





BOOK OF ABSTRACTS

**Apollo
International
Clinical Nutrition
Update - 2014**

 **Paediatrics to Geriatrics: Practice Based
Evidence in Clinical Nutrition**
9th & 10th August, 2014 - Bangalore

PATRONS MESSAGE



DR. PRATAP C REDDY
Founder & Executive Chairman
Apollo Hospitals Group

There is an overwhelming amount of scientific evidence to support the role of proper diet as the new medicine paradigm and furthermore, to address the burgeoning demands of disease, it is the responsibility of the entire medical fraternity to stay ahead of the curve. Apollo Hospitals has been at the forefront of battling disease within the hospitals and is increasingly taking the battle outside the physical realm of a hospital environment.

At Apollo Hospitals, our Clinical Nutrition teams work closely with the Clinical teams to bring together evidence - based care along with our signature ingredient, TLC (Tender Loving Care) in helping patients battle the disease harder and faster.

In an advancing medical landscape, dietitians will play a greater role than ever before and therefore it is critical that they continuously stay abreast of global trends and development in the field. The Clinical Nutrition Update is an annual event which addresses aspects of patient care at hospitals and also that of hospital-based nutritional intervention. In the Scientific Programme of this Update, Doctors and Dietitians will address medical and nutritional requirements of different clinical conditions. The event faculty includes distinguished National and International Physicians, Surgeons, Pediatricians, Intensivists, Dietitians and experts in the field.

The 6th Apollo International Clinical Nutrition Update is an effort to augment the knowledge of the Dietitians by sharing the evidence-based best practices in Clinical nutrition, by exchange of ideas and knowledge between different disciplines.

We do hope that all the participants harness the immense knowledge that this forum brings forth in addressing the ever increasing and changing demands on the clinical dietitian's expertise.

MESSAGE FROM ORGANIZING SECRETARY



Dr. Bhuvaneshwari Shankar
Group Chief Dietitian and
Vice President (Dietetics)
Apollo Hospitals Group

On behalf of Apollo Hospitals Group, it is our pleasure to welcome you to our 6th Apollo International Clinical Nutrition Update held in Bangalore, India from August 9-10 2014.

I am pleased to present this souvenir, which is a collection of the abstracts submitted. Our update is the result of the collated work of over 170 Clinical Dietitians of Apollo Hospitals Group. This forum continues to meet on an annual basis and has become the most sought event by all the practising Dietitians across our country and neighbouring countries to update their insights on the emerging trends in evidence based Clinical Nutrition practice.

Quality, Patient Safety, Patient Experience and Best-in-class outcomes in clinical nutrition practice remain top priorities for us. In the last few years, there were many exciting achievements in our group hospitals, including:

- The 1st Indian Hospital to have accomplished a distinct place in International Nutrition Survey (INS) 2012 in the Global map where 183 ICUs participated and Apollo Hospitals, Greams Road, Chennai and Apollo Speciality Hospitals, Madurai won the Best of Best awards in Critical Care Nutrition practices.
- 10 ICUs of Apollo Hospitals group participated in the International Nutrition Survey 2013.
- 15 ICUs and 4 Oncology units of Apollo Hospitals across India have participated in the Nutrition Day World Wide 2013.

The first five conferences were highly successful with an average of 300 delegates. Invited speakers, delegates, and sponsors have all confirmed that this is a unique and world-class International meeting bringing together the Medical, Nutrition and Scientific communities to explore the clinical application of the latest in nutrition in medical science.

In addition to general and concurrent adult and pediatric sessions, there will be opportunities to network with other healthcare leaders, and visit vendor displays.

I am sure each and every one of you will enjoy this event by enhancing your knowledge. We hope you find this souvenir informative and applicable to your practice. We truly want to collaborate and develop a relationship with all clinical dietitians for a healthier community.

We take this opportunity to once again welcome all of you and thank our faculty, sponsors and delegates without whom this conference cannot be a memorable one. Looking forward to seeing you all in 2015 update.

