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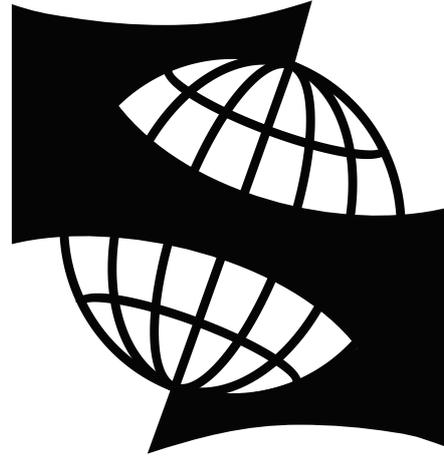
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Symbiosis Health Times





Dr. S. B. Mujumdar
Founder & President, Symbiosis
(Awarded Padma Bhushan & Padma Shri by President of India)



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SYMHEALTH 2018

**National Conference
on**

Interdisciplinary Approach to Healthcare

(MMC Accredited)

May 3, 4 & 5, 2018

Faculty of Health & Biological Sciences

Symbiosis International (Deemed University), Pune

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FOREWORD

Dear Readers,

Greetings from Symbiosis...

It gives me immense pleasure to present the commemorative issue of the Symbiosis Health Times. This is one of the platforms of the Faculty of Health and Biological Sciences that publishes articles, which are related to the Health Care sector and to the various subsectors like IT, Pharma, Health Insurance, NGO's, Hospital, Fitness, Medico-legal, Medical Technology etc.

Healthcare is a complex & multidimensional issue. It is a service provided by a coordinated and committed group of professional people. Healthcare services are being provided as team effort basically aimed at relieving pain and sufferings of the customers so called as 'patient'.

Symbiosis Health Times thus covers a gamut of topics ranging from management issues in the healthcare sector especially Hospitals, Medico Legal Issues, New Paradigms in the Healthcare,.

An interesting and useful addition is the “Knowledge Bytes”, wherein we have compiled articles on important and current issues.

I believe that this issue will enlighten all of you ,and will give you an insight on the topics covered in it.

Happy reading.

Dr. Rajiv Yeravdekar
MD, PhD

Dean, Faculty of Health & Biological Sciences
Symbiosis International (Deemed University)



From The Editor's Desk

Dear Readers,

Greetings from Symbiosis!

I am extremely delighted to put before you the Symbiosis Health Times on the occasion of academic festivity of hosting SYMHEALTH 2018 – A Conference on Healthcare in a narrowing World, on May 4 & 5, 2018 at Symbiosis International (Deemed University), Lavale campus, Pune.

The Faculty of Health and Biological Sciences has made an attempt at addressing an impelling need for the application of interdisciplinary approach to the education and training of healthcare professionals. The conference has provided an opportunity for stakeholders beyond academia and industry, to exchange insights & present emerging opportunities under the various domains of healthcare delivery system.

The interactive panel discussions were divided across all the verticals, each led by doyens of industry & academia. You have noticed that a rich variety in the subjects of the sessions, each as relevant to health care as the other, ranging from Healthcare law, Economics, Healthcare IT and Value tourism. I am sure that the Abstracts of research paper presentations and poster presentations have enabled exchange of ideas and provided impetus to interdisciplinary approach across domains of healthcare.

The section on Knowledge Bytes showcases recent happenings in the healthcare system.

A brief collection of Wellness Quotes, will guide you to lead & enjoy a healthy life.

I am sure that this collection of pearls of wisdom, with an array of thoughts will firm up our bonding relationship.

I profoundly thank all those who have contributed their rich experience and expertise towards bringing out this issue.

Dr (Brig). A. P. Pandit
MD (HA), DNB (H&HA)

Professor & HOD, MBA (HHM)
Symbiosis Institute of Health Sciences
Symbiosis International (Deemed University)
Editor



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ABSTRACTS

Awareness about laws amongst patients visiting epilepsy clinic of a tertiary neurosciences hospital: An observational study

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According to World Health Organization (WHO), "Epilepsy is one of the oldest conditions known to mankind". The present study has been carried out to assess the awareness about law amongst individuals having epilepsy. This is an overview of the conflict that exists between the legal system and persons with epilepsy in India. This study has been conducted through questionnaire method distributed amongst people visiting the epilepsy clinic of a tertiary neurosciences hospital. None of the respondents were aware about laws for epileptic patients. Few had driving license although they had concealed their condition during the training. Some of them were married, however divorce rates were high amongst females. Nobody had faced legal hassles but were of the opinion that the state needs to do a lot for them. There are still many goals to meet, which require the united efforts from the parents, persons with epilepsy, the Indian Epilepsy Association and the legal fraternity. According to Indian Law epilepsy is a state of temporary insanity. Repeated petition to the government by the Indian epilepsy association have not borne fruitful results.

Keywords: Epilepsy, Law.

Geriatric anesthesia: A challenge of new era

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Age group of 65 or >65 years is known as geriatric age group. Increased life expectancy, safer anesthesia and less invasive surgical techniques have made it possible for greater number of geriatric patients to be considered for surgical interventions. Decision to operate should be based on assessment of risk benefit ratio and not only on age. Surgical risk and outcome depend primarily on 4 factors: age, physical status of the patient, elective or emergency surgery and surgical procedure. Greatest concern is to maintain independence. Geriatric patients are more sensitive to anesthetic agents. Less medication are required to have desired effect and drug effect is often prolonged. In most old patients physiologic compensation for age related changes is adequate but the limitation may become evident only during times of stress like illness, exercise, surgery. Aging is associated with progressive loss of functional reserve in all organ systems, but the extent and onset of these changes vary from individual to individual. The challenges faced while dealing with this age group are age related diseases, problems with obtaining consent etc. Objective is to speed recovery and avoid functional decline. Minimizing perioperative risk in geriatric patients requires thoughtful preoperative assessment, meticulous intraoperative management & vigilant postoperative care.

A study of patient satisfaction level in inpatient spine department of multi-specialty hospitals

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Patient satisfaction from the hospital has gained increasing attention from the earlier times. Thus, making information for identifying gaps and developing an effective action plan for quality improvement in healthcare organization is significant. Spine department in a multi-specialty hospital is always full of patients, taking treatment for various ailments related to Spine. The primary objective of this study is to assess the level of patient's satisfaction as well as dissatisfaction regarding the services provided in the indoor of Spine Department. The study is original in nature as the study is done to complete a project proposed for Post Graduate Diploma in healthcare and hospital management at Symbiosis Center of Health Care. The study was conducted by carrying out survey amongst 39 patients and their relatives at Spine Surgical Unit by using structured questionnaire and analyzing the data using appropriate statistical method. The survey covered the experience of the inbound patient's satisfaction level along with the satisfaction level of the accompanying relatives with the patient. This will help in delivering better understanding towards the patient regarding their ailments and providing desired services. Satisfaction level of the patient depends upon many factors including doctor and staff behavior, housekeeping, hygiene and cleanliness facilities.

Keywords: Cervical pathologies, P value, VAS Score.

Indent analysis to improve the service quality process in hospital pharmacy

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Hospital pharmacy is a major source of administrative concern in terms of cost control, service quality of pharmacy process etc. Any discrepancy in the process of indent dispensing can affect the service quality of both the departments. The aim of this study is to assess the indenting process, to identify and remove the gaps in service quality process in pharmacy, which in turn will reduce the cost of the department. This study is carried out in multi-specialty hospital; it includes 3 general wards and 3 ICU. It is a Cross sectional Study and the study unit is In-patient indents with sample size of 5085 indents in 15 days. Sampling method used is Convenience sampling. 55% contributes to drugs and 45% consumables. Average indent/patient is 5. Reasons for high number of indents were generic/substitute mapping was not there. There were multiple codes of a particular item in a system. Because the nurses were acquainted with central store indent process and ownership lies with them, they were not indenting from departmental store. There should be re-indenting of routine medicines, generic /substitute mapping of drugs should be there in the system. Concept of floor pharmacist reduces turn around –time and errors in medication management process. The number of indents per patient was much higher than ideal number. Ineffective process will also lead to high inventory holding cost, overstocking of inventory can leave insufficient budget for important medicines and obsolescence.

Keywords: Indent, Pharmacy, Quality.



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Pain assessment using 1-50 numerical rating scale in different hospitals in Pune

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Effective pain assessment scale is one of the most crucial factor for patient care. Not only does it improves the patient's comfort, it also improves other areas of their health including their psychological and physical functions. The purpose of this study is to develop new multidimensional tool and identify effectiveness on people with different diseases in Pune. The given scale can be used for multiple diseases. This was practice development project and was based on a survey research methodology. This scale is reliable, worthy and appropriate for use in clinical practice, although it is more practical. In general, it generates data which can be graphically analyzed. Additional research is needed to clarify some questions regarding scale intensity. On the basis of available data, this can be considered to be a well-established scale for multi-diseases. This scale is a time saving. Evenly, it is effective in assessment of the particular diseases as it gives brief explanation of particular pain. 1-50 NRS is beneficiary for health care professionals in assessing different types of diseases. It requires less time by explaining the diagnosis in brief. It can be used globally while diagnosing with different types of disease.

Keywords: Practice development, Practice change, Participatory action research, Pain assessment using 1-50 NRS.



Optimizing maternal and child healthcare in India through the integrated use of artificial intelligence big data and telemedicine: A literature review

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The Maternal Mortality Rate (MMR) and the Infant Mortality Rate (IMR) of India are an alarming 174/1,00,000 live births and 34/1000 live births. This is a result of poor quality and inaccessible healthcare. This literature attempts to review the published works offering a solution to the aforementioned issue with reference to Artificial intelligence, telemedicine, big data and their integration. Objective of the study is to review the published literature regarding use of artificial intelligence, big data and telemedicine in healthcare to offer a solution to reduce the MMR and IMR. One of the greatest problems in India are the MMR and IMR. The use of technology for optimizing maternal and infant healthcare has not been studied in India. Material and methods used are literature search using keywords Artificial intelligence, e-health and big data analysis was performed. It was seen that such integration is being utilized to improve healthcare in various countries across the world. In India however, such application has not been envisaged. Healthcare will be accessible in the remotest corners. The use of such integration has been beneficial in optimizing healthcare, albeit requires further clinical evaluation.

Keywords: Artificial Intelligence, E- healthcare, Technology.



Rehabilitation status of burn patients in India: Review of literature

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In India around 7 million people suffer from burn injuries each year with 1.4 lakh deaths and 2.4 lakh people suffer with disability. The rehabilitation for patients with burn injuries starts from the day of injury, lasting for several years and requires multidisciplinary efforts. The long-term effects of burns are wide ranging; from permanent scarring and debilitating contractures and deformities, to deep psychological trauma, which often results in fear of social exclusion, depression and suicidal ideation. A comprehensive rehabilitation programme is essential to decrease patient's post-traumatic effects and improve functional independence. Data has been collected through various journals and articles published on websites such as Google scholar, PubMed, Scopus, researchgate.net etc. While different professionals possess expertise in their own specialties, there are some simple and effective methods that can be utilized to help the patient reach their maximum functional outcome. It is the dedication of the individuals within the burn team and the commitment to care for the patient and encouraging them to participate and engage fully in their rehabilitation, which can make such a difference to their long-term quality of life. Rehabilitation services can be used to improve the quality of life of burn patients. Nothing short of a multidisciplinary burn team that is dedicated to securing the patient's physical, psychological, social and spiritual wellbeing is required to ensure that a burn victim can return to their families, their work and their society and lead a long and fulfilled life.

Keywords: Burn, Multidisciplinary approach, Rehabilitation.

Evaluation of a novel dynamic bed bioreactor for cultivation of mammalian cells

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Bioreactors offer benefits for high density growth of anchorage dependent cells because of efficient mixing and controlled growth conditions. Continuous improvements in bioreactor design and its operation are needed to enhance the productivities of vaccines and biologicals. Performance of a novel dynamic bed bioreactor operated in perfusion mode was evaluated for high density growth of mammalian cells. Moving bed bioreactor operated in glucose based perfusion mode was evaluated for high density cell growth under the operating conditions. MRC-5 cells and Vero cells were cultivated by fed-batch culture method in 0.5 L CellBRx bioreactor with periodic sampling for glucose and cell growth analysis. Minimum Essential Medium with Hanks' salt and 10% fetal bovine serum was used as nutrient medium. Higher cell densities were observed for Vero cells compared to the MRC-5 cells consistent with glucose uptake rate profiles. Oxygen transfer rate capacity of the bioreactor was observed to be more than the peak oxygen uptake rates of the growing cells under given conditions. Sustainable high densities of cell substrates achieved in this system can be explored further for the production of next generation viral vaccines. High quality vaccines and biologicals are needed in the developing world at affordable prices. This goal can be achieved by enhancing productivities. Improvements in bioreactor designs and operating strategies are one of the approaches towards the goal.

Keywords: Dynamic bed bioreactor, Glucose uptake rate, Oxygen transfer rate.

Technologist oriented quality care for A.V. fistula among hemodialysis patients: A multicenter survey

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An arteriovenous fistula (AVF) is a type of access used for hemodialysis. It is a connection between an artery and a vein creating ready source with rapid blood flow. Without an adequate vascular access, hemodialysis efficiency is reduced, resulting increased morbidity and mortality. An AVF is considered most favorable method in chronic hemodialysis in terms of function, duration and lower rates of complications. A well-functioning vascular access is a prerequisite for successful hemodialysis treatment. Therefore, vascular access sites require care to increase its patency. This study aims to assess the quality of care taken by technologist in hemodialysis center for arteriovenous fistula. This study assesses technologist oriented quality care of arteriovenous fistula in hemodialysis units. This cross-sectional study was conducted on 60 technologist. The data was collected through observation and questionnaire investigating the quality care of AVF. The results indicated that educated staff aware of standard procedures didn't follow standard practices due poor supervisory performance, which led to average quality care of AVF. Total 60 technologists were observed from which 22% didn't ask patients to wash arm before painting. 28.3% often cannulate AVF 5-6cm away from anastomosis, such components are evaluated with statistical significance considered at $P=0.005$. This study will aid the healthcare professionals to augment standard of quality care of arteriovenous fistula to avoid chronic complications for End Stage Renal Disease patients. Present study indicates vascular care administrator to develop a standard protocol to improve care techniques in their respective hemodialysis unit is recommended.

Keywords: Arteriovenous fistula, Quality care, Technologist.

Concordance of EEG and brain MRI in Epilepsy

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Epilepsy is a seizure disorder in which there is a sudden burst of intense neural discharges in the brain which causes temporary abnormal activity of brain. For diagnosis of epilepsy, tests such as Electroencephalography (EEG) and Brain Magnetic Resonance Imaging (MRI) scan are mostly performed. EEG detects the neural discharges and localizes the region abnormal neural activity whereas MRI gives information about the cause of the abnormal region and detects the structural abnormality if any. Objective is to assess the concordance between EEG and MRI results in patients with known case of epilepsy. Systematic analysis of the concordance of EEG and MRI done for the epilepsy patients. A 6months retrospective data of 60 patients was collected who had performed both, EEG and Brain MRI. The subjects were known case of epilepsy between age group of 0-18years. Reports of EEG and Brain MRI of the subjects were reviewed and characterized by side and location of the abnormality. A quantitative analysis was done. The abnormal cases were further analyzed by characterizing them as complete, partial and null concordance. Total sample of 60 subjects were reviewed. 75% and 31.66% were abnormal on EEG and Brain MRI respectively. 26.66% were abnormal on both the tests; among which 18.75%, 62.5% and 18.75% showed, partial and null concordance respectively. Better diagnosis of the epilepsy

using both very crucial modalities. In this study concordance between EEG and MRI for epilepsy patients was seen.

Keywords: EEG, Epilepsy, MRI.

Influence of mobile communication on utilization and outcome of maternal health services in rural area

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The rapid escalation of cellular network coverage and expansion of mobile phone usage has opened up a new way of deploying health services. Objective of the study is to assess the impact of mobile phone communication between health care provider and pregnant women on utilization and outcome of maternal health services. The scientific application of mobile phone technology for improving maternal health outcome in rural area is a novel idea and underexplored area. The prospective randomized control study involving four hundred pregnant women was undertaken. Women from control group received routine antenatal care and advice. Intervention group received mobile phone calls in addition, as reminders about next visit and SMS on maternal health. Women from intervention group had 23% more number of antenatal visits, 15% more institutional deliveries, lower perinatal mortality (2.94% versus 3.82%) as compared to the control group. The complications during pregnancy and labour were less in (14.00% and 21.00%) in intervention group. Significantly large number of women from intervention group (85.00% versus 21.00%.) turned up for postnatal follow up, as compared to control group. Outcome of the present study will be useful in improvement in maternal health and pregnancy outcome by optimum utilization of services in rural area. m-Health tools present an opportunity to influence behavior change and ensure that women access prevention services, including antenatal, natal and postnatal care. Use of Mobile technology in health has a great potential and promise for improving the health of the rural community.

Keywords: M health, Pregnancy outcome.

