village, that is, Totopara of Madarihat block, in Jalpaiguri District formerly. Presently Totopara is in Alipurduar District of West Bengal since 25th June, 2014.

**Keywords: Culture, Environment, Bridge Community, Diseases and Spirits, Ritual Healing**

**36. Arsenic Contaminated Water and Policies on Safe Water for Drinking and Cooking in Rural Bangladesh.** Zannatul Ferdous. *South Asian Anthropologist, Vol 17, No 2, Sept 2017, Pp-171-177*

This paper is an attempt to discuss the policies that has already been taken by Government and the NGOs relating to arsenic contaminated ground water in Bangladesh. In close cooperation with UN organizations, NGOs, the Government of Bangladesh has developed several policies and programmes to deal with the impact of arsenic contaminated ground water which affects the health in different dimensions. About 95 per cent people of Bangladesh use ground water for drinking and cooking purposes. It has been found that about 70 million of people out of 160 million people are at risk in arsenic contaminated ground water which affects their health and life. The main focus of the paper is to examine to what extent the existing

policies contribute to get rid of arsenic contaminated water especially in arsenic prone areas so as to ensure safe drinking and cooking water for the people.

**Keywords: Arsenic, Contaminated Water, Policies, Safe Drinking water, Cooking Water**