SCIENTIFIC PROGRAMME

Objectives

The update focus to help attendees

- ❖ learn to demonstrate the value of nutrition intervention through meaningful metrics
- ❖ stay abreast of current trends and skills needed for advanced practice, from novice through expert

In addition to general and concurrent adult and pediatric sessions, there will be opportunities to network with other healthcare leaders, and visit vendor display.

Theme

“Paediatrics to Geriatrics: Practice based Evidence in Clinical Nutrition”

Where and When

The conference will be held at the **Hotel Chancery Pavilion, Residency Road, Bangalore, Karnataka 560025, on Saturday 9th to Sunday 10th August 2014.**

Faculty

An impressive line-up of dynamic national and international experts will be present to explore the conference themes and their inter-relationship.

Who should attend?

- Clinical Dietitians
- Nutritionists
- Scientists & Researchers in the field of nutrition
- Lecturers of Clinical Nutrition
- Students of Nutrition and Dietetics and budding nutritionists

**APOLLO INTERNATIONAL CLINICAL NUTRITION UPDATE
DEPARTMENT OF DIETETICS
9TH & 10TH AUGUST 2014
PROGRAMME AGENDA**

DAY - 1		
TIME	TOPIC	SPEAKER
8.30am	Registration	
9.30am	Current issues in childhood overweight and adiposity: a clinical and public health perspective	Prof. (Dr.) Anura V Kurpad Professor of Physiology Dr. Rebecca Raj Associate Professor & Head - Clinical Nutrition Unit, St. John Hospitals, Bangalore
10.00am	Insights on Pre & Postoperative Nutrition	Dr. Reynaldo Sinamban Consultant Laparoscopic and Baritric Surgery Clinical Nutrition Support Physician St. Luke's Medical Centre, Phillipines
10.45am	Exchange of views	
11.00am	Morning Refreshment	
11.15am	Nutrition in Pancreatitis	Dr. Philip Abraham Senior Consultant Gastroenterologist P D Hinduja Hospital, Mumbai
12 Noon	Exchange of views	
12.15pm	Inauguration	
13.00pm	Networking Lunch	
14.00pm	Post Surgical Complication - Chyle Leak	Dr. Parthasarathi Bhattacharyya Consultant Paediatric Intensivist Kolkata Ms. Lekha .V.S HOD - Dietetics Apollo Children Hospital, Chennai
14.45pm	Exchange of views	
15.00pm	Practical aspects of planning a Ketogenic Diet: Case Scenarios	Ms. Archana Rairikar Consulting Dietitian Satwa nutrition center, Pune
15.45pm	Exchange of views	
16.00pm	Evening Refreshment	
16.15pm	Nutrition in Geriatrics	Dr. Anoop Amarnath Director & Consultant Geriatric Medicine Apollo Hospitals, Bangalore
16.45pm	Exchange of views	
17.00pm	Paediatric TPN Planning : Preliminary Session	Dr. Anand Alladi Senior Consultant Paediatric Surgery & Urology Apollo Hospitals, Bangalore

**APOLLO INTERNATIONAL CLINICAL NUTRITION UPDATE
DEPARTMENT OF DIETETICS
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PROGRAMME AGENDA**

DAY - 2		
TIME	TOPIC	SPEAKER
8.30am	Best of the Best Abstracts of AICNU 2014: Oral Presentation	
9.30am	Nutrition Support in Cancer	Prof. (Dr). Mohandas K Mallath Department of Digestive Diseases Tata Medical Center, Kolkata
10.00am	Exchange of views	
10.15am	Evolution of Medical Nutrition Therapy in Diabetes	Ms. Sylvia See Way LAM Senior Registered Dietitian Hongkong
11.00am	Exchange of views	
11.15am	Morning Refreshment	
11.30am	How critical is Critical care nutrition?	Dr. Ravindra M Mehta Senior Consultant - Pulmonology Interventional Pulmonology Critical Care, Sleep Medicine Apollo Speciality Hospitals, Bangalore
12.00Noon	Case Scenario	Ms. Sandhya HOD - Dietetics Apollo Speciality Hospitals, Bangalore
12.15pm	Exchange of views	
12.30pm	Paediatric TPN Planning	Dr. Anand Alladi Senior Consultant Paediatric Surgery & Urology Apollo Hospitals, Bangalore
13.00pm	Case Scenario	Dr. Priyanka Chief Clinical Dietitian HOD - Dietetics Apollo Hospitals, Bangalore
13.15pm	Exchange of views	
13.30pm	Networking Lunch	
14.30pm	Clinical Nutrition Quiz by Dr. N. Ramakrishnan, Dr. Sarath Gopalan & Dr. Bhuvaneshwari Shankar Note: Preliminary test for quiz selection will be done on day 1 during lunch break.	