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Exposure to laundry processes and its effect on lung function among laundry workers: A case-control study

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Occupational lung diseases results from a prolonged exposure to irritants at the workplace. Laundry workers gets exposed to noxious particles during various laundry processes such as washing, dry-cleaning, pressing clothes etc. Assessing their lung functions will help us in developing standard threshold of exposure levels to avoid development of chronic lung diseases. Objective is to study the impact of long term exposure to noxious particles such as (detergents, starch, volatile organic compounds), on the lung functions of launderers. First study on laundry workers from Pune. The study conducted in two clusters of laundry colonies of Pune city. We enrolled 98 male participants. Of them, 50 apparently healthy male laundry workers (exposed: laundry workers) and 48 age-matched participants (unexposed: non-laundry workers), residing at the same location. We collected socio-demographic information along with assessment of their respiratory symptoms and lung function by using spirometry test. On average participants were 46years old (range 25-70) with BMI 25.6(±12.4) kg/m². Two groups were comparable (p<0.05 for age, BMI). The average occupation duration of launderers were 10.1(±6.9) years with work hours 9.0(±2.02)/day. About 32% launderers and 19% non-launderers were smokers. High proportion of launderers 33(66%) had more respiratory symptoms (p=0.016), highly disturbed sleep due to respiratory symptoms (p=0.021) compared to non-laundry workers. High proportion of laundry workers 30(60%) showed abnormality (restriction/obstruction/small airway disease) whereas only 19(39%) non-launderers showed abnormal spirometry test (p=0.043). The study will benefit in improving the lung function among laundry workers.

Community Based Micro Health Insurance Schemes to provide quality health care with equity in rural India

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Over 40 % of hospitalized Indians borrow heavily or sell assets to cover expenses. Kasturba hospital offers healthcare through unique insurance schemes to minimize 'out of pocket' expenditure of rural masses. The objective is to evaluate health insurance schemes run by Kasturba Hospital in rural India. These schemes are unique and have won accolades. A villager's family is insured with 400 a year for 50 % subsidy on services. Jowar Health Insurance Scheme has a common fund created by villagers by collecting Jowar during harvest time. Hospital information system was used to evaluate number of beneficiaries and social determinants of hospital health insurance schemes from Jan –Dec 2017. Hospital Insurance card, Kisan Card and Jowar card for 50 % benefit, Yellow card for 100 % subsidy and Mahatma Jyotiba Phule Jan Aarogya Yojna (MJPJAY) were being provided. In 2017, 67,409 families (263316 members) from 40 villages obtained benefit of hospital insurance card, 1554 of Yellow card, 2334 of Kisan card, 4294 of Jowar card and 3454 of MJPJAY. Rural families were main beneficiaries. SES did not inhibit uptake. Below poverty line families benefitted. These innovative schemes can be easily applied in various health care setups and have large healthcare benefits especially to rural population. Community Based Micro Health insurance schemes are considered viable options and prioritized by

villagers to meet health needs. Families with greater financial liabilities find them attractive. They provide health care with equity and can be generally adopted.

Keywords: Community based health insurance schemes, Micro health insurance, Rural health.

Improving doctor-patient relationship: A doctor's reflection: A cross-sectional study conducted in headquarters of Indian Medical Association in 2017

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The patient doctor's disputes are on rise and are leading to rising cases of violence in the medical profession. For dissatisfied patients there are many fora for redressal, but most are time consuming and aimed at giving compensation and or suspending the license of the doctors. There is a need for mediation cell to settle the disputes and satisfy the patients or their relations. Objective is to find major causes of patient doctor dissatisfaction. Pan India study, not done by any one in past. Indian Medical Association constituted a Mediation, Conciliation & Grievances Redressal Cell at New Delhi with such an aim. In 2017 (12 months duration) it received n=162 complaints. Out of these n=88 complaints were sent to the state or local branches for redressal. N=74 complaints were mediated and resolved at IMA headquarters. The commonest dispute was doctors not spending time with the patients and not explaining the cost of the treatment. It was also presumed that doctors should spend maximum time with patient counselling. Right and effective communication can restore falling doctor- patient relationship. There is a need to establish a method of proper counselling to explain the patients about all possible complications, risk and the financial implications of each complication. There is a need to establish a Grievance cell in each hospital and district.

Keywords: IMA, Mediation, Medical Dispute.

Impact of clinical pharmacist in a tertiary care hospital

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The provision of drug therapy by a medical provider to a patient is a complex process. Medication error is an inevitable problem in a hospital and activation of clinical pharmacist role is of great importance in reducing the medication errors. The medication errors could be prescribing errors, indenting errors, dispensing errors, and administering errors. Objective is to evaluate the effectiveness and impact of the customized clinical pharmacology services managing medication management in a tertiary care hospital. The methodology adopted was the retrospective, descriptive analysis of the process and the data on medication errors from November-2015 to January-2017. The comparative analysis between the pre- and post-implementation indicated that the average indents/patient/day had reduced by 13.27%. The average dispensing time for routine and urgent orders had remarkably reduced by 65.45% and 66.3% respectively. The average number of urgent orders out of total had reduced by 20%. The percentage of medication errors had declined to 0.3% in January 2017. The study indicated

that the clinical pharmacists played an important role in the operational impact in terms of reduction of daily transaction load on the hospital with an improved quality of medication services by identification, reporting and corrective actions.

Keywords: Clinical Pharmacist, Medication Error, Medication Management.

Fluoride release from two different sealant materials – A comparative study

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The introduction of fluoride releasing sealants and glass ionomer cements as fissure sealants adds another dimension to prevention of pit and fissure caries. The ability of resin sealants and glass ionomer cements to release fluoride on a long term basis to the sealed enamel and the adjacent unsealed pit and fissure and cuspal incline enamel may allow for further reduction in pit and fissure caries experience for children. Objective of the study is to compare the amount of fluoride release in plaque after placing fluoride releasing pit and fissure sealants and glass ionomer fissure sealants and at different time intervals. It is an original Research. A total of 60 school going children were included in this study. Before application of the sealants, baseline plaque fluoride levels were estimated from all the study subjects. After application of sealants again the same was estimated at an interval of 24 hour, 9 days, 2 weeks and 4 weeks. The peak plaque fluoride levels were achieved at 24 hours after application of fissure sealants in all the groups. The combination of sealant and fluoride is expected to be additive in preventing dental caries. It will be more beneficial if sealant can increase the fluoride level in the oral environment. Within the limitation of the study, the present study indicated that fluoride releasing fissure sealants may act as a source of fluoride in plaque which will help in preventing pit and fissure and smooth surface caries in the tooth sealed with fissure sealants.

Key words: Dental caries, Plaque fluoride, Pit and fissures sealants.

Market mapping of the surgical solutions used in the hospitals of Bihar and Jharkhand

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The present study is market mapping conducted in states of Bihar & Jharkhand to identify trends and corresponding variables between hospitals (consumers) and surgical solutions that included Gowns, drapes, examination gloves, sterilized drapes, feeding tube, closed suction catheters to provide base for better product development. The study focuses at identifying brands available, satisfaction level on purchase parameters:-type of material, quality based on barrier protection, flame resistance, microbial resistivity, product availability, training regarding usability etc. Market mapping activity in this part of India is conducted in depth. Fifty hospitals were selected on random basis. Data was collected with help of a questionnaire based on parameters mentioned under objectives, responses from the quality control officers, technicians of intensive care units and doctors were obtained. Data analysis was performed using SPSS (Statistical Analysis in Social Sciences). Surveyed hospitals were mostly purchasing their products through local wholesale markets without much of brand concern. 95% of the hospitals were using the products made up of linen due to low cost of material and reusability. Only 10.33% hospitals are given training regarding the method of handling and usage of the products.

No cases of hospital-associated infection were reported by the hospitals surveyed with use of current surgical products. The results can help manufacturers to provide surgical solutions that are innovative and technologically sound. It will help in creating awareness amongst healthcare providers about the usage of such products.

Keywords: Market mapping, Quality, Surgical solutions.

Comparative study of EMS access number in the developed and developing countries and feasibility to have a common emergency access number for India

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The plan is to study the different Emergency Access Numbers operational nationally and learn from the other Emergency Access Numbers operational in other countries. This comparative study is therefore exploratory in nature. Objectives are to study EMS access number in the developed and developing countries and to study feasibility of having common Emergency access number for India. The present study focuses on Emergency Access Number in select countries of the world based on questionnaire circulated and responses obtained. This study is based on the responses obtained from EMS stakeholders working in EMS field in India and various parts of the World. Developing countries except Bangladesh and Nepal from the study have proper emergency systems in place with universal emergency telephone number to contact in case of emergency, whereas there is no single system or number, which could play a major role in managing emergency medical services across India. In spite of the development in the healthcare sector over the past decade India is yet to create a single comprehensive EMS that can be accessed throughout the country. Only fourteen states have managed to launch state wide EMS, as on today. One-Naught-Eight (108) is a free telephone number for emergency services to call in these states. In other states of the country emergency services can be called by dialing Police -100, Fire – 101, Ambulance – 102. In addition hospitals in the country provide different telephone numbers for ambulance services. A person in distress cannot be expected to remember such specific phone numbers during an emergency. Thus access to emergencies becomes difficult. The lack of a common emergency number across the country is a major hurdle in creating a reliable emergency service.

Comparative study of ambulance services in the developed and developing countries and feasibility to have standardized ambulance services for India

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Emergency Medical Service is provided by a variety of individuals, using a variety of methods. Generally speaking, the levels of service available will fall into one of three categories: **Basic Life Support (BLS)**, **Advanced Life Support (ALS)** and **Intermediate Life Support (ILS)**. Objective of the study is to study ambulance services in the developed and developing countries and to study feasibility of having standardized ambulance services for India. The present study focuses on Ambulance services in select countries of the world based on questionnaire circulated and responses obtained. This study is based on the responses obtained from EMS stakeholders working in EMS field in India and various parts of the World. Their responses were corroborated for authenticity through additional sources e.g. website, official publications of their Institutions

and in some cases through personal interaction with the authorities. There is no standardization of ambulance design across various procurements in the country and the industry is forced to re-integrate their vehicles every now and then. Most of the ambulance specifications are written by medical specialists who are unable to translate the user requirements in automobile terminology thereby resulting in a huge gap between the user expectations and industry deliverability. Developed and developing countries have both Basic Life Support (BLS) & Advanced Life Support (ALS) type of Ambulances. The real concept of an ambulance is missing in India. As EMS is responsible for delivery of Emergency care in pre-hospital or out of hospital environment and to develop relatively good EMS model, India should have both BLS as well as ALS type of ambulance services which should include Ambulance Vehicles, Ambulance drivers and Emergency Medical Technicians (EMT's). There is also need to issue necessary instructions to the buyer of the incompletely built vehicle about the constructional and functional aspects of the ambulance.

Public awareness about anesthesia: Review

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Anesthesia has achieved great heights and made advances. Anesthesiologists have developed great skills but do not take effort to convey skills to lay persons. Though the role of anesthesiologist is crucial, the public knowledge of anesthetic practice is limited. Patients are more concerned about operative aspect of treatment. It is thus important to make people aware about the vital role played by an anesthesiologist in medical set up. Regarding issues relating to the status and image of the specialty many, if not all, practicing anesthesiologists have struggled at some point. Objective of the study is to increase public awareness about anesthesia. Various studies have been conducted to know about the perception of different groups of people about anesthesia by giving questionnaire. A number of issues relating to patient education in anesthesia have been addressed in this review and, based upon the available data, it is apparent that a majority of the public is under the misconception that anesthesiologists are not physicians and that the role of the anesthesiologist, both in and out of the operating room, is not fully understood. Ignorance regarding anesthesia is still prevalent among the general population. To disseminate information about anesthesia, the existing educational methods are to be evaluated and newer initiatives are to be looked for.

Keywords: Anesthesia, Awareness, Public.

Impact of home-based Pulmonary Rehabilitation (PR) program on patients with severe Chronic Obstructive Pulmonary Disease (COPD) and Interstitial Lung Disease (ILD) who are on Long Term Oxygen (O₂) Therapy (LTOT)

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The major challenging aspect in the management of chronic lung diseases is the maintenance of optimal

saturation levels with minimal oxygen. Home-based (PR) program may play a promising role in possibly reducing oxygen dependency and frequency of hospitalizations. Objective is to assess the effect of home-based PR program in patients with ILD and severe/very severe COPD patients who are on LTOT. Validation of PR programme in Indian setup.²⁷severe/very severe COPD and 18 ILD stable patients who are on LTOT and discharged from ICU were referred by 3consultants during the period from May-Dec 2017. We enrolled them for 8-weeks home-based PR program. Assessment of exercise-capacity, lung-function and dyspnea levels were measured at baseline, 2, 4, 6 and 8 weeks follow-up. At baseline and at 8th week we measured the duration and flow of O₂ requirement to maintain an acceptable saturation level >88%. There were 30 males and 15 females. On average they were 63 years-old (± 8.9) with BMI 20 (± 3.5)kg/m². Both the disease groups were comparable in terms of age (p=0.62), BMI (p=0.47) and smoking history (p=0.98). At 8th week, we found that the amount of supplemental O₂ requirement and duration gradually dropped from 3.0 (± 0.9) to 1(± 0.4)l/min and 17 (± 4.5) to 7 (± 1.7) hours respectively. Also, 6-MWT test results showed significant improvement (p<0.05). Both disease groups showed similar improvements with PR. Validated PR programme will help in improving the quality of life in patients who are on LTOT. PR gradually reduced the duration and flow requirements of supplemental oxygen from baseline to 8th week. More studies with large samples are required to understand the effect of PR in these patients.

Keywords: Pulmonary rehabilitation, LTOT, chronic lung diseases.

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Comparative study of end to end EHR solution with multiple vendor product

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As a part of digitization, the hospitals are converting all their manual records into the EHR (Electronic Health Records) which can be maintained as one record digitally. EHR may be single vendor (for all modules) or multiple vendors. Objective is to compare end to end EHR solution and multiple vendor product. Relationship between choice of type of HER and number of beds, number of modules, rural/urban location and single/multiple vendor was analyzed. Hospitals in urban areas had successfully implemented single vendor EHR. 54% hospitals had single vendor EHR; 46% had multiple vendor EHR. Among the hospitals 91% faced challenges while implementing multiple vendor EHR. 45% had 3 to 5 modules implemented. The major challenge faced was integration of multiple functionalities on single platform. Single vendor EHR should be applied in hospitals as they would not require integration of software and fewer product upgrades would be required. The single vendor EHR should be used in hospitals. Also, the major challenges such as integration and procurement of software, staff training would be avoided.

Keywords: Electronic health record, Multiple vendor, Single vendor.

Data analytics to business intelligence for re-admission in hospital

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Healthcare industry is one of the fastest growing industries in the world. With the increased transformations, hospitals are evolving at a very fast pace shifting their focus from money to quality of care. In order to enhance the quality of care, hospitals are using Business intelligence for advanced analysis and forecasting. Objective of the study is to design a dashboard using data analytics and business intelligence for re-admission in hospital. Using the standard data analytics process, business intelligence process along with MS Excel 2016 and Microsoft Visual Studio 2012 the dashboard was created which provided the overview of re-admissions in hospital. A dashboard for the re-admissions was designed which provides an overview that the maximum number of re-admissions were observed in the medicine department due to an increased rate of infections occurring in the hospital. Patients of 45 years and above had the longer length of stay in hospitals. Business Intelligence will help the top management in analyzing the huge chunk of data and developing actionable insights in hospitals. Business Intelligence would enable the hospital's top management to make faster decisions and implement them. This would enhance the quality of care provided to patients.

Keywords: Business intelligence, Data analytics, Re-admission.

Electronic Medical Record in rural areas of Andhra Pradesh and Telangana: Challenges and possibilities

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The quality of healthcare depends on many factors, including timely availability of a patient's medical information. There is a wide gap in healthcare services provided to rural and urban areas of India. Objective is to study the use of EMR in chronic disease management and to study the challenges while implementing EMR in rural areas of Andhra Pradesh. In this project, the study design used was Descriptive research and was conducted in the states of Andhra Pradesh and Telangana. Under hospital they have formed a foundation, under which they had different community centres in different villages where the EMR software was implemented. Study was conducted among the patients visiting to the community centres. Out of 1305 patients 576 were diabetic which is 44% and 688 were having hypertension which is 52% of total number of patients. Initial adoption of an EMR system requires allocation of time for learning and training. Primary care (Community centres) practices need to budget for the one-time costs associated with implementation. EMR have been promoted as a potential tool for narrowing the quality gap. The benefits of electronic medical records include increased use of appropriate preventive services, improved chronic disease management, and reduction in medical errors. Clinical documentation and health information portability are the biggest challenges in urban and rural areas of India. This project focuses on how EMR system could help in prompt availability of medical information at the point of care.

Keywords: Challenges, Electronic Medical Record, Diabetes Management.



To understand factors responsible for quality of work life for healthcare professionals working at a multispecialty hospital

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Quality of work life (QWL) refers to the level of contentment, motivation and commitment of staff to their work. Healthcare by itself indicates providing quality care for life, thus it becomes imperative to know, that the healthcare providers themselves are leading one to enhance their patient care. The study is conducted on behalf of hospital management to know the level of satisfaction of healthcare personnel's and executives at various hierarchical levels that will help management in providing better quality of work life to its employees. A cross sectional study was conducted for a period of one month at a multispecialty, 100-bedded hospital located in tier two city in India. Questionnaire including parameters on Quality of work life was prepared by referring to parameters already used and modifying them for the current study purpose. Responses were obtained from 80 employees that included executives working in administration along with nursing and paramedical staff. Data analysis is being done with Statistical package for social sciences (SPSS) version 23; valid percentage and ANOVA were used. 68% were satisfied with hospital policies. 38 % felt that work culture was good. 54% say that career development is better and 42 % were of the opinion that they balance professional & personal life well. ANOVA revealed no significant differences among hierarchical levels of staff in their views on quality parameters. Hospitals are known to have stressful work environment. Periodic studies on (QWL) will help maintain motivation and satisfaction levels of its staff. Such studies are common in corporate chains located in metro cities. This study was done in tier 2 city hospital with a view to help the hospital management upgrade their policies in an inclusive way.

Keywords: Healthcare staff, Hospital, Quality of work life.

Management of medical records in a multispecialty tertiary care hospital at Surendranagar, Gujarat - A cross-sectional study

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Health facilities deal with life and health of patients. Quality of medical care relies not only on its staff, high-quality equipments and facilities but also on good record keeping. Proper filing of medical record ensures easy retrieval of health information and prevents delay in healthcare delivery. To investigate the record management practices in a multi-specialty tertiary care hospital of Surendranagar district, Gujarat. Purpose of this study was to understand in-depth the record management practices in hospital set-up. A survey design was used while a total of 130 hospital staff was sampled using non-probability technique. Questionnaire was used as a tool for data collection. Data collected was analyzed using frequency counts and simple percentages. 77.97% of records created were patient records. Among the staff involved in record management, 31.11% had a working experience between 6-9years. 72.22% records were both in paper and electronic format. 73% records were archived in numeric, 14% in alpha-numeric and 13% in both formats. Records were disposed by manual techniques. Formulate strategies and implement new technologies for record keeping. Most commonly nursing staff was involved in record creation. Records were created in paper format and filed both in numeric and alpha-numeric sequence. Confidentiality and security of records are the major mechanism employed at the hospital. The most

common problem faced in record management in this study was damage of records including tearing and weather effects on paper records.

Keywords: Health facility, Record keeping, Record management.

A study on the effect of occupational stress on job performance in the nursing staff of a multispecialty hospital in Surendranagar district

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Medical practice is stressful. Stress in nurses is an endemic problem. Job performance is a multifaceted phenomenon with many variables affecting its level, and one of which is stress. Objective of this study is to assess the level of stress in nurses of multispecialty hospital and its impact on performance. Purpose of this study was to study the level of stress among nursing staff and its effect on performance. A cross sectional study was carried out at a multispecialty teaching hospital in Surendranagar, Gujarat. Total 102 registered nurses were included in the study using non probability sampling techniques from the eleven departments in the hospital. On analysing data, 52.95 % of nurses were suffering from moderate stress followed by 45.9% who were suffering from severe stress and 1.96% suffering from mild stress. Job performance is negatively correlated here ($P=0.923$) and correlation coefficient is $r = -0.10$. To design stress management program for nursing staff and enhance their job performance and satisfaction. 63 % of nurses in the age group of 20-30 years were suffering from moderate to severe stress. This association between age group and stress level was statistically highly significant. It can be concluded from the study that various factors affect the level of stress among employees and which in turn will affect the performance. More the stress lesser will be the productive performance and lesser the stress better is the performance.

Keywords: Job performance, Job stress, Nurse.

Evaluation of non-invasive Cardiac Computed Tomography Angiography (CCTA) versus traditional invasive coronary angiography in diagnosis of coronary artery disease

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Owing to the rapid technological developments, Coronary CT Angiography is being increasingly practiced in the diagnosis of Coronary Artery disease. Improved spatial and temporal resolution of the images produced in Coronary CT Angiography benefit patients & provides a rapid and accurate diagnosis while avoiding an invasive procedure. Therefore, this review study was undertaken. Objective of this study is to evaluate features of non-invasive Cardiac Computed Tomography Angiography (CCTA) over Coronary Angiography in diagnosis of CAD in patients with atypical chest pain by literature review and to recommend cardiac CT as the first-line of investigation for the evaluation of stable coronary artery disease in atypical chest pain. Paper is based on literature-based analysis which involves secondary data assorted from cardiology open access journals

(International) & Scopus indexed journals. Our review analysis could justify the recommendation of Non-Invasive CTCA with an average accuracy of more than 60%. The most evaluating aids were non-invasive & clinical effectiveness, cost-effectiveness, outpatient investigation, diagnostic accuracy and low radiation exposure. Non-invasive diagnosis of Coronary Artery disease can aid in improving risk stratification, initiate appropriate management thereby reducing the dependence on invasive investigations. Cardiac CT is recommended as first-line investigation for patients presenting with atypical chest pain due to suspected CAD as per recent NICE guidelines (2017). As radiation doses continue to fall, role and utilization of this rapidly evolving technology is likely to be the future, making CTCA a ubiquitous tool for rapid exclusion or confirmation of CAD.

Keywords: Atypical Chest pain, Coronary artery disease, CTCA.

To evaluate knowledge, attitude and perceptions about hospital acquired infection amongst healthcare professionals

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“Hospital is the place for cure” – this comes to our mind when we think about the hospital. Treating the patients under same roof was considered as a radical idea, and was expected that it will ease the job of remedial. Nosocomial infections occur worldwide and affect both developed and resource-poor countries. Infections developed in health care settings are among the major causes of death and increased morbidity among hospitalized patients. Objectives of this study are to study the Attitude of Healthcare workers towards Hospital acquired infections and to devise mechanism to bridge the gap regarding the awareness concern. A cross sectional descriptive research design was carried out in tertiary care hospitals of Pune where survey was conducted to measure the knowledge, attitude and perceptions about healthcare professionals about nosocomial infections. The study described that experienced healthcare workers being overconfident about their job roles were less keen to acclimatize standard measures to curb nosocomial infections while freshly joined staff members trailed the protocol dutifully. This study will help to develop new ideas to boost awareness amongst the healthcare staff and curb the instances of negligence which will subsequently increase transitional change amongst the healthcare staff. Novel measures need to be taken in order to upgrade the attitude and knowledge of healthcare workers and create an aspirational value for them to follow them.

Keywords: Healthcare, Hospitals, Hospital– acquired infections.

Study to examine the steps taken for prevention of hospital acquired infection by hand decontamination

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The hands of healthcare professionals are the most common mode for transmission of pathogens from patient to patient and within a hospital. Hand hygiene is the leading measure for preventing the spread of antimicrobial resistance and reducing healthcare-acquired infections (HAIs).

Hand decontamination is a simple, effective measure in the fight against infection prevention. Objectives of this study are to study the pattern followed for hand hygiene amongst hospital staff and to understand the perception and level of awareness amongst hospital professionals towards self-hygiene. Methods and Materials are organizing training on nosocomial infection control, Procuring and fixing an elbow tap at labor room, OT and hand washing areas, Hand hygiene products, Duration of cleaning and effect and Volume of hand hygiene product applied. As a result, alcohol based solutions and their availability at the bedside in healthcare centers make an ideal substitute for conventional hand washing. It helps in achieving increased compliance with Hand hygiene. They are required to assess the best methods for hand hygiene at healthcare centers. This study will act as a reinforcement of hand hygiene protocol amongst hospital professionals and help them follow it with more aware mind frame with surge to perform Job responsibilities with more concern. It was concluded that the hand hygiene technique followed by the healthcare workers in the hospitals was preferable and motivated them to follow the method universally. It helped them to curb the possible infections.

Keywords: Hand hygiene Intervention, Patient safety.

To assess the awareness of exclusive breast feeding amongst urban women by evaluation of their knowledge, attitude and practices

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Exclusive breastfeeding (EBF) is defined as “an infant's consumption of human milk with no supplementation of any type (no water, no juice, no nonhuman milk, and no foods) except for vitamins, minerals, and medications until six months”. A major barrier to successful BF is inconsistency in information and improper cultural practices. Objectives of this study are to identify the new-born feeding practices prevailing in different parts of Pune and to find factors associated to influence the Exclusive Breast Feeding practices. A cross-sectional study was conducted on 200 working women in Pune city to assess the EBF awareness. Questionnaire based survey was undertaken at primary level to investigate the concern at its core. Awareness level about EBF was fairly underrated based on the findings, however scope for gradual change is evident provided systematic and channelized planning is enforced under responsible leadership and overwhelming participation of participants. As, most of the studies have been conducted in the developed world, a similar study in the developing country like India will be beneficial for comparison of the results. This study will help germinate a new sapling of self-ignited aware minds with widened horizon to envisage vision oriented realistic goals to bring about a revolutionary change in Breast Feeding Practices. This study depicts, majority of mothers despite being knowledgeable about EBF lacking keen attitude towards sufficiency of EBF and EBF for 6 months after delivery.

Keywords: Attitude, Exclusive breastfeeding, Knowledge, Practice.



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To monitor quality control mechanism developed in microbiology laboratories in Pune

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Quality must be measured if it has to be managed. Quality indicators (QI) help laboratory to define and measure progress. The measurement of quality indicators leads to early detection of system failure which includes all aspects of service – pre-analytic, analytic and post-analytic – so that remedial actions can be taken promptly. Good Clinical Laboratory Practices (GCLP) deal with the organization, process and conditions under which laboratory studies are planned, performed, supervised, documented and reported. Objectives of this study are to find measures taken for maintenance of Quality Control in Microbiology Laboratory and to ensure execution of effective operations for smooth Laboratory Functioning. A prospective study was carried out in microbiology laboratories by conducting an inspection to check the Quality Control Mechanism. 95% laboratories associated with hospitals are more aware about the biomedical waste protocol while 69% laboratories working autonomously have adhered to systematic biomedical waste disposal protocol as expected to be followed. This study will throw light to implement the essential rules for Quality improvement in Microbiology Laboratory by updating the healthcare staff with new advancements on a regular note showcasing a pathway towards both self and organizational escalation. Microbiology laboratories with multiple tests panel showed more level of awareness in following the protocol while those with basic tests hardly followed the protocol. However, having given an informative lecture about Quality Control, the laboratory professionals showed positive inclination towards embracing the required protocols, thereby benefitting the implemented intervention based initiative.

Keywords: Biomedical waste, Laboratories, Pathology.

Summer internship programme, a training tool for educating medical technologists: Benefits and challenges

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The application of the theoretical knowledge and practical skills learned by students pursuing education in healthcare is of crucial value for work engagement in the actual practice of their professions. Such applications of technical and clinical skills learnt in classrooms and educational institutions by virtue of SIP in the healthcare industry offer training laboratories. It makes the students competent, confident and helps them to conduct themselves as professionals, provides the students an opportunity to witness the work culture and gain the actual working experience by application of their professional skills learnt during training. Objective of this study is to identify the need, benefits of SIP for training students pursuing Medical Technology programs and identifying challenges faced during the conduct of SIPs. The study is conducted in Symbiosis Institute of Health Sciences offering Medical Technology education, program to understand the training needs of students during SIP. A self-administered questionnaire was designed for the study, and administered to 107 students who voluntarily participated in the study; having received their consent. Confidentiality was strictly adhered to. The survey showed that majority number of the students agreed that a SIP is essential tool for training Medical Technologists. The benefits of the program were also highlighted in the survey conducted. The specialization wise distribution of the internship was an effective method of engaging students in applying theoretical and clinical skills learnt by the actual working various departments of the hospitals. The respondents had positive feedback for the SIP and emphasized its need in the training of Medical Technologists. It was concluded that a

positive work environment was the key to student satisfaction in their specialization as it motivated them to do better and learn new things. The challenges faced by the students included disinterested staff and limited 'hands-on' training.

Keywords: Benefits, Need, SIP.

Menstrual disorders among school going girls and its association with nutritional status and body composition

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Menarche is the event that occurs in the adolescent girl in the age of 12-13 years. The age of menarche is affected by various biological factors and lifestyle. It has been observed that age menarche has effect on menstrual disorders. Objective is to explore the correlation between age at menarche and menstrual disorders in school going girls in the light of their nutritional status and body composition. Parameters which play a vital role in changing the status of menarche in girls such as anthropometric assessment, body composition, dietary intake and physical activity have been studied. A total of N=150 girls from CES's Abhiman English Medium school participated in the study. Data on menstruation, nutrition and physical activity was collected using structured questionnaires through interview method. Anthropometric measurements included height, weight, waist and hip circumference. Body composition assessed using TANITA body composition analyzer. About 109(72.7%) girls had attained menarche whereas 41(27.3%) were yet to attain menarche. Out of girls who attained menarche, 80(53.4%) were <12 years. The most common disorder reported was dysmenorrhea 81(54%). The intake of energy and protein was deficit among most of the girls. Girls skipped one of the meals mainly breakfast. Means of body fat %, lean body mass, visceral fat was significantly higher among girls who had already attained menarche. The mean weight, body mass index, waist circumference, hip circumference was significantly higher in girls who had occurrence of dysmenorrhoea. The time spent on sedentary and other activities were higher among girls who had dysmenorrhoea. Due to nutrition transition and lifestyle changes there is rise in the prevalence of menstrual disorders and reduction in the age of menarche over generations. This study would add to the knowledge about importance of nutrition and exercise during adolescent phase for girls. It was observed that the body composition, nutritional status and physical activity were different across menstrual status and menstrual disorders. Dysmenorrhea was one of the most common menstrual disorders reported.

Keywords: Body Composition, Menarche, Nutritional Status, Physical Activity.

Wikipedia editing by healthcare professionals: Need of time

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Wikipedia (WP) is one of the most popular websites ranked amongst the top ten ranked websites. Increasingly people are using internet for seeing health related information.

Wikipedia is a freely accessible one of the most searched source for getting health related information and is generally at the top for search engine queries. Studies have found that nearly 50 percent to 70 percent of practicing physicians use it as an information source in providing medical care. Purpose is to understand about the reliability of health-related information in WP. Wikipedia editing by healthcare professionals will make this online health resource more reliable and will in turn help for global health promotion. Literature review was conducted to find out the reliability and use of WP by patients and healthcare professionals. While most of the information present on WP is reliable and up to date, one cannot give guarantee about its accuracy because of open editorial policy of WP. Inaccurate, incomplete medical information can be a threat to health of people. On the other hand, accurate online health information can save lives. Hence it is a need of time that domain experts in health start editing WP to keep the information reliable, accurate and up to date. It is suggested that WP editing by the health-care community to be actively promoted so that the most commonly used source of online health information is as reliable as possible.

Keywords: Health, Reliability, Wikipedia.

Prevalence of Asthma COPD Overlap (ACO) by clinical and spirometric evaluation in consecutive cases of Obstructive Airway Diseases (OAD) in a tertiary care outpatient setting in Pune

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Obstructive airway diseases (OADs) like asthma and COPD poses significant disease burden and nearly affect 3.6 million Indians. Objective is to identify different section of people suffering from OADs and ACO in an OPD setup. The study focuses on etiological evaluation of ACO group in real-life clinical setting. This single centre, cross-sectional observational study enrolled 214 OAD outpatients from Nov 2016-Nov 2017. Demographic details, exposure to noxious particles and spirometric results were retrieved from patient's medical record. They were classified into 5 groups, on basis of their reversibility patterns in FEV₁ ($\geq 12\%$ or $< 12\%$) & ($\geq 200\text{ml}$ or $< 200\text{ml}$) and post bronchodilator FEV₁/FVC ($\geq 70\%$ or $\leq 70\%$). Of 214 patients analyzed, 49.1% male and 50.9% female had OADs, age distribution ranged from 18 to 93 and BMI (25.41 ± 4.431). Physician labeled diagnosis of OADs were (61.2%) Asthmatic, (15.9%) COPD and (22.9%) ACO. Whereas spirometry revealed 19.6% with full reversibility of $\geq 12\%$ & $\geq 200\text{ml}$, 21.1% partial reversibility, 41.1% showed fixed obstruction due to optimum lung function with treatment and 18.2% had no reversibility. Only 15.8% cases were identified as ACO on basis of partial reversibility and exposure to noxious particles. Early diagnosis of ACO is important to prevent worsening of lung function by using correct treatment modality. COPD with reversible obstruction (10.7%) patients and Asthma with eventual noxious particle exposure (5.1%) were two distinct subgroups in ACO patients. This differentiation will help in more specific therapy to individual patients and more studies are required in this direction to enhance correct identification of ACO in Indian settings.

Keywords: Asthma COPD overlaps, Obstructive airway disease, Respiratory function test.

To evaluate aqueous based chlorhexidine antiseptic solution 4% vs. aqueous based povidone iodine solution 10% for central venous catheter care

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Central venous cannulation is an invasive procedure that is considered as amino surgery requiring local anesthesia. It can be also used where placement of peripheral IV cannula is difficult. Even though such catheters supply essential vascular access. Employment of these catheter takes patient into the risk of local and systemic infection complications including local site infection, catheter related bloodstream infections (CRBSIs), septic thrombophlebitis, endocarditic and other metastatic infections. The infection caused by CVC is colligated with increased morbidity, mortality, duration of hospitalization and medical costs. To prevent catheter related blood stream infections use of antiseptic solutions for catheter insertion is used to disinfect the skin. Povidone-iodine solution is the most frequently used agent for CVC. In some countries chlorhexidine is more used than povidone-iodine and is available in different formulations (0.5-4%) and can be taken single or in combined with other products like alcohol & cetrimide. Objective is to study the effectiveness of chlorhexidine gluconate and povidone iodine solution for skin disinfection before central line catheterization. Presently, povidone-iodine antiseptic solution is considered to be chosen product for central venous catheter care. Using chlorhexidine solution, we can prevent infection and formation of bacterial colonies better as compared to Povidone-iodine solution. Moreover, chlorhexidine solution is cheaper than that of povidone-iodine antiseptic solution. In this comparative study, 60 patients who required Central venous cannulation are divided into two groups: GROUP I- chlorhexidine 4% antiseptic solution, GROUP II-10% povidone-iodine antiseptic solution. A total of 60 patients were included in the study of which 50 were males (50%). The mean age of the patients was 42 years. In some countries chlorhexidine is more used than povidone-iodine and is available in different formulations (0.5-4%) and can be taken single or in combined with other products like alcohol & cetrimide. Occurrence of catheter colonization is 50% less with the use of chlorhexidine base solution, when compared with povidone-iodine. Using chlorhexidine solution, we can prevent infection and formation of bacterial colonies better as compared to Povidone-iodine solution. Moreover, chlorhexidine solution is cheaper than that of povidone-iodine antiseptic solution. Occurrence of catheter colonization is 50% less with the use of chlorhexidine base solution, when compared with povidone-iodine.