BUILDING A BRIGHTER TOMORROW; MENTORING AND KNOWLEDGE SHARING INITIATIVE IN CLINICAL NUTRITION PRACTICE

Dr. Bhuvaneshwari Shankar, Group Chief Dietitian
Department of Dietetics, Apollo Hospitals Group

Knowledge Sharing is an activity through which knowledge (information, skills, or expertise) is exchanged among professionals, communities, organizations etc. Organizations have recognized that knowledge constitutes a valuable intangible asset for creating and sustaining competitive advantages. Knowledge sharing activities are generally supported by knowledge management system which enables healthcare organizations to achieve many strategic goals such as providing opportunity for improving clinical services, operational efficiency, and achieve growth through innovation and implementation. Technological developments, globalization and competition significantly accelerate the process of creating new knowledge to sustain leadership.

Sharing Clinical Nutrition Knowledge vertical is a vital action point in our road map to success. The philosophy of the Department of Dietetics in our Group is to establish and encourage good nutritional practices and standards as an integral



part of the health care provided. Being patient-centric is not a goal, it is the core of our existence, in providing the highest quality nutrition care and dietetic services, to advancing practice of clinical nutrition including developing specialist dietetic

teams within the department, using evidence-based practice to develop effective therapies and new treatments, and to educate future Dietitians and other healthcare providers.

We believe in combining Evidence-based care with our signature Tender Loving Care. Our Clinical Nutrition team has translated this into their practice and works closely with Clinical teams in developing patient specific nutrition. We always strive to update and upgrade in the field of clinical nutrition which has helped us adopt an approach for quality improvement to benchmark our nutrition practices.

The Clinical Nutrition Update is an annual event, which addresses aspects of patient care at hospitals and also that of hospital-based nutritional intervention. There is ample evidence that a team approach to nutritional intervention in the hospitalized patient has a beneficial effect on patient outcome. Hence, in the Scientific Programme of the Updates, Doctors and Dietitians together as a team address medical and nutritional requirements of different clinical conditions. The event faculty includes distinguished National and International Physicians, Surgeons, Pediatricians, Intensivists, and Clinical Dietitians, who are well-known nationally or internationally for their contribution to Clinical Nutrition.

In an advancing medical landscape, dietitians play a greater role than ever before and therefore it is critical that they continuously stay abreast of global trends and development in the field. The main objective of the updates was to have an impact on the knowledge base of the practicing dietitians to meet the ever-increasing and changing demands on their expertise which is an important factor influencing their professional



growth.

Some of the interesting topics so far covered during these updates include Nutrition planning during Solid organ transplants, Inborn errors of metabolism, Critically ill patients, kidney diseases, Chemo and radio therapy, Bariatric procedures.

The first Clinical Nutrition Update was initiated in the year 2009, held at Chennai only for the Apollo Group dietitians and subsequently conducted in different metros for the benefit of the dietitians at various regions.

Apollo Clinical Nutrition Update 2009 – Chennai

Apollo Clinical Nutrition Update 2010 – Chennai

Apollo International Clinical Nutrition Update

2011 – New Delhi

Apollo International Clinical Nutrition Update 2012 – Kolkatta

Apollo International Clinical Nutrition Update 2013 – Hyderabad

Apollo International Clinical Nutrition Update 2014 – Bangalore

These events are a platform for the Apollo Group Dietitians to gather together and discuss the points to be implemented in all the hospitals towards standardization processes and roll out the group initiatives.