Keywords: Catheter related bloodstream infections, Chlorhexidine solution, Povidone-iodine solution.

Improving compliance rate of critical value reporting in a tertiary care hospital in Mumbai

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The Joint Commission International (JCI) takes initiative to promote six International patient safety goals. Out of which the second goal is 'Improve Effective Communication (IPSG.2)'. Communication, as a key element in providing high-quality health care services leads to patient satisfaction. 'Effective communication' means that the communication—which is timely, accurate, complete, unambiguous, and understood by the recipient—reduces errors and results in improved patient safety. Another error-prone communication is the reporting- back of critical test results, such as the clinical laboratory telephoning the organization to report the results of a critical lab value.

Objective of the study is to improve the compliance rate of critical value in a tertiary care hospital in Mumbai was carried out for duration of 3 months. The study variables chosen were the patient reports from laboratory (pathology, biochemistry and hematology) and time of reporting. The study procedure included observation, Intervention and post intervention observation of critical value reporting. The intervention was introduction of documentation format & training. The pre-intervention compliance was 72% whereas post-intervention was increased to 98%. Modification in the documentation format & training demonstrated to reduce the critical value reporting time in controlled settings. The study intervention can be used to improve communication of critical value and clinical information. Effective communication and training is very important to comply with IPST goal which needs to be followed in hospital for timely quality care given to the patients.

Keywords: Communication, Critical value reporting, Patient safety.

Utilization pattern of blood and blood components in a blood bank of a Tertiary Care Hospital in Mumbai

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Transfusion of blood and blood components is a vital part of medical treatment. It is observed that injudicious use of blood and its products in hospitals causes unnecessary burden to the patients as well to blood bank leading to insufficiency of blood when it is actually required. Since there is no substitute for blood and its products, they should be utilized thoughtfully. The aim is to study utilization pattern of blood and blood components and analyze the reasons for returning & discard of blood and its components. A retrospective study was done in a tertiary care hospital for a period of two months (Feb & March 2017). The parameters studied included detailed study of the components of blood utilized and not utilized. Total number of samples collected was 853 units in February and 791 in March out of which 509 were utilized. The components maximally utilized were leucocytes reduced red cells. Random donor platelet showed maximum wastage. Maximum blood was utilized within the age group 41-64. Male patients required more of blood units than females. Maximum wastage was seen due to "Expired Samples". The maximum return seen was of red blood cells. This study implies the need for efficient transfusion practices so that blood components can be utilized optimally. Formulation of strict guidelines for transfusion practices & monitoring utilization pattern will improve the use of blood & blood components.

Keywords: Blood bank, Blood transfusion, Returns, Wastage.

Study on awareness, attitude and practice of general population towards blood donation in a tertiary care hospital in Pune

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Human Blood is the most vital component of the body. Blood transfusion is the only way to replenish loss of blood & the only way to obtain blood is through blood donors. Blood transfusions are required in various medical and surgical conditions including blood lost during major surgery, childbirth, a severe accident and in severe cases of anemia.

As there is no substitute for blood, the need of the blood always exists making it even more precious. The aim of the study is to identify factors acting as motivators and hindrances to blood donation in general population. A cross sectional study was conducted from May – June 2017. Questionnaire was circulated to 150 participants to assess their awareness, attitude and practice with respect to blood donations in a tertiary care hospital in Pune. Statistical analysis was done by Microsoft excel. About 60% respondents were found to be knowledgeable and having favorable attitude towards blood donation. The major factors acting as hindrances were fear of needles, being unwell after donation and hygiene. 43% respondents agreed that donating in hospital

camp is better than donating in camps outside hospitals. Study findings can be used to improve knowledge & attitude towards blood donation. Majority of the donors were willing to be regular donors. There was a positive correlation between blood donation and sense of satisfaction. Creating an opportunity for blood donation in hospitals may increase the voluntary blood donations.

Keywords: Blood donation, Transfusion, Voluntary donors.

Effect on blood pressure by giving spinal anesthesia in sitting position Vs lateral position

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The sitting position appears to be optimal for the placement of spinal anesthesia as identification of landmarks is much easier. In spite of increasing use of spinal anesthesia, the induction position has not been standardized. This study is designed to compare effect on BP by giving spinal anesthesia in sitting and lateral position. Objective is to see in which position there will be less hypotension in sitting or in lateral position with spinal anesthesia. To recommend best position for spinal anesthesia induction as far as patient comfort is considered, left lateral position appears to be more comfortable for pregnant patients. A randomized comparative study on 50 patients was done. Patients aging more than 18 years undergoing lower abdominal, pelvic, lower limb, & urological surgeries were enrolled for the study. Spinal anesthesia was performed either in sitting or lateral position. Every 5 minutes after the injection of drug till 1 hour's assessments were made for Systolic, Diastolic & Mean BP. There was no significant difference for hemodynamic variables heart rate, systolic & diastolic BP. The majority of patients who reported 'very comfortable' for induction position belonged to the lateral group. Lateral position should be preferred while induction of spinal anesthesia because majority of patients reported comfortable in lateral position. Induction position for spinal anesthesia does not affect the hemodynamic parameters and block characteristics. However spinal anesthesia in sitting position was technically easier. Left lateral position appears to be more comfortable for pregnant patients.

Keywords: Hemodynamic effect, Position for inducing Spinal Anesthesia, Spinal Anesthesia.

Medical negligence cases: Rights & duties of doctors - A case study of Mumbai

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Medical negligence (MN) refers to the liability that arises against doctors owing to the treatment given to

patient(s). MN is a serious tort as well as a crime and is now also included under Consumer Protection Act. The paper aims at analyzing the rights and duties of doctors' and patients under Indian laws & the lacunas therein. It is a nascent attempt to study MN through an empirical case study from Mumbai. It is based on Jacob Mathew Vs State of Punjab, Criminal Appeal numbers 144-145 of 2004 case and primary data collected by interviewing doctors & victim patients in Mumbai. The authors have used factor analysis & principle component analysis to arrive at the conclusion. Authors redefined MN and recommended expansion of protection offered to the doctors without compromising with the rights of patients. In the Jacob Mathew's case the court has directed the central government to frame guidelines to save doctors from unnecessary harassment in performing their duties. The research may contribute in this endeavor. Redefining MN authors found that in many MN cases more than negligence, the media hype interferes with the smooth discharge of duties. Media has to become more responsible. At the same erring doctors should not be spared.

Keywords: Doctors, Duty of care, Medical Negligence, Patients.

Psycho-behavioral changes in women towards beauty and fitness products: Middle-aged women—A case study

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Changing socio-demographic factors are changing the perception of women towards beauty and fitness (B&F). Beauty was always the synonym for woman but now the woman is becoming the synonym for B&F irrespective of age. These changes have led to behavioral changes in women. Paper attempts to understand the factors behind psychological & behavioral (P&B) changes in women towards B&F among the age group of 35 to 60 years. It's a nascent attempt to study P&B changes amidst Indian women towards B&F. 200 women between 35 to 60 years of age, 5 retail store owners selling B&F products and 2 gymnasium owners in three cities of country belonging to four income groups were interviewed. Secondary data has also been referred. Findings are based on Factor analysis, principle component analysis and ANOVA test. Change in the role of modern women has created a big market for B&F products targeting middle-aged women. Acute psychosis towards B&F is also leading to Anorexia nervosa in some cases. It will help pacify the adverse P&B implications of B&F over women. Media, Cinema, Magazines, Television etc. played a vital role in changing the perception of woman towards herself. Surprisingly in addition to B&F industry, this transition has also opened gateways to councilors & Psychiatrist.

Keywords: Beauty & Fitness, Middle Aged Women, Psycho- Behavioral Changes.

Psychological & behavioral impact of dreaded diseases over patients, their family and the society- Myeloma: A case study

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Cancer is still one of the most dreaded diseases in the world although relatively more people die of heart diseases. Though the survival rates have considerably gone up, still painful surgeries; radiations and chemotherapy lead to a big psychological impact over the patient. Research aims at understanding the Psychological & Behavioral Impact of Myeloma over the patients,

family members & society and recommends ways to help patients overcome physical, mental and behavioral issues. This type of research specifically with respect to myeloma has not been carried out in India so far. 20 cancer survivors from Pune belonging to four different age and income groups have been interviewed. Secondary data from newspapers, magazines, case studies, articles and journals have also been referred. The authors have used correlation and ANOVA test to arrive at the conclusion. Research says 40% of patients experience emotional distress along with family members. It will serve as morale booster to the patients who due to lack of awareness either don't start the treatment, presuming it to be exorbitant or leave it in between. In this disease mental trauma is huge. Patients from different age and income groups exhibit significant difference in attitude towards disease. Counseling can serve as a panacea.

Keywords: Age Group, Income Group, Myeloma, Psychological & Behavioral Impact.

Pain assessment using numerical rating scale in tertiary care hospitals in Pune region

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The use of pain assessment scale is one of the most crucial factors for evidence based patient care. The incorporation of pain assessment scale is an effective tool for clinical assessment and pain management. Not only does it provide the patient's comfort, but also it improves other areas of their well-being including their psychological and physical functionalities. The purpose of this study is to identify the effectiveness of the numerical rating scale (NRS) for pain assessment and thereby pain management on patients with different diseases in tertiary care hospital located in Pune city, India. The given scale is solely designed and developed for evidence based pain assessment in patients for clinical management. Two hundred patients in a tertiary care hospital participated in the study voluntarily after giving their consent. They were informed that the research-based study is solely for educational purpose and the results of the study would be kept confidential. The study results generated data, which was graphically analyzed and scale was found to be reliable, worthy and appropriate for use in clinical practice. Additional research is required for wider studies in different regions of India to clarify questions regarding scale intensity. Based on available data, this can be considered a well-established scale for pain assessment & management in multiple diseases. This scale is a time saving tool and effective in the assessment of particular diseases as it provides pain assessment in different diseases. The numerical rating scale (NRS) is beneficiary for health care professionals in assessing different types of diseases. It requires less time by explaining the diagnosis in brief. It can be used effectively in the Indian context for assessment of pain and pain management in different types of disease.

Keywords: Numerical Rating Scale (NRS), Pain Assessment, Pain Management.

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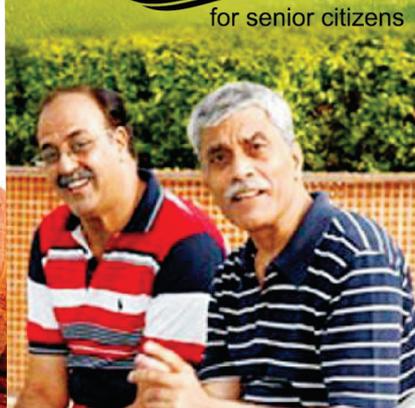


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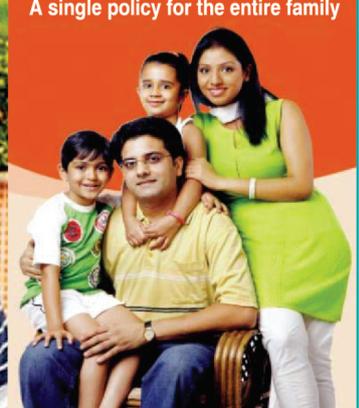
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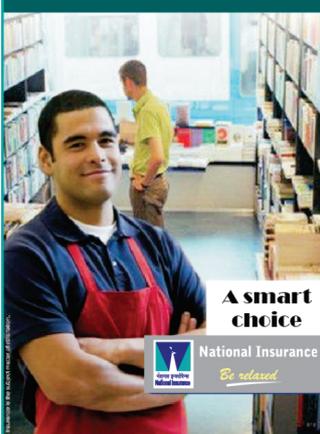
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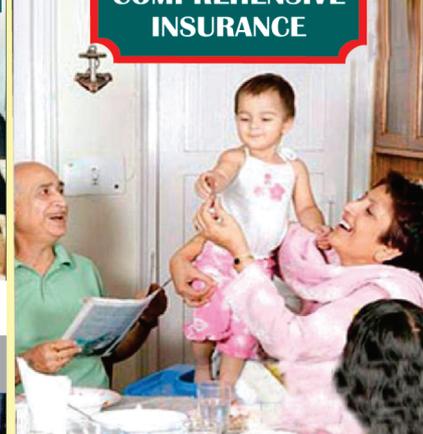


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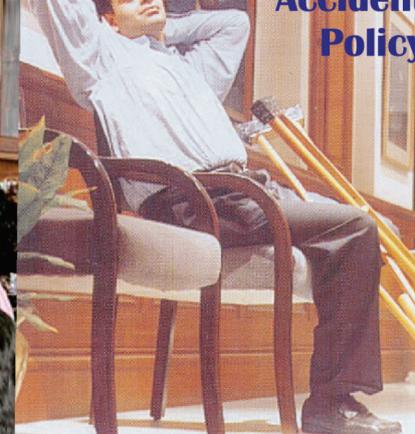


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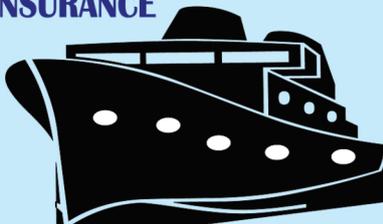
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Road safety awareness and driving practices: Perception of students at an Indian university

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Road traffic injuries are the eighth leading cause of death globally. Globally, a rise in the motor vehicle population has brought with it the challenge of addressing adverse factors such as road accidents. Road fatalities occur amongst the most productive age; with India contributing to 73% of fatalities in the South East Asian region. This study was carried out with the objective of assessing awareness of road safety and driving practices amongst students and promotes safe driving practices. A cross sectional study amongst students of a University was carried out using a self-administered questionnaire from January 2015 to April 2016. The traffic sign least known was 'Give way' (24%) while 'No horn' traffic sign was known to all students. Exceeding lawful speed limit (25%) was the most commonly followed unsafe driving practice while drunken driving (3.1%) was the least followed unsafe driving practice. Thirty-six and twenty-three percent students reported not using helmet while driving two wheeler and seatbelt while driving four wheeler vehicles respectively. The overall awareness of road safety and driving practices was high among students. It was higher among boys as compared to girls. The observations of the study emphasize the need to create awareness related to few unknown traffic signs like yellow signal, give way and no parking; monetary penalties and safe driving practices like use of helmet and seatbelts. Use of mass media, signboards and posters could be strengthened to increase road safety awareness.

Keywords: Driving practices, Road Traffic Accidents, University students.

Sustaining healthcare quality practices

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To sustain the quality, the care provided is one of the most common challenges faced by hospitals in India, which is expected by patients in their perception. An objective of this study is to study the CQI indicators and observe trend which determine Quality Care provided at Hospital. Many researchers have studied this topic however I have tried to cover the cadre additional to the nurses who lay impact on quality of care provided at hospitals which are measured through various quality indicators. This is type of correlation study between the trends of indicators and training given to the indicator capturing person and with its visual impact on patient feedback. It was observed that Indicators which were captured by untrained staff, its trend improved after the on-job training given and it increased the reliability of data captured and job satisfaction amongst the staff. Applications are to lower the attrition rate of the hospitals, to increase morale and job satisfaction amongst hospital staff and to increase/ up gradation in quality of patient care provided. Corporate, private or government hospitals, even small clinics face similar kind of situation which can be overcome if staff is trained as per defined job description while induction and post test score is utilized to determine whether the staff needs re-training or not. Usage of quality tools to do planning for the uncertainties of healthcare domain can improve the organizational culture.

Keywords: Job Description, Quality Care, Training.

Role of IT in healthcare/medical sector

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Technology plays an important role in industry as well as in personal lives. In every industry technology plays a crucial role & responsible for improving and saving countless lives. Objective is pointing out Importance of Information Technology in Healthcare. Medical technology is broad field where innovation plays a crucial role in sustaining health. Development of medical devices and equipment made significant contributions in improving health. Small innovations adhesive bandages, to larger, complex technologies like MRI machines technology has made an incredible impact. With the increased use of e-medical records, tele-health services, and mobile technologies like smart phones, physicians and patients both gets benefits. Technology like minimally-invasive surgeries, better monitoring systems and more comfortable scanning equipment results in less recovery time. Electronic health records provide safer and more reliable prescriptions. It is easier to track warnings of unforeseen drug interactions with connected healthcare IT systems. Discussions are Cost reduction of Information Technology, Developing infrastructure in remote locations. Applications are ease of access of important information for professionals; it helps in legible and complete documentation of patients' medical history. IT is making large strides in the medical and is bound to expand further. Use this beneficial tool for communicating in better, keeping a track of health, medical progress, and improving quality of life.

Knowledge, attitudes, practices & behavior of dialysis technologist in patient safety

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Hemodialysis is the most commonly used renal replacement therapy. Patient safety is the most important parameter considered for delivery of high quality health care. Dialysis errors can cause harm to patient, which further affects patient safety. The process of providing dialysis treatment includes the management of arteriovenous fistula (AVF), use of medications, equipment and physical activity on the part of the patient. Miscommunication, safety hazards, improper documentation, medications & infection control etc. are key areas of safety risks during hemodialysis procedures. Infection control risks, such as inadequate hand hygiene, faulty machine and equipment disinfection, have been associated with outbreaks of transmission of infections, which will affect the patient safety. Objective is to investigate knowledge, attitudes, practices & behavior of Dialysis Technologists regarding patient safety while managing hemodialysis procedures. Such studies regarding, the KAPB in Dialysis Technologists regarding patient safety are limited in the Indian context, hence the study reveals the State of Dialysis field in India. A self-administered questionnaire was used containing 25 structured questions to assess the knowledge, attitudes, practices & behavior evaluations on Dialysis Technologists on patient safety in hemodialysis who are working in tertiary care hospitals. More than 90% of Dialysis Technologists had knowledge when it comes to hemodialysis cannulation procedure and infection control policies. Positive attitudes about patient safety were revealed by their responses. The pattern of practice behavior showed that majority of the dialysis technologists reported to have never been involved in following wrong practices in the treatment. Labelling of dialyzer was the most highly rated item. In general, the surveyed dialysis technologists have good KAPB towards patient safety. They have sufficient knowledge about safety practices, purpose and the usefulness. The results from our study highlight that many efforts are not needed to facilitate the positive attitudes and practices towards patient safety but continued education and training will be

important in maintaining the practice behavior in patient safety.

Keywords: Attitude, Hemodialysis, Infection, Knowledge, Patient Safety.

Medico social effects of perfumes, colognes and deodorants

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Odoriferous compounds in perfumes can cause adverse effects on health. Current data suggests that organisms found on skin flora may protect the host, making them not just symbiotic but mutualistic as well. Recent studies suggest that perfumes show presence of 24 potent allergens (C. Villa, 2007), which can cause symptoms like hives, itchiness, rashes and even contact dermatitis, respiratory infection, hormones disrupting and mimicking effects (McGrath, 2003). The main objective of the work was to perform microbial studies to assess the effect of fragranced products on growth and inhibition of the microbes using in vitro models. In vitro studies using microbes were not carried out for testing perfumes, deodorants and colognes. In this study, microorganisms were isolated from human skin and also from industrial wastes to test perfumes using DDM (Disc Diffusion Method); in addition to that the perfumes were analyzed using HPLC (High Performance Liquid Chromatography) to understand the composition of each perfume. Disc Diffusion method showed that skin micro flora is sensitive towards certain brands of perfumes and HPLC analysis confirms that perfumes are not just derivatives of alcohol but many more. This research can help the blooming fragrance industry improve and produce safer products. Also, this work will create awareness among people about the perfumes used.

Keywords: Colognes, Deodorants, Fragrance products, HPLC, Medico-social effects, Micro flora, Perfumes.

Nirmal Bharat Abhiyan: Indian government's communication of sanitation and hygiene

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Hygiene and sanitation are major problems in India. People defecate in public, eat and do other work without washing their hands. This creates health problems. Prime Minister Mr. Narendra Modi has started the Nirmal Bharat Abhiyan (NBA) for generating awareness. Cleanliness and hygiene will transform the physical and financial health of India. Mass media is used extensively to promote hygiene. Luby *et al* (2006) found that raising awareness results in significantly less diarrhea. Similarly, Fewtrell *et al* (2005) found that hygiene education reduces diarrhoea in children. The Government of India developed the Total Sanitation Campaign (TSC). The paper will study the various communication programs undertaken for spreading the sanitation and hygiene message. It will focus on messages pertaining to hand washing and open defecation. The paper will suggest how Government can improve its communication for achieving its goal of an open defecation free Nirmal Bharat by 2022. The researcher will access secondary sources of information to analyze the communication strategies used. The study is important from India's point of view. Remedial measures can be adopted after studying the same.

Keywords: Communication strategies, Hand washing, Hygiene and sanitation awareness, Open defecation-free.

Health Technology Assessment: Opening pathway for implementing Robotic surgery in a University Teaching hospital

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Health Technology Assessment (HTA) is a systematic multidisciplinary activity which assesses application of health technology. It evaluates the safety, clinical efficacy and effectiveness, its cost and cost effectiveness. Surgical robots provide an improved 3D view of surgical area and a better manipulation of surgical arms as compared to conventional laparoscopic surgery. Objective is to perform Cost benefit analysis of robotic surgery (RS). It is an Original research work. Materials and methods used are retrospective cross sectional study was done for a period of 2 months. 50 robotic and 40 open surgical cases were selected. Direct & indirect costs of care were estimated along with assessment of operational costs for RS. Statistical analysis was performed. Correlation of length of stay (LOS) was done with direct and indirect costs incurred. Robotic surgery is a high end Cap Ex model but financially viable. A positive NPV was seen with ROI in the 5th year. Operational cost and material cost were found to be statistically higher for RS. Pharmacy cost and nursing cost showed a high degree of correlation with LOS in gynecological oncology department. Reduced LOS, less pain and faster recovery are the major positive impact that harbinger the socioeconomic benefit. Surgeons too have greater visualization and dexterity. RS provides better patient care by shortening recovery period and post-operative care. HTA is 'a bridge' between evidence and policy-making. It guides decision-makers about appropriate use of technology and efficient allocation of resources. RS is an advanced approach which significantly improves patient care and provides more flexibility and precision to surgeons.

Keywords: Decision-making, HTA, Robot.



Simulation training: A new aid of learning in improving the abilities to manage medical emergencies

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Medical education is rapidly expanding. With the archetype shift to small group sessions and focus on clinically oriented case-based scenarios, Simulation Training has provided educators, an innovative way to deliver medical education. Traditionally, Clinical training for health care professionals has confined on learning from actual patients, even for invasive procedures and life threatening situations. But there was always a danger in this practice. Simulation based training enables knowledge, Skills and attitudes to be acquired for all health care professionals in a safe, educationally oriented and efficient manner. Making mistakes have become a valuable part of learning process in this Simulation based Training. Thus, Procedure based Skills, Communication, Leadership and Team Work can be learnt and used as a mode to become a Skilled Health Care Professional and also execute in improving patient related outcomes. This Study determines the effect of a simulation based curriculum in improving the abilities of students to manage medical emergencies and also to improve patient related outcome. A Controlled, Blinded Educational Trail of 60 final year Medical Technology students was carried out. 30 students completed the former curriculum as the control group and 30 the new curriculum as the intervention group. The intervention consists of simulation-based training with theoretical and simulation-based training sessions in realistic encounters based on the Basic Life Support (BLS) and Advanced Cardiac Life Support (ACLS) training. Further common emergencies were integrated corresponding to the course objectives. All students faced a performance-based assessment in a 6 station Objective Structured Clinical Examination

using checklist rating within a maximum of 3 months after completion of the intervention. The intervention group performed significantly better at all of the 6 stations in the checklist rating ($p < 0.0001$ to $p = 0.015$). The simulation-based training provided a positively evaluated possibility to enhance students' skills in recognizing and handling medical emergencies. Students value the opportunity to apply their theoretical knowledge in a safe and realistic setting, to develop teamwork skills and to develop a systematic approach to a problem. Clinical simulation provides a safe environment to reorganize care and train professionals to work in teams.

Designing e-dashboard - A flash to quality assurance

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Patient complaints provide an insight into variety of problems existing in a healthcare organization. They help in increasing patient safety and accountability as well as improving overall care. They help in detecting problems in a systematic way. Patient often identify and complain about areas of neglect or poor care. But as hospitals receive huge number of complaints, these critical complaints often get missed or come to focus at a later time. It is important to track them and develop an efficient complaint management system. Objectives is designing e-dashboard for complaint tracking in a multispecialty quaternary care settings. it is an original research study. An effective software based management tool for real time capture of patient complaint, presentation and redressal. Method used is an observational study based on work flow analysis. Patient complaints were collected and categorized based on their nature and catalogue for e-dashboard. Current work flow mapping helped in proposing the complaint tracking system. Using the Complaint tracking software, critical and non-critical complaints could be segregated in a comprehensive manner. Resulted in rendering a complaint tracking system with high response rate in the implemented departments. It makes the system paper less with significant increase in accountability and timely resolution of the complaints. It helps in a speedy redressal of complains in a hospital setting, thereby increasing patient satisfaction and ensuring a healthy and informed society. This software is an effective tool for tracking and handling complaints in a hospital. It gives an added advantage to hospital to turn their weakness into opportunities.

Keywords: Accountability, E-dashboard, Patient complaint.

An analytical study on the reach and effectiveness of radio in promoting awareness about tuberculosis in specific rural parts of India

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The purpose of this study is to determine the extent of growth of radio as a communication channel and the impact created in the lives of the people in particular rural sectors across India with reference to promoting awareness about Tuberculosis. Originality of the study is the effectiveness of radio as a means of communication tool to ascertain the need-base of the rural community and establishing an effective

communication about the healthcare services and spreading awareness about the deadly symptoms of Tuberculosis. Expected result will be based on observations and interviews. There have been various communication formats devised to spread the awareness of Tuberculosis prevention such as street plays, puppet shows, radio dialogues, posters, banners and village fairs. In rural India, we are focusing primarily on the effectiveness of radio as a communication agent. The qualitative approaches involved in analyzing the reach and effectiveness of radio as a communication channel are in-depth interviews, focus group discussions, observations and field notes. The study will incorporate dip stick studies to measure the communication impact of radio in creating awareness about Tuberculosis in specific rural parts of India. This study aims to find out the effectiveness of radio and community radio as a whole in reaching out to the rural community with regards to healthcare awareness, particularly cases of Tuberculosis.

Keywords: Community Radio, Media, Rural health, Tuberculosis.

Ultrasonography markers to differentiate between triple negative and hormone positive breast cancers

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Triple negative breast cancer(TNBC) is a molecular subtype that does not express estrogen receptors (ER), progesterone receptors(PR) or human epidermal growth factor receptor2(HER2). Management of TNBC is complicated due to its aggressive biology, rapid progression and poor prognosis. Identification of early markers for TNBC is important for effectively planning clinical management protocols. Therefore, this study was undertaken. To investigate if Ultrasonography (USG) features can be utilized to differentiate TNBCs from ER-PR positive breast cancers. Originality of the study is utility of a well-curated BC radiology and clinicopathology database for differentiating breast cancer subtypes. Clinicopathological features of 35 histologically proven TNBC patients (mean age: 47.29 ± 10.54) and 29 ER-PR positive, Her2 negative patients (mean age: 50.87 ± 13.27) were studied. USG images of these patients were analyzed using BIRADS lexicon and standard features that included shape, orientation, margins, echo pattern, vascularity, elasticity, calcification and post acoustic features. Our study could discriminate the TNBC from ER-PR positive cases with an average accuracy of 89.8%. The most discriminative features that maximally aided the classification included the micro-lobulated margins, peri-lesional halo, size of tumor, age of the patient, and in-mass calcification. Early radiological diagnosis of the highly aggressive TNBC subtype can aid in effective clinical management thereby reducing the disease mortality. TNBCs mainly appear in younger age groups and lack typical radiological features of BCs like speculated margins and micro calcifications. Clinicians need to be aware of TNBC-specific imaging features to aid in early diagnosis of this aggressive subtype of BC prevalent in Indian women. With the help of sonographic features we can accurately differentiate high grade TNBCs from lower grade ER-PR positive tumors.

Keywords: BIRADS, ER, PR, TNBC, USG.



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Factors associated with the mental health of the children living on streets of Mumbai city

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Street children constitute a marginalized population in the most urban centers of the world. Due to the vulnerability of street life, they face many problems like health, occupational hazards, substance abuse, sexual exploitation, violence and abuse, the risk of exclusion, and psychosocial distress like depression, extreme aggression, cutting themselves regularly to deal with their pain and social difficulties. Objective is to understand the mental health issues among children living on street and factors affecting their mental health. The available information and previous studies have limited exploration on the psychosocial distress among children living on street. This study has explore the different dimension of the phenomena. The data has been collected from 234 children living on street in Mumbai city. The bivariate analysis, chi-square test and logistic regression have been used to achieve the objectives of the study. The findings highlight that a significant proportion of these children having severe mental health issues. Along with the abuse and negative experiences from society, factors like, age, gender, type of work, duration of stay at street have the significant impact on their mental health. The experiences of violence, abuse, neglect, torture and other negative experiences make them prone to the psychosocial distress and the factors like age of the children, duration of stay, gender and their occupation contributes to the distresses among the children on street.

Keywords: Children living on street, Mental health issues, Psychosocial distress.

Treatment seeking behavior of children living on the streets of Mumbai city

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The phenomenon of children living on street is not unique. Also, it is not limited up to the specific region only. They face problems like, abuse, torture, violence, exploitation, substance use/ abuse and violation of basic rights, health and mental health problems, etc. All the above factors contribute to many health issues among the children living on street. As they are staying without family or adult member; less likely to access immediate health services. Objective of the study is to understand their health issues and treatment seeking behavior of the children living on the streets of Mumbai. The available information and previous studies have limited exploration on the treatment seeking behavior of children living on street. This study has explore the different dimension of the phenomena. The data has been collected from 234 children living on street in Mumbai city. The bivariate analysis and binary logistic regress have been used to achieve the objectives of the study. The preliminary findings show that the children are suffering from common illness to severe health issues. A significant number of children delayed treatment because of lack of money or negative experiences at health care centers. The factors like age, gender, type of work determine their source of treatment. The study highlights that girls are less likely to access health services from unqualified/ quack but largely approach to the private clinics or hospitals than the boys. The working and living condition leads to the many health issues among them. The financial factors and improper behavior of the health service provider's create obstacles in accessing the health services.

Keywords: Children living on street, Health issues, Treatment-seeking behavior.

Factors affecting hospitalization in India

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As a developing country like India, even after almost 70 years of independence, it faces serious challenges in the health care system. Despite continuous progress and improvement in this sector, the dual burden of diseases lead individuals to doctors/health care centers, hospitals. So, we have the question that what factors leads to hospitalization of an individual? Is it the age or the religion or what socio-demographic factors that effects hospitalization i.e. more than 24 hrs. Stay in the hospitals. Our objective is to understand the factors that affect the past treatment seeking behavior of inpatients that leads to hospitalization. To address this problem, 71st round of NSSO data is used whereas Binary logistic regression has been used to analyze the data. Results gives us that as compared to the patients who use Indian system of medicines, allopath users have 26% less chance of hospitalization. When we see the people who use PHC healthcare users as reference category, Public and private hospital users have 44% & 73% more likely to get hospitalized. The odds of hospitalization for a female is 2.23 times more than male. Age, religion, place of residence have showed no significance difference to prone to hospitalization. But income shows a positive relation with hospitalization. Moreover, higher the size of household, less is the chance of hospitalization. Odds of hospitalization is lowered as the years of education increases. This study shows the various risk factors of hospitalization in India.

Keywords: Hospitalizations, Inpatients, Risk Factors.

Willingness to pay for pentavalent HiB vaccine among parents of children in rural West Bengal, India

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The study aimed to assess the willingness to pay (WTP) for the pentavalent HiB vaccine among parents of children less than 5 years of age in rural Purulia, West Bengal using a contingent valuation (CV) method. Apart from assessing the WTP for the vaccine, the study also assessed the validity of the selected CV method and identified the determinants of WTP. The study is the largest CV study on vaccination programmes in India and also the first CV study on the HiB vaccine in India. The study establishes the validity of CV methods for evaluating health programmes. Shuffled payment cards followed by open ended question were used to assess WTP in a cross section of 873 households across 4 blocks of Purulia. 3 different CV methods were tested. The WTP for the HiB vaccine was calculated at Rs.348 (95% CI: 28, 416). 88% parents were willing to buy the vaccine for the child. WTP went up with household income, education level of the parent, health and hygiene habits, positive health seeking behavior and went down with the number children of the respondent. There was no evidence of a gender bias. Contingent valuation promises to be a useful method for evaluating health programmes apart from providing a transparent method to assign monetary values to health benefits. The study indicates a high demand for the pentavalent HiB vaccine in the study population and provides inputs for a cost-benefit analysis.

Keywords: Contingent Valuation, Economic Evaluation, HiB vaccines, Valuation of health outcomes.

Under nutrition among reproductive age women in various parts of India: A persistent public health problem

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Evidence indicates that women with a body mass index (BMI) ≤ 18.5 in developing countries are associated with a progressive increase in the mortality rate, and are at increased risk of illness. The paper aims to study the prevalence of underweight among reproductive age women in rural and tribal areas of Gujarat and Maharashtra and tries to assess the socio-demographic factors affecting underweight among the study population. Undernourished women are likely to face reproductive health problems, leading to maternal and infant deaths. Thus, studying under nutrition risk factors in women is imperative to avoid complications and death. A cross-sectional study was conducted in two districts of Gujarat (Bharuch and Tapi) and one district of Maharashtra (Palghar) during the year 2017. An anthropometric measure (BMI) was used to determine the prevalence of under nutrition and measures of association was used to assess the impact of the proposed determinants. 4566 women from the reproductive age group (15-49) were included in the study. Around 92% were SC/ST and 25% of them were working. The findings showed that the overall prevalence of underweight was 42%. The results from showed that there the family's standard of living index ($=137.07, p=0.000$), education ($=53.1, p=0.000$), source of drinking water ($=130.08, p=0.000$) and sanitation facilities ($=77.52, p=0.000$) were significant risk factors. The study could be utilized for evidence based programme planning and monitoring. There was a high prevalence of under nutrition. In order to improve women's nutritional status, policies should focus on improving family income, education, drinking water and sanitation.

Keywords: Mortality, Reproductive, Under nutrition.

A renaissance into post-death transcendence

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Inefficient disposal of corpses represents an increasingly recognized source of pollution that harm human and environmental health. Historical examples include spread of contaminants from cemeteries and crematoriums causing pollution of water bodies and the atmosphere, thus causing illness in the public with association to neurological, immunological, heart and reproductive disorders. Objective of this study is to elucidate the associated inefficiencies and impact of presently practiced procedures along with socio-economic and legal framework. This study also forms a brief case study of the Pune city. We studied 20 crematoriums that use 4 distinct technologies, compared to the traditional method these are aimed to be more efficient. We collected the qualitative and quantitative data including the crematorium profile, load on system, various methods available and pollution parameters. Only study from Pune documenting the human body disposal methods and its effect on environment. Pune city has 20 crematoriums receiving about 20,000 bodies per year. Crematoriums release pollutants like atmospheric mercury and dioxins which are a known cause of respiratory disorders, require fossil fuels and wood along with that create derivatives such as ashes, which can result in further pollution if improperly disposed. Meanwhile, cemeteries leach chemical and biological pollutants into the soil. There has been a general lack

of shift due to long-standing culturally established beliefs reinforced by religious faith. Further research is required to explore and establish a set of guidelines that justify that transition to the newer developing alternatives to induce more environmentally suitable and economically efficient measures.