Hyderabad Nutrition Declaration:

Malnutrition is a major contributor to an increased morbidity and mortality, decreased

function and quality of life, increased frequency and length of hospital stay and higher healthcare cost.

Hence, Nutrition screening accomplished within 24 hours of admission and nutrition assessment by a dietitian helps to find out the degree of malnutrition and decide on the nutrition care plan.

In view of the above, during the 5th Apollo International Clinical nutrition update at Hyderabad, there was a “**Hyderabad Nutrition Declaration**” made with the following points which was acknowledged by all participants.

- **Every Hospital should have a Dietitian**
- **Every In-patient of the hospital should have a nutrition assessment**
- **Dietitian should be part of multidisciplinary team.**

Reference books released during the Clinical Nutrition Updates:

The Department of Dietetics has been releasing valuable reference books and Dietitian's pocket Guides every year, during the Clinical Nutrition Updates.

- **2009 - Apollo Clinical nutrition Manual**
- **2010 - Apollo Pediatric Clinical nutrition Manual**
- **2011 - The Best of Basics in Clinical Nutrition – Dietitian's Essential Pocket Book**
- **2012 - Dietetics Pocket guide to Pediatric Clinical Nutrition**
- **2013 - Beyond the Basics: Transplant Nutrition; Dietitian's Pocket Guide.**

These books are practical and comprehensive for use by all the practicing Clinical Dietitians. Department of Dietetics of Apollo Hospitals will continue the mission of knowledge sharing in clinical nutrition.



Book 1

Book 2

Book 3

To Procure these pocket books contact dietary@apollohospitals.com,
Phone: 044 - 28296637 / 09841697099

ABSTRACTS

A multi-technique analysis of the nutritional status and quality of life(QOL) of patients on maintenance hemodialysis (MHD)

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Background & Aim: Malnutrition is a frequent problem in MHD patients. A number of studies have linked an increased risk of morbidity and mortality in MHD patients to nutritional status. This study aims to assess and correlate the nutritional status of patients undergoing MHD with quality of life (QOL).

Materials & Methods: A prospective-analytical study was conducted in our outpatient hemodialysis unit with random sampling. Patients with end stage renal disease on MHD were included after obtaining their consent. Details of demographic, modified subjective global assessment (SGA), anthropometric, clinical measures and QOL using SF-8 were gathered through interviews using a questionnaire specifically developed for this purpose. Statistical analysis using Pearson correlation, Fisher's exact test, Chi-Square test were performed.

Results & discussion: A total of 40 patients (50% males/females) aged 51.07 ± 16.62 y were included. SGA revealed 25 (62%) as moderately malnourished. The mean hemoglobin, white blood cells, serum urea, creatinine, sodium, potassium, albumin, calcium and cholesterol were 10.03 ± 1.52 , 7.62 ± 2.44 , 97.5 ± 34.80 , 6.96 ± 2.59 , 138.3 ± 3.37 , 5.21 ± 0.80 , 3.79 ± 0.35 , 8.58 ± 0.64 ,

144.87 ± 38.3 respectively. According to total lymphocyte count, 24 (60%) were mild to severely malnourished. Majority of the females (50%)/males (35%) were obese as per body mass index classification. Triceps skin fold thickness ($p=0.000$), Mid arm muscle circumference (MAMC) ($p=0.003$), and Mid arm muscle area (MAMA) ($p=0.001$) showed a significant difference in the nutritional status between the sexes. Males were found to have lower somatic protein stores whereas females had lower somatic fat stores. There is a strong positive correlation between the somatic protein stores (MAMC) and the visceral protein stores (sr.albumin). The nutritional status based on SGA and anthropometric measures of Mid arm circumference (MAC) ($p=0.004$), MAMC ($p=0.003$), MAMA ($p=0.001$) were statistically significant. Beyond the anthropometric measures, the nutritional status (SGA) had correlated significantly with each variables of QOL ($p < 0.005$).