Keywords: Cremation, Death Procedures, Environmental Pollution.

Portrayal of mental illness in the Indian cinema of 21st century: A distorted medium of mental health awareness

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Cinema is deeply rooted in Indian society and thus it is a powerful and influential medium to bring any kind of awareness in the pursuit of healthy society. The objective of the research paper is to review the portrayal of mental illness in the Indian cinema of 21st century and to elaborate, how it is distorting medium of mental health awareness. A new perspective to the mental health awareness program. The study conducted by doing content analysis of Indian films released between January 2001 to October 2016 and referred by the standard mental health guidelines described in DSM-5 issued by APA. It is found that, there is a sincere effort to bring awareness in few cases, in overall, there is a lack of accurate information and proper terminology about mental illness. The current study tried to highlight the need of appropriate utilization of the Indian cinema as a medium to eliminate stigma around mental health. Indian Cinema of 21st century is a distorted medium of mental health awareness.

Keywords: Indian Cinema, Mental health awareness.

Impact of government campaign advertisements on shaping citizens' intentions (with special reference to health and sanitation campaigns in India)

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Since, government incurs significant expenses to promote and advertise its Health and Sanitation Campaigns, thus the study findings will act as feedback mechanism in terms of shaping citizen intentions. In other words, the study is an attempt to measure the advertisement effectiveness of such campaigns in India. The purpose of this paper is to explore the relevance of Government's Health and Sanitation Campaign Advertisements. The study is an attempt to understand the relevance Government Campaign Advertisements. Based on this review authors confirm a dearth of studies which measure the advertisement effectiveness of various Health and Sanitation Campaigns in India. The government spends significant expenses on design and execution of campaigns. Authors will employ survey technique and will interview few industry professionals. The study outcome would propose the relevance of advertisements of government's health and sanitation campaigns. The study findings will act as feedback mechanism for citizens especially from underdeveloped and less educated segment in India. Findings will enhance service delivery mechanism of government in India and will spread awareness to enhance citizens' quality of life.

Keywords: Advertisement effectiveness, Campaign advertisements, Citizens' intentions.



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Lean management process: The gastro experience

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Lean management process involves determining the value of any given process by distinguishing value added steps from non-value added steps and eliminating waste so that ultimately every step add value to the process. Objective is application of lean management process in the department of Gastroenterology for process improvement and to analyze the efficiency of the OP services in department of gastroenterology and to identify the non-value added activities for the process improvement. Method used is a prospective process mapping study that involves the observation and recording different services like Endoscopy, Colonoscopy, Ultrasound, Laboratory services etc. using SIPOC, process map and current value stream mapping. Standard deviation for NVT at 34.021% and for VAT at 13.728% of Endoscopy was found to be significantly higher as compared to the NVT and VAT of Colonoscopy, Lab, USG i.e. NVT at 32.312%, 21.896%, 21.045% respectively and VAT at 10.517%, 3.032% and 5.637% respectively. The process efficiency of the Endoscopy OPD procedure was significantly higher at 37.3% as compared to Colonoscopy, USG, laboratory at 34%, 28.7% and 20.1% respectively. Application of lean methodology helps in the prevention of any waste in the processes like extra time, labor, material spent that doesn't add value to the service. Since statistical analysis showed significantly high Standard deviation for NVT of Endoscopy OPD process which indicates scope for process improvements and waste elimination in the department of Gastroenterology.

Keywords: Fish bone analysis, Lean, Value stream map.

Operational efficiency: An Emergency Room experience in a multi-specialty teaching hospital

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Emergency department in a hospital provides the much needed “safety net” to patients who report with unexpected illness or injury that may result in death, disability or severe pain if not treated immediately. As such the operational efficiency of the emergency department is of paramount importance not only for the patient but also to the hospital and the community at large. Objectives are to evaluate and analyze the efficiency of the Emergency (ER) department and to identify variables critical to implementing an efficient triage system in the ER department. It is an original research study. Non probability convenient sampling method was followed with a sample size of 367. Primary data and secondary data were collected by direct observation, interview method and review of records, registers, books and journals. A prospective observational study using DMAIC methodology was conducted over a period of 2 months in the ER department of a large University Teaching Hospital. Value added, non-value added and operational valued added activities were identified to analyze the efficiency of the department. Risk priority factor (RPN) was calculated. S- Shaped pattern was noted for number of patients attending ER department. General medicine (36%) and cardiology (25%) maximally to the number of patients per day. Under KPI 36% of patients were discharged within 2 hrs. Admission rate in ER department was 50%. Average length of time in ER department was found to be 150 minutes. The unplanned revisit rate in the department was found to be 0.41 %. Redesigning the flow of process, addressing time delays and improving the management of existing resources was proposed to optimize patient flow for better care delivery. By imparting efficiency, we can provide better and timely care to patient in ER department. The ER department operates on a

large, complex and demanding set of processes that requires continuous monitoring and control for ensuring optimum efficiency. A streamlined workflow and methodical triage will ensure operational efficiency and ensure patient satisfaction and quality of care.

Keywords: Emergency, Efficiency, DMAIC.

Intention for recreational-physical activities as defense against occupational hazards among Indian IT employees

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Although the career in Information Technology (IT) industry is rewarding, the implications on increasing level of emotional stress create serious occupational hazards. This 'IT phenomenon' adversely affects psychophysical wellbeing. The aim of this research is to explore the role of interpersonal relation stressors and work withdrawal on the intention for recreational-physical activities for personal well-being among the Indian IT professionals. The corporate IT atmosphere where eustress may turn to distress was addressed with the sustainable and preventive approach. Taking cues from the socio-cognitive model of the perceived health risk (Rosenstock et al., 1988); the study investigated the extent of demand for the personal health risk mitigation (wellbeing) as preventive or restoring mechanism. 214 young IT employees participated in an adapted survey. Confirmatory structure among the three latent factors was further tested for the simple mediation analysis using IBM-SPSS -Amos. The work withdrawal thoughts were found to partially mediate the direct relation between emotional stressors and willingness for leisure and somatic activities. The interpersonal-stressors and work withdrawal were not only significant statistical antecedents but also found consequence on intentions for physical activity regime. The employer's role may be limited, often due to the communication gap regarding individual priorities. The risk preventive application of such 'IT phenomenon' would enhance personal well-being of IT employees. The awareness regarding the perceived mental health risk and ill-affective outcomes of the IT career would drive regular involvement in recreational physical activities at the young age. The onus of ensuring a stable work-life balance is the judgment call that stem out of the IT employees psychophysical awareness.

Keywords: Interpersonal stressors, Physical-recreational activities, Work withdrawal.

An innovative way of providing haemodialysis: A case study of chronic kidney disease patients under Mukhyamantri Amrutam MA Yojana, Gujarat

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Chronic diseases have become a major public health problem in India. It accounts for 60% of all deaths worldwide. Across the worldwide around 10% of population are suffering from chronic kidney disease (CKD). Over 2 million people are currently receiving dialysis or kidney transplant to stay alive. In India, with limited hemodialysis facilities and increasing diabetic and hypertensive patients, it is for sure that demand for hemodialysis in future will rise. Considering existing gap between demand and supply of hemodialysis in public hospitals, government of Gujarat launched Mukhyamantri Amrutam Yojana (MA) which provides cashless hemodialysis facility to all its beneficiaries suffering from CKD.

This study explores utilization of hemodialysis at both public and private scheme empaneled hospitals-geographically and compares hemodialysis utilization with other critical procedure of cardiology, neuro surgeries, poly trauma, neo-natal diseases, burns, oncology and renal surgeries under MA Yojana. The scheme has not only strengthened the existing government hospitals in serving CKD patients but has also provided an opportunity for private hospitals on public private partnership (PPP) to join hand with the State government in serving hemodialysis. This study is exploratory in nature. The sampling technique used is non-probability based purposive sampling. CRD patients who have undergone hemodialysis under MA Yojana from September, 2012 to December, 2017 in Gujarat has been selected as that sample size. This PPP model has enabled the Gujarat government to deliver per day 800 and annually 2,40,000 haemodialysis in the State and has benefited more than 4,966 CKD patients to get cashless hemodialysis services at their nearest distance. The scheme has not only provided a system for CKD patient's registration but, has also achieved in saving their out of pocket expenditure. Wherever there is a gap in demand and supply of hemodialysis services, this PPP model can be helpful. Although Indian Government has initiated establishment of stand-alone haemodialysis units at government hospitals at an affordable price it is not for sure how long it will take to show the results. Since, MA Yojana has successfully bridged the gap in haemodialysis services in Gujarat, this PPP model can prove to be a game changer in serving haemodialysis services to the needy citizens of the country.

Keywords: Chronic Kidney Disease, Hemodialysis Gujarat, Mukhyamanti Amrutam Yojana.

Pain assessment questionnaire scale

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“Pain is the fifth vital sign” so it is important to assess the patient. Patient verbal and motor responses are best way of assessment for pain management. Best evaluation methods are performing for assessment by train medical individual. Objective of the study is to evaluate the patient experience of pain by self-assessment tool and to identify the severity of pain and suffering of patient emotional and physically. This questionnaire scale is made by us. Earlier there were so many scale had been used for pain assessment but this will help us to know the patient condition from specific aspect. Questionnaire bases scale is the tool for assessment of pain. We had made the pain assessment questionnaire scale. This question scale distributed to the hospital, where we have taken participants (patients) to fill the form by doctor. We get to know a broader idea about the condition of the patient pain assessment scale has helped in identifying the severity of pain adequacy of the treatment. The benefit of this questionnaire scale is that, it is the only method to know the condition of pain and further management. It give patient self-report to doctor. We have conclude the following aspects the Satisfaction of the patient, effect of the therapy, summery for the further management and the medico legal aspect.

Keywords: Condition, Pain assessment, Patient.

Trends and risk factors of caesarean section in India

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Worldwide the caesarean section rate is rising rapidly at an alarming rate, this rise in caesarean rate has become a serious public health issue. Caesarean section is a surgical intervention used to save maternal-infant lives, but only when they are required for medically indicated reasons. The WHO published guidelines states that the proportion of caesarean births should be between 10-15 percent. In India, according to National Family Health Survey, the caesarean in the urban area increased from 5.7 percent in 1992-93 to 28.3 percent in 2015-16 which is not justified by WHO recommendation. Objective is to study the trends and Factors associated with caesarean section. A very little research has been done on caesarean section deliveries in India. Therefore, it is necessary to understand the in-depth understanding of this issue. Present study utilizes the secondary data from National Family Health Survey (1-4) in India. Bivariate and multivariate logistic regression is used to examine the factors responsible for caesarean section delivery. The study reveals that the trend of caesarean section has increased rapidly in India from 1992 to 2015. The higher rates were found in urban areas and west, south part of India. The logistic regression analysis shows that caesarean delivery is positively associated with Body Mass Index, mothers of age group above 30, for mothers with multiple births and having baby, those mothers who suffer from complications during pregnancy. This study may help to find out the unnecessary surgical interventions that are carried out which may affect the health of mother and child and to ensure the rational use of the procedure.

Keywords: Age, BMI, Caesarean delivery.

A systematic review of drought impact on health and livelihood of women and children in India

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The Indian Government's National Action Plan on Climate Change states that the effects of climate change could show principally severe for women. With climate change, there would be growing shortage of water increased threats to human health with children, women. Objective is to examine the impact of drought on the health and livelihood of women and children in India. Most of the studies concentrated on climate change and its effect on agricultural regarding developing country but this study mainly targeted direct relationship of drought and its significant impacts on women and children for that most of the research done in a developed country. A systematic search for randomized controlled trials and an observational study published after the year 2000 was conducted in 45 kinds of literature, reference list and various relevant studies. For the purpose searching literature, Mendeley, Pub-Med, Jstor, Science-Direct, etc., the database has used. Due to a highlack of water during the drought period, women and children's work burden has increased and most of them faced severe health issues like malnutrition, anemia. Every year droughts occurred different part of Indian states mainly southern part of India. And most of the study found that women's and children's are more venerable in the drought period. Government policy and programmes should be more emphasis on advanced methods of adaptation and mitigation during drought period for better human life.

Keywords: Drought Impact, Health, Women and Children.

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Obesity and risk of hypertension among women in India

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Obesity has become a significant civic health problem in both developed and developing countries including Hypertension, type 2 diabetes, cardiovascular diseases and cancer. It is widely accepted that being overweight, which is defined as having a body mass index (BMI; obtained by dividing the individual's weight in kilograms by height in meters squared) $>25\text{kg/m}^2$, is the foremost risk factor for a wide range of chronic diseases and injuries including cardiovascular diseases. Objective is to evaluate the relationship between obesity and hypertension among women. India being a patriarchal society, women have a minimal role to play in their health care issues. With very few studies done on risk factors for non-communicable diseases among women, this study is an attempt to highlight the prevalence of diseases among them. The study uses the National Family Health Survey-4 data. The bivariate and multivariate analyses are carried out to examine the association between body mass index and hypertension among women. The overall prevalence of obesity was high in southern states like Andhra Pradesh, Telangana and northern states like Jammu Kashmir and Chandigarh. Also, the prevalence is high among widowed women as compared to divorced or married women. Body mass index is found to be key risk factor besides tobacco and alcohol consumption for hypertension among women. Obesity was statistically associated with hypertension. There is an urgent need to recognize the gravity of the problem of obesity and therefore incorporate it in the general health system.

Keywords: Hypertension, Obesity, Women.

An Examination of Perceived Ergonomic Workstation Design as a determinant of Software Project Planning and Execution of a Programmer in India

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The research theme relates to perceived software project planning and execution of computer programmer and presents a systematic analysis of technical & no-technical factors that influence programmers' ability to plan & manage a software project. This study has been conducted on Indian software industries to understand; what are the significant factors that affect the Software Project Planning and Execution. The factors considered were: Ergonomic Work station design, Work Organization, Work related health issues, Office environment and HR Practices, Quality management system, Domain Knowledge, Technology and Software project planning and execution. Software programming & its quality is an intelligent work is built entirely on human capital & not many made attempt to understand how it is done & what are the factors that affects it. The data was collected using random sampling from programmers by way of a structured questionnaire. The analysis was done using Structural Equation Modeling (SEM) using AMOS 20. The total sample size was 199. The overall model fit looks adequate with the CMIN/DF is 2.141 while all other parameters such as PGFI, CFI, PCFI & RMSEA are within the recommended value. Ergonomic work station designs leads to less occupational hazards. The major finding of the study was that two factors i.e. ergonomic work station and Domain Knowledge has a significant impact on software project planning & execution.

Keywords: Domain knowledge, Ergonomic workstation, Software project planning.

Optimal health for all: Smart public health governance with blockchain

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Public Health is a complex function aimed at protecting and promoting health of people and communities where they live, learn and play (APHA, 2017). Public Health Governance, a complex solution for complex problem- needs good governance based on systems approach and networked solutions as in case of blockchain technology. Current conceptual research paper aims at exploring Blockchain technology as foundation for Global Public Health Governance system. Blockchain technology empowered Public Health Governance System is still a futuristic research area as depicted through our Research database searches. Search in Scopus and Web of Science returned no document whereas Google scholar search returned only 2 highly relevant documents. Churning of available literature online and qualitative methods as brainstorming of the research team and related experts has led to the conceptual development of a proposed framework for Blockchain empowered Public Health Governance System. Results and Discussions are Multi-tier Health care system integrated on Blockchain, Disease surveillance programs to predictively control disease spread risks and bio terror attacks, Seamless data interoperability respecting the need for privacy. Applications (Benefit to the community/ society) are predictively reduce life risks, several smart health solutions integration, Sustainable Optimal health and well-being, Transparent, trustworthy, integrated supply chain for Health products and services. What is missing is a platform within a complex system that holds exuberant PH data effectively enabling interoperability, security, lean processes, transparency, and more importantly trust.

Keywords: Blockchain, Optimal Health for all, Public Health Governance.

Prevalence and determinants of lifestyle diseases in India

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Lifestyle disorders are one of the raising issues in the present era. Obesity, heart diseases, asthma, Diabetes (Type 2), etc. are some of the diseases which are included under this tobacco, smoking and sedentary lifestyle are the major culprits for the increasing prevalence. The paper aims to study the prevalence and determinants of some common lifestyle diseases in India. Many of the policies are focusing either on maternal and child health or communicable diseases but not on the general health care system, and so this study is an attempt to highlight society's most neglected section. The study utilizes SAGE wave 1 data. Body mass indexes (BMI), Waist-Hip Ratio (WHR) were taken as the indicator of obesity. Bivariate & Multivariate analysis is used to examine the determinants of lifestyle diseases. The prevalence of hypertension was more or less equal among males and females while males were twice as diabetics than females. Association of these diseases was observed with the person's age, wealth quintile, and marital status. Being overweight was associated with Hypertension and heart problems. The inclusion of WHR measurements in addition to BMI provides a more comprehensive and accurate association of risk factors in the studied population. The study exposes the alarmingly high rates of prevalence of

lifestyle diseases which implies that nation is suffering from double burden of diseases that requires urgent action.

Keywords: Lifestyle diseases, Sedentary habits, Waist-hip Ratio.