Conclusion: Above mentioned multi-technique analysis can be used to identify patients who require more attention due to the risk of malnutrition. Regular monitoring/counselling by the qualified Clinical Dietitian will help in the improvement of nutritional status and better QOL.

The Impact of Hyperglycemia on Non- Diabetic patients with Traumatic Brain Injury

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Back ground: This study aimed to analyze the relation of hyperglycemia in non-diabetic subjects with severe traumatic brain injury

The patients who had highest blood sugar levels greater than 200mg/dl had only two point increase in GCS, which reflected neurologic outcome.

Methods: A prospective analysis in an intensive care unit, investigated 15 non-diabetic patients with severe traumatic brain injury. Out of which 80% were male and 20% were female.

Subjective global assessment (SGA) was done to assess the nutritional status on admission, anthropometric data-height and weight and BMI was also taken. According to the ideal body weight (IBW), calories and protein requirement was calculated for all patients

The patients who got admitted within 24 hours with blood glucose levels greater than 200mg/dl had two units increase in Glasgow coma scale score were selected as samples for the study. Enteral nutrition was initiated for all patients with standard formula enriched with EPA.

Among this group 90% met the prescribed calories and 85% met the protein requirement.

Results: On admission, 10 patients had blood glucose level greater than 200mg/dl had a two unit increase in Glasgow coma scale and other 5 patients between 160-200mg/dl. CBG was checked at designed intervals for all samples

On day 2 and 3, 6 patients' blood glucose levels were between 140-160mg/dl and other 9 patients glucose level was 150-180mg/dl. On day 4 and 5 8 patients were observed with 110-122mg/dl and other 7 patients had blood glucose level of 150-160mg/dl

Standard formula enriched with EPA had a considerable effect in maintaining normal blood glucose levels and reduce the risk of neurological complication which in turn reduced the length of stay in the hospital

Conclusions: Early hyperglycemia is associated with poor outcomes for non-diabetic patients with severe traumatic brain injury. For all tube fed patients, according to the calorie and protein requirement recommended sucrose free, lactose free, high fiber, EPA rich supplements improved to heal severity condition and prove to reduce the length of stay in intensive care unit and the overall stay in the hospital.

Co-relation of FAACT Appetite Scale with Nutritional intake of Cancer Patients

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Background: Anorexia is a common symptom among patients with prolonged illness. It leads to malnutrition of energy, proteins and other nutrients. Prolonged anorexia in cancer patients can lead to a complex syndrome called "anorexia-cachexia syndrome". Anorexia/Cachexia adversely affects the patient's body form, function, response to (chemotherapy or radiation) treatment, quality of life and survival. Hence, in order to provide effective health care, nutritional status of patients, their nutrient intake and appetite should be assessed periodically through out their treatment and intervened with nutritional, medical or psychological support.

Functional Assessment of Anorexia/Cachexia Therapy (FAACT) appetite scale is 12 questions based patient rated, symptom specific measure for appetite, and distress from anorexia of patients who complain of lack of appetite. The FAACT appetite scale assesses anorexia-related symptoms and differentiates their severity by assigning a score ranging from 0 (worst response) to 4 (best response). Therefore, it could be proposed that a score ≤ 24 may be sufficient to make a diagnosis of anorexia.

Aim: The aim of this study was to co-relate the FAACT score for anorexia with patient's nutrient intake.

Methods: A study was carried out where the FAACT questionnaire was administered to 100

cancer in-patients receiving chemotherapy or radiation as treatment. Their 24 hour calorie and protein intake and anthropometric measures (BMI) were recorded in order to correlate it with the FAACT score.

Results: The FAACT scale assessed 57% of the sample to be anorexic with a score ≤ 24 . Their BMI was in the range of 15-32kgs/m² with an average of 24kgs/m². They were also found to have a low protein intake with an average of 41 % of their RDA (1.2gms/IBW) and low calorie intake of an average of 65% of their RDA (30kcal/IBW). Thus, rightly co-relating the FAACT anorexia score to the low nutrient intake.