Cost benefit analysis of providing Comprehensive Emergency Obstetric and Newborn Care (CEmONC) services at Pavi Jetpur taluka of Chhota Udepur district of Gujarat

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Deepak Foundation has been operationalizing CEmONC at Jabugam CHC of ChhotaUdepur district of Gujarat since 2006 in partnership with Government of Gujarat. The facility which was practically non-functional in 2006 is now the best performing FRU of Gujarat. The study aims to assess the out of pocket expenditure saved by the beneficiaries by availing maternal and newborn care services at CEmONC. It is imperative to study the benefits of CEmONC centre so that the model can be scaled and replicated in the rural and tribal areas. Facility based data has been used to assess the trend in utilization of various services including OPDs, IPD, Delivery, C-section and other surgeries. A market survey was conducted to assess the rates the above mentioned services in the private sector. The data showed that on an average the CEmONC Jabugam centre caters to around 40000 OPDs, 3900 Deliveries and 500 Surgeries annually. Since the services at the centre are totally free of cost the beneficiaries save around 4.1 crores annually. This does not include the transportation and opportunity cost. The model can be replicated by strategically partnering with private partners to reach the last mile. Quality services are utilized by the communities. If the services are made available at government centers then the amount saved by the communities would save them from huge out of pocket expenditures thus providing socio economic security.

Keywords: CEmONC, Out of Pocket Expenditure, Utilization of Public Health Facilities.

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Law enforcement on opportunities and challenges of national health insurance as fulfillment of people's rights to access health service in Indonesia

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National Health Insurance (JKN) is the Indonesian Government's program to ensure the right of the people to access appropriate health services. The reform of the social security system in Indonesia occurred in 2004 and began to operate in 2014. This research is normative jurisdiction. Indonesia is a developing country that is still relatively new to know JKN in concept of social insurance. Since the third year of implementation, Indonesia has been able to cover the membership of social insurance, reaching 69, 72% of the total population. Insured culture and human resources that do not have enough insight resulted in the implementation of JKN in Indonesia that still do not have legal certainty. Indonesia's relatively small fiscal capabilities lead to an imbalance of health service between developed and undeveloped regions. Indonesia has a population of nearly 260 million with diverse geographical locations continuously strives to optimize stakeholder commitment to focus on achieving the right to adequate and equitable public health insurance right. The operation of JKN still experiences many obstacles that are supervision of social insurance fund management and policy which is still not efficient and accountable to able to fund health sector in full. Government action to overcome obstacles and potential violations of JKN such as deviation of nonprofit concept, and an accountability of management. Thus, the government should do clear and unequivocal division of authority by pouring it into the formulation of legal regulations that compel and bind consistency in implementing JKN based on humanitarian principle.

Keywords: Law Enforcement, National Health Insurance (JKN), Social insurance.

Evaluating health outcomes of complex health intervention using community driven Lots Quality Assurance Sampling (LQAS): Experience from a large scale community health project in India

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Effective management of community health program requires regular local information to know program progress. Lots quality assurance sampling (LQAS) developed as a quality control tool in production industry has become an attractive option for health evaluators, owing to the small sample size and simple analysis process. A large scale, Uttar Pradesh Community Mobilization Project (UP-CMP) uses LQAS technique for evaluation which is challenging, novel and empowering. The LQAS implementation in the project exemplifies how in a community based health project, community itself could become an important stakeholder in the evaluation process. The paper describes results and challenges of a community driven LQAS evaluation approach that has implications for its further use and adaptations. While projects have used LQAS to guide decision making, the UP-CM Project is a first of its kind to have community spearhead the LQAS exercise at scale. The paper describes the framework of community LQAS, results, implementation steps and issues encountered in scaling up the evaluation process to 100 community block federations. The paper would be of interest to program implementers, and monitoring & evaluation community who would like to design and scale up a participatory, collaborative evaluation system in a public health project. Communitization of LQAS has aided community to manage and improve their program indicators. The paper demonstrates how evaluation if led and managed by -help groups.

community can be an empowering tool which can bring required ownership, accountability and motivation in the program evaluation system.

Keywords: Community evaluation, LQAS, Self

Cesarean births in Tamil Nadu: Residential differences, causes and consequences

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Cesarean section is a surgical procedure in which incisions are made through a woman's abdomen and uterus to deliver her baby. C-sections are performed whenever abnormal conditions complicate labor and vaginal delivery, threatening the life or health of the mother or the baby. According to WHO (2009), the proportion of CS to the total births is considered as an important indicator of emergency obstetric care. Objective is to analyse the cesarean births in rural and urban areas with private and public health facilities in Tamil Nadu. Novelty/Originality is to understand the levels, to unearth causes, and to examine consequences of C-section births. Data are used from National Family Health Survey-4 (2015-16). Quantitative - Bi-variate analysis; Qualitative- Content analysis of perceptions from selected key informants. Cesarean-section births in both government and private hospitals have more than doubled in Tamil Nadu in the past seven years. The percentage of births delivered by c-section in Tamil Nadu is 34.1, ranging from 13.3 in Villuppuram to 51.3 in Kanniyakumari among the districts. It is expected that rate of cesarean deliveries should be about 10-15% of all deliveries. Recent statistics shows considerable increase in number of cesarean deliveries, requiring consideration as WHO states that any increase above 25 % may not have additional benefits to mother or baby. Application is knowledge about the prevalence, causes and consequences of c-section births. Cesarean births are more in urban areas and with private health facility.

Keywords: Cesarean, C-section, Labor.

Effect of sleeping habits and impact of daily activities performed by adults, on their frame of mind

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A healthy frame of mind is incredibly important for one's well-being, healthiness and fitness. Along with this eating healthy food and regular exercising are also necessary for the well-being of the body. There could be many reasons effecting people mood. Two of the major reasons figured out, is sleep and the activities that people perform. The objective is to analyze the effect of sleeping habits and impact of everyday activities that individuals (aged between 20 to 30 years) perform, on their mood. The effect of sleep and daily activities on an individual's mood addressed using statistical models. A survey was conducted among people aged between 20 to 30 years. Tests and analysis was performed using IBM SPSS (Statistical Package for the Social Sciences) to explored various factors such as sleeping pattern and habits, eating habits, addictions, social media consumptions, external activities performed and the impact of these activities and habits on the mood of the respondents. A conclusion is drawn on the effect of sleep and day to day activities on adult's mood. Also, a lot of factors were tested and discussed which affect

adult's frame of mind. This research will help the organizations to charter better work patterns and help understand the importance of sleep and healthy mind. A healthy frame of mind keeps adults more active and motivated towards their work. By engaging in proper sleeping habits, a better mood and stable work-life balance can be ensured.

Keywords: Mood, Physical-recreational activities, Sleep deprivation.

Governance and accountability in local health systems strengthening: A study of West Bengal, India

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The National Health Policy 2017 explicitly addresses the issue of governance of health systems, acknowledging multi-layered local health governance structures in rural India, and availability of limited public resources for health system with unclear mandates and roles for various players. Effective governance-accountability in health sector remains a major challenge. WBVHA organized the demand-side actors and created Health Forum movement in South 24 Parganas district, the southern-most part of Gangetic West Bengal which gradually evolved into a health platform at community/Panchayat/Block/District level. Objectives are to engage community leaders as to shape the evolving policy framework on decentralization of decision-making to local actors, to build an extensive partnership at Panchayat/Block/District levels and to build a network of CBOs/CSOs champions. The potential success of health promotion in practice is closely associated with a comprehensive approach, relates to problem-identification/decision-making/collaboration in planning for healthcare delivery and active participation in implementation of healthcare programmes—essentially local control of services to improve health of individuals/communities. Participatory process was used for assessing their own knowledge; investigating environmental situation; visualizing a different future; analysing constraints to change; planning/implementing for change by engaging/empowering local communities. Two major challenges of Health Forum are: health governance and governance for health. Effective interventions to improve health-governance can potentially lead to a better performing, sustainable and country-owned health system. Application is that individual/community can demand their health rights.

Keywords: Accountability, Governance, Health System Strengthening.

Combating medical negligence: A legal perspective

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A medical negligence case, just like a normal negligence case, involves proving the breach of an existing duty of care but differs in regards with the Standard of Care that is imposed on the medical professionals. The Standard of Care imposed varies depending on the jurisdiction and under the area of law in which the suit is filed, for eg; under the Consumer Protection Act, 1986 (CPA) or under Criminal Negligence. In a recent trend, various Courts have awarded huge compensation to the victims. But has this really created awareness among the doctors of their legal duties towards their patients? The increasing number of medical negligence suits, some of them including prima facie gross negligence, demands the law to impose a deterrent effect on the doctors, but does the existing framework of laws suffice? What is the scope of broadening the Standard of Care imposed on the doctors, considering the various

intricacies involved in a medical procedure? This study involves a review of existing literature on the above raised questions wherein it would first define the concepts and then critically analyze it as applied in different courts in India, which can help us gain more clarity on the efficiency of CPA in medical negligence suits. Materials and Methods used are analysis of medical negligence cases in consumer redressal courts. Our results point towards the inefficiency of the Bolam Test as the Standard of Care yardstick. Application is addressing medical negligence cases to produce a deterrent effect on the defaulter. The law must impose sufficient loss for the doctor to create a deterrent effect, thereby correcting their negligent behavior or knowledge deficit.

Keywords: Consumer Protection Act, Medical Negligence, Standard of Care.

Awareness and application of biomedical waste management practices among the hospital staff in Pune

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With the emerging medical sector, biomedical wastes are also generated at bulk due to improvements in treatment and increasing patients. Biomedical waste must be properly managed and disposed of to protect the environment, public and staffs, especially healthcare and sanitation staffs who are at risk of exposure to biomedical waste as a working hazard. Objective of this study is to investigate the awareness and application of biomedical waste management (BMWM) practices among the hospital staff. BMWM is a topic of concern and needs to be looked upon to attain a healthy environment. Material and methods used are cross-sectional study with data collected from structured schedules from 112 Health personals from the 8 hospitals (more than 100 beds) in Pune. The awareness on BMWM is not up to mark in nurses, one of the reason being that they have to memorize most number of protocols and also there are fewer trainings for them. The more the hospital is spending for BMWM, more is the awareness among the health personnel from those colleges. In some hospitals, they conduct frequent training for cleaners rather than nurses. It was found that higher the education, higher the level of awareness. The compliance was found better in graduated individuals (nurses with B.Sc. Nursing) than in the individuals who have not completed their high schooling (cleaners and ward boys). It found that liquid waste is directly thrown to drainage which reflect the poor awareness of its disposal. Findings and recommendation shall facilitate better BMWM which shall reduce environmental pollution, less burden of common biomedical waste treatment facility and will be economical. The results indicate the need for training of nurses and ward boys, who are directly segregating the waste at source. Awareness of handling biomedical waste should be general to the public.

Keywords: Awareness, Biomedical waste management, Hospitals.

Knowledge, awareness, practice and cost-effectiveness of bio-medical waste management in pathological laboratories of Pune

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Biomedical waste (BMW) is waste generated during diagnosis, treatment, or immunization of human beings or animals or in research activities. BMW is hazardous and can be injurious to humans or animals and harmful to the environment. Effective management of BMW is a legal as well as a social responsibility. Pathological laboratories are necessary in the medical field as they deal with diagnosis of various diseases; all infectious and organic diseases as well as physiological disorders are diagnosed at pathological laboratories in either hospitals or independent small-scale labs. Objective of this study is to assess the knowledge, awareness, practice and cost-effectiveness regarding bio-medical waste management in pathological laboratories. The study is being conducted among 21 NABL accredited pathological laboratories in Pune through a pre-tested questionnaire and observational visits to elicit the existing knowledge, awareness and practice of bio-medical waste management and an independent Environmental and Waste Management Organisations is being studied through interviews and observation to measure the cost-effectiveness of bio-medical wastes generated. With the findings of the study, a model is to be proposed for effective and efficient cost-effective waste management procedure in pathological laboratories and waste management organisations to process waste generated through which resources generated can be injected back into the system to benefit those in need of support. Pathological Laboratories are a significant section of the healthcare providing sector and in a developing country such as India, it is vital to study and enrich the current knowledge and awareness of the bio-medical waste management and the cost-effective measures of disposal in such institutions. Regular training programmes of healthcare personnel needs to be conducted and BMW Rules are to be strictly implemented. A comprehensive model is required to make BMW management economical, efficient and cost-effective.

Keywords: Bio-Medical Waste Management, Cost-effectiveness, Pathological Laboratories.

An enquiry about disposal of menstrual waste by college girls in Pune

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Women use sanitary pads, clothes, and other methods to prevent bloods stains from being evident, however access to sanitary pads and other safe and hygienic methods of menstrual waste disposal is limited in developing countries. Objective of this study is to study the awareness of the correct methods of disposal of sanitary napkins among girls in selected colleges in Pune and to examine whether income disparities of households have an impact on educational aspect of menstrual waste disposal and waste management. The literature on the management of menstrual waste and also the methods of disposal adopted within different income groups is limited. It is a cross-sectional study, with data collected using questionnaire method through a sample of 400 girls across seven randomly selected colleges within the age from of 19 – 25. Socio-economic class of the girl was determined by the household head's education and occupation. 86% of girls belonging to the Upper Middle Class wrap and dispose their menstrual waste separately. Some girls from lower middle-class and the skilled workers category still burn their sanitary napkins. This shows that traditional methods of sanitary waste disposal are still in use which causes degradation of the environment. Findings of the present study highlight the the awareness

about menstrual hygiene and menstrual waste disposal methods among girls in India. Girls regardless of the socio-economic class they belong to are not willing to use reusable pads. Sections of the population still adhere to traditional and religious beliefs and so are obligated to hide their waste. In spite of girls being aware of the harmful effects of improper disposal of menstrual waste, they are not educated of proper disposal methods.

Keywords: Biomedical Waste Management, Menstrual Health, Menstrual Waste Management.

Sustainable development goals and the right to health: Revisiting barriers in strengthening the human rights regime

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Right to good health is a vital facet of the Right to Life in the Indian Constitution. To realize this right, it would be essential to give access to affordable medicines especially to people from a lower socio-economic background. An impediment to this objective is the exorbitant price increase of drugs by companies, seeming to act in collusion; often even after the expiry of the patent term. Among many, one example would be a painkiller whose price is 22 times more expensive from the year 2013. Additionally, the Sustainable Development goals set by the UN seek to promote the right to good health for overall wellbeing, and lack of access to affordable medicines is a barrier to achieve that goal. Objectives are assessing the impact of such disproportionate costs on patients' rights, Evaluating best practices, judicial discourses, legal & policy measures from other jurisdictions that balance innovation with affordability. Formulating policies that incentivize innovation and provide affordable healthcare is an essential area of study. Research in this aspect is essential for lawyers, medical professionals, stakeholders. The research would be doctrinal. Data from various governmental and non-governmental agencies would also be used. The research will compare the best practices that promote innovation within all-inclusive framework of human rights and sustainable development. Strong policies will help spur innovation and promote welfare objectives. The research will promote continued societal progress through innovation and uphold human rights.

Keywords: Access to medicines, Human rights, Sustainable development.

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MCI bars M.Sc. & PhD holders from certifying Medical Test Reports

The candidates having M.Sc. with PhD or PhD in medical microbiology, medical biochemistry, life sciences, applied biology, cytogenetics and biotechnology are no longer eligible to certify medical reports as the Medical Council of India (MCI) has clarified that any qualification other than MBBS or MD pathology/biochemistry/microbiology is not eligible to sign a lab report.

The MCI has made this clear to the National Accreditation Board for Testing & Calibration Laboratories (NABL). Earlier, the NABL had sought clarification from MCI whether the M.Sc. with PhD candidates who as a matter of fact are not registered with MCI are eligible to sign medical laboratory reports; can persons holding MBBS degree registered with MCI/State Medical Council sign the medical test reports?; can PhD (medical microbiology, medical biochemistry, life sciences, applied biology, cytogenetics, biotechnology) in relevant discipline be allowed to sign medical test reports? If not, can the same be allowed if they are co-authorized with a person registered with MCI/State Medical Council?

The above matter was considered by the MCI's Ethics Committee at its several meetings and lastly on February 6 & 7, 2017. The decision of the Ethics Committee was placed before the Executive Committee of the MCI for approval on April 11, 2017. It was decided by the Executive Committee that "All lab reports to be signed/countersigned by persons registered with MCI/State Medical Council."

The MCI in a letter on June 14, 2017 has informed NABL and secretary to the ministry of health & family welfare about the executive committee decision. The MCI decision will take its toll on scores of pathology laboratories employing M.Sc with PhD or PhD in above mentioned disciplines to sign medical test reports.

Maharashtra Association of Practitioners in Pathology and Microbiology (MAPPM) had taken the issue with NABL after it found that a number of path labs have hired candidates with M. Sc with PhD or PhD path labs to certify medical reports in violation of MCI norm.

Though the NABL accreditation is a voluntary in nature, it assures that accredited path labs meet quality standards. If unqualified persons will certify medical reports in accredited labs, the reports will not be authentic hampering patient treatment. The doctors' diagnosis and patients treatment is totally dependent on the clinical laboratory tests.

The Indian Medical Council Act 1956 and professional regulations 2002 clearly says that MBBS is the minimum qualification to practice modern system of medicine. Signing a pathology report is considered a practice of modern medicine. Any qualification other than MBBS or MD pathology/biochemistry/microbiology is not eligible to sign a lab report by law.

Examining the samples of blood, urine and other body fluids/tissues and signing out corresponding reports is a medical practice. Such specialized practice can be carried out under the direct supervision of a qualified pathologist (MBBS with post graduate qualifications in pathology) who is also registered with the Maharashtra Medical Council or the Medical Council of India. Reports generated as a direct consequence of this analysis of blood, urine and other body fluids and tissues can only be signed by suitably qualified and registered pathologist.

Over 100 Crore Indians Do Not Have Healthcare Coverage: Global Report

The Global Monitoring Report further suggests that a lack of health coverage often means people pay out of their own pockets and this is known to push people into poverty and prevent them from coming out of it. With no health coverage for 100 crore people of the 135 crore strong population in India, the nation has ranked 56 among 100 nations in a global study published by The Lancet.

Launched at the Universal Health Coverage Forum, Tokyo on December 13, the Global Monitoring Report 2017 (GMR 2017) revealed that at least half of the 7.3 billion global population still doesn't have full coverage of essential health services. Thus, only 27% of the global population has access to crucial healthcare services. The number of people who need and don't have this facility available to them is alarming.

According to the report, more than 1 billion people live with uncontrolled hypertension, over 200 million women are inadequately covered for family planning, close to 20 million infants do not get the required immunisations to protect them from diphtheria, tetanus and pertussis.

The index — ranging between 0 and 100 — shows that coverage of essential services is poorest in sub-Saharan Africa, followed by South Asia, with the best of facilities available in East Asia, Northern America and Europe.

The Global Monitoring Report further suggests that a lack of health coverage often means people pay out of their own pockets and this is known to push people into poverty and prevent them from coming out of it. About 100 million people in the world are still being pushed into “extreme poverty” (living on \$1.90 or less a day), which is still better than the 131 million in 2000.

In India, 4.16 percent of people were pushed to 'extreme poverty' due to medical expenses and the report added that more than 122 million people around the world were pushed below the \$3.10-a-day poverty line and are now officially classified as “poor,” a population that has increased by 1.5 percent per year. In India this incidence of impoverishment was 4.61 percent.

India's 56th rank can be credited to its poor performance on a range of health indicators that the report has listed, some good some glaringly bad.

There is a 72 percent satisfaction of family planning demands according to modern methods, in line with global average of 78 percent in 2016. Curiously, this figure comes a day after another study in The Lancet pointed out the high number of abortions and unwanted pregnancies in India.

The report further states that India has 44 percent effective tuberculosis treatment, which was 50 percent across the world in 2016, 45 percent antenatal care, 44 percent basic sanitation (68 percent globally in 2015), 77 percent health seeking behaviour for child pneumonia. However, its lack of healthcare providers remains an issue, as there are only 0.7 physicians per 1000 persons, 0.3 psychiatrists for 100,000 people, 2.6 surgeons for 100,000 people and 6.6 hospital beds for 10,000 people.

According to the report, it's the lower and lower middle income countries that suffer the most from lack of essential maternal and child healthcare services. Globally, only 17 percent mothers and children in the poorest fifth of the households receive at least six of seven basic maternal and child health interventions as compared to an average of 74 percent in the wealthiest fifth of the households.

Additionally, another 9 percent of mother and child in the poorest fifth do not receive any of the seven basic interventions

Catastrophic expenditure — where people spend 10 percent of their household budget on health care — often prevent people from spending on schools fees or adequate nutrition.

These numbers have increased by over 3 percent a year globally and over 800 million people — almost 12 percent of the world's population — now spend at least 10 percent of their household budgets to pay for healthcare. In India, the number is at 17.33 percent.

Date 11-10-2017

Proceedings before Supreme Court about complex concept of a "living will" where withdrawal of life support can be permitted in case of terminal illnesses

The Government of India submitted before Hon'ble Supreme Court that it was vetting a draft law allowing passive euthanasia, but was opposed to permitting people to make a 'living will' — that they should not be put on life support in case of terminal illness — as it could be misused.

A "living will" is a document prepared by a person in a healthy state of mind specifying that if s/he slides into a vegetative state because of an irreversible terminal illness, the debilitated existence should not be prolonged with the help of life support systems or other medical interventions.

In such a case, relatives will be spared the agonising decision of removing life support and doctors will be guided solely by the "living will". In several cases, the reluctance to pull the plug on a loved one even when s/he is in a vegetative state prolongs the pain of the patient.

The 'Management of Patients With Terminal Illness — Withdrawal of Medical Life Support Bill' has been drawn up in keeping with the recommendations of the Law Commission, Additional Solicitor General mentioned a five-judge Constitution Bench of Supreme Court.

The Bench, comprising Chief Justice of India Dipak Misra and Justices A K Sikri, A M Khanwilkar, D Y Chandrachud and Ashok Bhushan, was hearing a petition filed by NGO Common Cause on the issue of passive euthanasia and 'living will'.

“Passive euthanasia is the law of the land. Court findings in the Aruna Shanbaug case have allowed it. However, the government was opposed in principle to allowing people to make a will to opt against life support in case of terminal illness as the same may be misused in the case of elderly people who are treated like a burden by many. As laid down in the Shanbaug case, the way ahead was to allow medical boards to decide whether to allow passive euthanasia or not.

NGO's counsel submitted that, people should be allowed to make a 'living will' which would enable them to opt for death without prolonging their suffering. He said it could be permitted with necessary safeguards.

NGO's counsel contended that “euthanasia would be a part of Article 21. Right to life includes right to refuse medical intervention when a board of doctors certifies that the person would not live without life support system. Whether a person has a right to reject treatment flows from his right under Article 21. Forcing a person to take medical treatment against their will is also a social issue. On one hand, we are short of medical facilities etc, and on other hand, somebody forces those who are in a hopeless situation to take treatment.

Justice Chandrachud observed that it raised a “philosophical question” on whether a person can refuse treatment. He added that “an individual who refuses to undergo treatment may become a burden on the resources of the state”.

On the benefits of a 'living will', the CJI said: “A person is on ventilator. Who will take the decision to remove the life support. Everybody is in confusion. If there is a will, it is morally sustainable. When a will is made, all are free, relatives are free, doctors don't have any inhibition that anyone will accuse them of murder. They only have to take a conscious decision.”

He also pointed to the scope for misuse of such a will and sought to know “how to prove that document”. “A healthy man can also execute a document that he is admitted to hospital and was administered treatment, but there was no use and he didn't want to remain on ventilator,” he said. The CJI also wondered “what is the safeguard to ensure that it is really his will and... who will certify that his condition is bad.”

The CJI also sought to explain the issue in the context of the Mahabharat. “Bhishma had the boon of Ichcha Mrityu (death when desired). It could not have meant freedom to live forever, but painless death,” he observed.

Justice Chandrachud touched on the chances of a 'living will' being misused in the case of elderly people. He said it was deeply troubling that a section of the population that suffers ill treatment are the elderly, who “become a burden and are neglected”. In the case of a rich elderly person, the chance of misuse is real, he pointed out.

He sought to know what was the “threshold of pain” at which life support could be withdrawn. “How proximate should be the point at which the doctors take the decision and likely point of death,” he asked.

The Law Commission, under the chairmanship of Justice (retired) P V Reddy, had in its 241st report come out in favour of allowing withdrawal of life support for certain categories of people — like those in persistent vegetative state (PVS), in irreversible coma, or of unsound mind, who lack the mental faculties to take decisions.

The report came in the wake of the Supreme Court's decision in March 2011 in the Shanbaug Case, in which it made a distinction between active and passive euthanasia. Shanbaug, a nurse at KEM Hospital in Mumbai, remained in a vegetative state for almost 42 years after she was sexually assaulted and choked by a ward boy. She died in May 2015.

Date 30-1-2018

Sex Ratio of Last Child (SRLC) is heavily male-skewed in India-Recent Report

The number has been arrived at by looking at the sex ratio of the last child (SRLC) which is heavily male-skewed, indicating that parents keep having children until they get the desired number of sons.

The Economic Survey presents the first ever estimate of the number of 'unwanted' girls in India — girls whose parents wanted a boy but had a girl instead — at 21 million. The number has been arrived at by looking at the Sex Ratio of Last Child (SRLC) which is heavily male-skewed, indicating that parents keep having children until they get the desired number of sons.

The Survey points out that the huge number of 'unwanted girls' (in the 0-25 age group in the population currently) is a direct outcome of the 'son meta preference' where parents do not stop having children after having a daughter.

The idea is based on a bunch of papers published in 2017 by development economist Seema Jayachandran of

Northwestern University. While the 'son meta preference' does not lead to sex-selective abortion, the Survey 21 million is the number of girls parents did not want: first such national data sums up Jayachandran's paper to state that it is “detrimental to female children because it may lead to fewer resources devoted to them”.

The biologically determined natural sex ratio at birth is 1.05 boy for every girl. The Survey points out that in India, the sex ratio of the last child is skewed towards male all throughout — for first-born, it is 1.82, 1.55 for second born, 1.65 for third child and so on.

The report compares India's heavily-skewed-in-favour-of-boys SRLC to that of Indonesia, where the sex ratio at birth is close to the biological ideal, irrespective of whether the last child is a boy or a girl.

The estimate on the notionally “unwanted girls” goes beyond the Amartya Sen framework of “missing women” (owing to sex selective abortion or girl children who die owing to deliberate neglect). Using Sen's methodology of sex ratio difference, as devised in 1990, the Survey pegs the number of “missing women” as of 2014 at 63 million, an increase from the 37 million as per Sen's estimate.

The sex ratio of last birth (females per hundred births) has merely changed from 39.5 per cent to 39 per cent between 2005-06 and 2015-16. It is among two of the 17 gender indicators used in the Survey that fails to show any decadal improvement with an increase in wealth — the other being the effect on women's employment.

Between 2005-06 and 2015-16, the proportion of women who took up paid work has gone down from 36 per cent to 24 per cent, making India a glaring outlier in this respect. One of the main reasons for this continues to be the disproportionate burden of unpaid care work that falls on women, including looking after elders and children.

The Survey points out that following the implementation of Pre-Natal Diagnostic Techniques (PNDT) Act, 1994, which outlawed sex selection, India has seen a relatively stable sex ratio at birth (SRB). The SRLC, as an indicator, points to the continued societal preferences for a male child.

The Survey looks at both SRB and SRLC to state that in Meghalaya, both indicators are close to the ideal benchmark. Likewise, Kerala does not seem to practice sex selective abortions as their SRB is close to the ideal benchmark but the son preference is evident in a skewed SRLC, while Punjab and Haryana, two of the richest states, have a highly skewed SRB and SRLC.

Using data from the Demographic Health Survey (DHS) and National Family Health Survey (NFHS), the Survey states that over the last 10-15 years, India's performance has improved on 14 out of 17 indicators of women's agency, attitudes, and outcomes.



WELLNESS QUOTES

Wellness Quotes

1. Cook your veggies right!

Cook vegetables in minimum water. Let them cook in their own juices. This helps to retain their nutrients. Further, this water can be used as stalk for other dishes.



2. One of the biggest causes of back injury at work is lifting or handling objects incorrectly.

Learning and following the correct method for lifting and handling heavy loads can help to prevent injury and avoid back pain - Proper Lifting Technique



3. Train Your Core:-

Core exercises improve your balance and stability. Core exercises train the muscles in your pelvis, lower back, hips and abdomen to work in harmony. This leads to better balance and stability, whether on the playing field or in daily activities. In fact, most sports and other physical activities depend on stable core muscles.



4. When is the best time to do cardio?

There is no set time when you make the best gains to do cardio. It is pretty much individualistic and differs for everyone. For example if you feel like total crap in the morning and you need an hour or two to feel fully energized, then obviously you aren't a morning person; so then don't do it in the morning. Listen to your body. So basically the best time for you to do your cardio exercise is when you feel it is the best time to do it, **and stick to that time.**



5. People who exercise regularly fall asleep faster and wake up less, often during the night than people who are sedentary.



6. Do a variety of activities you enjoy, and remember, there's no rule that says you have to go to a gym or buy equipment.

Do a variety of activities, such as walking, running, tennis, cycling or aerobics classes, as this will ensure you can exercise regardless of the weather or time of day. Activity / motion is central and critical; it need not be hardcore EXERCISE!

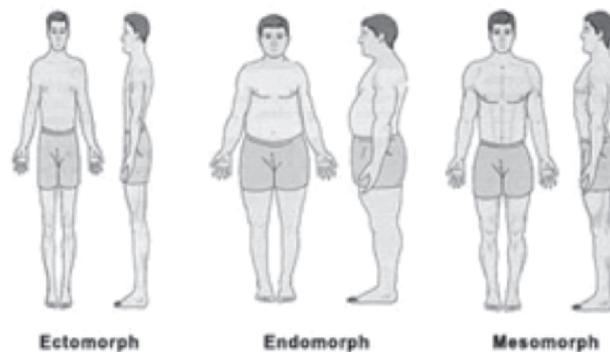


7. Keep a record of your activity. Write down the things that are important to you. It could be how much time you exercise each day, how many steps you walked, how far you ran or cycled, what you weighed etc. Some people make a game of it. Some runners calculate how many miles away a particular place is from their home and then work out how far they run in an average week, setting a target date for "arriving" at this destination.



8. You cannot change your body type. You inherited it from your parents, just as you inherited your eye and hair colour. So.....

- Remember that every body type has its advantages. Focus on yours.
- Respect your body and celebrate what your body can do when it is fit and healthy.
- Stop comparing yourself to others or to the ideal that is portrayed in the media. You can be healthy, happy,
and fit regardless of your body type.



9. Women avoid strength training like the plague, either because they think they'll gain weight or because they like cardio better. BUT... **Muscular strength and endurance are incredibly important for women too**, to keep the bones and joints strong & healthy.

Use weights that you can easily lift 15 to 20 times before starting to feel exhausted. This will tone and strengthen without building bulk.



10. Ease into a new exercise routine.

If you start a new routine or change the type of exercise you do, give your body time to adjust to the new moves or equipment. Don't work out at an expert level if you are just a beginner for that type of exercise.



11. Constantly tired and fatigued???

Check your vitamin B12 levels and have vitamin B12 rich foods such as lean meat, eggs, fish and low fat milk and milk / dairy products to boost your energy levels!



12. Jumping straight into the workout.

The first 5min of your workout are for getting your mind and body ready for the task at hand and are also super important to avoid injury! So warm up before any workout. After the workout don't forget to stretch. It not only helps with the post workout soreness but helps you work on flexibility, which is super important to maintain as you get older.



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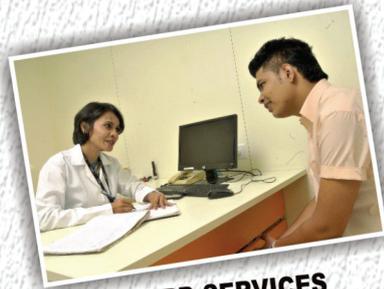
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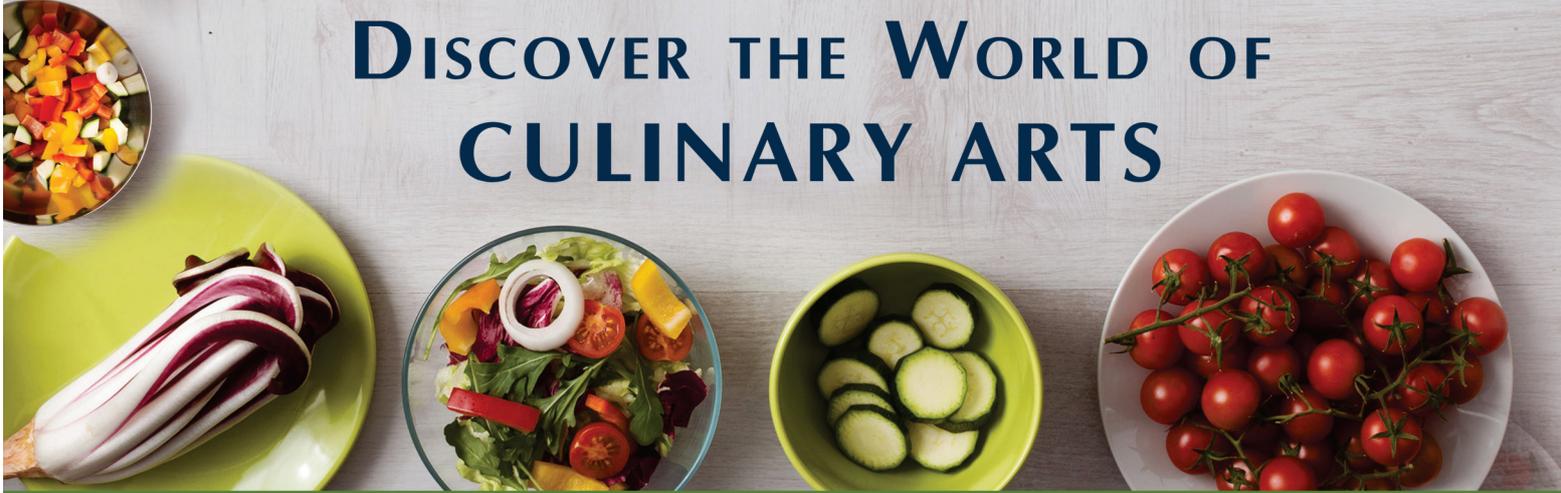
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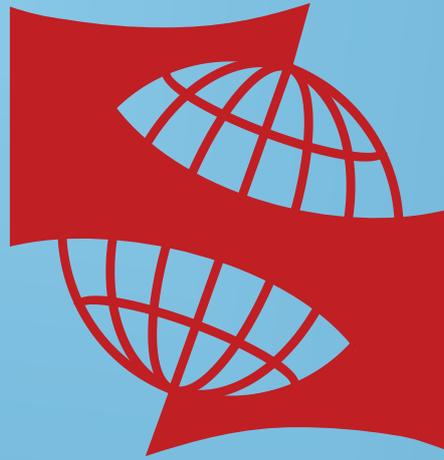
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