Similarly, those with a FAACT score of above 24 were found to have a protein intake of an average 97% of their RDA (1.2gms/IBW) and a calorie intake of an average 88% of their RDA (30kcal/IBW). Their BMI was found to be in the range of 15-34kgs/m² and an average of 25kgs/m². Thus making them more tolerant and receptive to cancer therapy with an increased rate of survival.

Conclusion: The FAACT scale helps in assessing anorexia /cachexia in cancer patients and co-related well with the high incidence of low calorie and low protein intake percentage to RDA .Thus categorizing them to be anorexic and nutrient deficient.

Patients' attitude towards nutritional therapy in a comprehensive sleep clinic: time for a wakeup call?

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Dr. Nagarajan Ramakrishnan

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Background: Nutritional therapy is an integral component of patient care. Its goal is to aid the medical management with appropriate diet, thereby preventing complications from incorrect eating habits. Hence, it is important that, even in outpatient clinics, registered dietitians provide formal counselling and dietary treatment. It is also essential that patients understand the importance of diet treatment for compliance. The purpose of this study was to assess the attitudes of patients towards the dietary treatment in an outpatient setting.

Methods: This is a retrospective study done in a free standing outpatient Sleep clinic, from October 2013 to March 2014. All new patients who presented to the Clinic were included and details like their BMI, diagnosis and prescribed treatment were collected. Patients who were advised diet modifications were monitored for follow up visits.

Results: In the study period, 181 new patients presented to the clinic for sleep problems (140

Males/ 41 Females, Age 47.4 ± 16.12). Of these 181, 125 patients were advised to see the dietitian for diet treatment and weight reduction by the sleep specialist. All these 125 patients were overweight or obese (48.8% - overweight, 45.6% - obese and 5.6% - extremely obese). 120 out of 125 patients (96%) presented to the initial diet counselling and only 26 of them (21.6%) presented to a follow up session. Others (94) quoted lack of time (55.3%) and being unable to follow the prescribed diet guidelines (44.7%) as reasons for not presenting for follow up.

Conclusion: A significant number of overweight and obese patients accept initial diet counselling as prescribed by the Physician. However, a significant number of them do not follow up quoting lack of time and inability to comply as the primary reasons. The results suggest a lack of knowledge among healthcare seekers towards the role of nutritional therapy for wellness and disease management.

Prevalence of malnutrition and the impact of enteral nutrition on clinical outcomes in critically ill geriatrics

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Background: Providing nutrition support for the critically ill geriatric patients represents a unique challenge because this population has considerable variability in outcomes following a stay in the intensive care unit (ICU). This study assesses the prevalence of malnutrition and the effect of enteral nutrition (EN) on clinical outcomes in critically ill geriatrics.

Methods: Retrospective study conducted between January 2013 and May 2014 in the ICU of

a tertiary care hospital. Only geriatric patients in ICU receiving nasogastric feeds for ≥ 5 days were included. Baseline demographics, nutritional status and EN practice parameters were collected and analysed.

Results: A total of 23 geriatric patients with mean age of 76 ± 7.8 y were included in this study. The mean admission BMI was 22.9 ± 4.02 . Subjective global assessment (SGA) revealed that 8 (34.8%) were well nourished, 1 (4.3%) was severely

malnourished while 14 (60.9%) were moderately malnourished. Mean haemoglobin and serum albumin levels of 11.3 ± 2 and 3.4 ± 0.7 were observed in the malnourished. Sepsis was present in 9(39%) patients. The average caloric and protein goals delivered were 81% and 82% respectively in 14.4 ± 12.05 days. The mean feed initiation time and feed interruptions were 14.8 ± 19.1 and 21.9 ± 27.7 hours respectively. The average length of stay was 14.3 ± 10.8 days. Mortality (17.3%) was observed only in the ventilated patients and it was equally distributed in the well-nourished and malnourished groups.

Age Group	Malnourished	BMI (Mean \pm SD)	Average Calories		Average Proteins	
			Target	Provided (% of target)	Target	Provided (% of target)
$\geq 75y(n=11)$	8(72.7%)	21.1 \pm 4.1	1505	1122(74.5%)	60	47(77.7%)
65-74y(n=12)	7(58.3%)	24.5 \pm 3.2	1498	1290(86%)	59	51(86%)

Conclusions: Malnutrition is a common geriatric syndrome resulting in severely compromised nutritional reserves and complex nutritional requirements. Providing timely and appropriate nutrition intervention can reduce morbidity and improve outcomes.

Keywords: Geriatrics, malnutrition, enteral nutrition

Comparative study of the nutritional status of a geriatric population of an urban housing complex and an old age home

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Aim: To assess the nutritional status of a geriatric population in an urban community (kolkata).

Background: Elderly population contributed to 7% of total population of India in 2001 and it will raise to 9% by 2016. In 2010, 100 million people were aged above 60 years and by 2020 it will be 177 million. Ageing process is as such complex and multi-factorial. Chronic morbidities like diabetes and hypertension are becoming common health problems among the geriatric population.

Ageing is often accompanied by the occurrence of illness, which may increase the risk of nutritional deficiency. There is a need to compress the period of morbidity experienced by the elderly to minimize the occurrence of nutritional deficiency and improve well-being. Altered nutritional status is associated with the pathogenesis of a number of common diseases of the elderly. Thus it would appear that nutritional modulation represents one possible approach to successful ageing.

Method: Mini nutritional assessment (MNA) of Nestle Nutrition Institute was used to determine the screening score.

Results: Comparative scoring of the two facilities were surveyed. In the housing complex about 55%

female and 60% male were well nourished whereas in the old age home only about 5% of female and 7.28% of male were well nourished. 30% of female & 33% of male were at risk of malnourished in housing complex, whereas the percentage in the old age home was 33% & 92.8% respectively. Percentage of malnourished individuals in the housing complex was 15% for female & 7% for male. In the old age home mainly all the female population (62%) was malnourished.

Conclusion: Malnutrition prevailed among the members of the old age home. Psychological stress was common, which may be a factor of HTN. Sedentary lifestyle and over-eating may be a contributing factor towards the development of diabetes in the residence of the housing complex. In our study, the percentage of diabetes in housing complex and in old age home was 41% and 29% respectively, and that of hypertension it was 69% and 71%. It was observed that BMI above, 30 increased the prevalence of diabetes and hypertension. Counselling was done to improve the nutritional status of both the facilities. Continuous periodic contact sessions are carried out to bridge the nutritional gap and improve the quality of life of the geriatric population.

Nutritional Management of Chylothorax in cardio thoracic intensive care unit

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Objective: Various nutritional strategies were applied in the management of Chylothorax in our centre, which varied from using exclusive Medium Chain Triglyceride (MCT) feeds to using both diet and MCT feeds. Our observational study attempts to follow the trail to reveal the best management.

Method: Retrospective case note analysis was done between March 2012 and March 2014 at a tertiary children hospital. All patients who had chyle leak after cardiac surgery were included. Various parameters and individual diet plan data was analysed until progress towards resolution.

RESULTS: Among the 13 subjects (8 Male / 3 Female) included in the study, 69.2 % (n= 9) were <6 months of age and 15.4 % (n=2) each were 1-2 years and 10-11 years of age. Nutritional status assessment showed 61.5 % (n=8) had wasting and 38.5 % (n=5) had both wasting and stunting. Body Mass Index for Age (NCHS) was <3rd Percentile in all. The chyle leak was observed more in patients with cyanotic heart disease (76.9%) Vs acyanotic heart disease (23.7%). The various diets were 90% MCT feeds (n=2), 90% MCT feeds with fat free diet (n=2), 60% MCT feeds (n=2) and 60%

MCT feeds with fat free diet (n=7) respectively. 31 % (n=4) were given Octreotide. Of which 75% were on 60% MCT feeds and 25% on 90% MCT feeds respectively. The Octreotide dose was lesser in 90% MCT feeds (4.4mg/Kg/Day) when compared to the 60% MCT feed (10.25±8.12mg/Kg/Day). The number of days on Octreotide was lesser in 90% MCT feeds (1.12days) when compared to 60% MCT feeds (2.0±1.63 days). The mean volume of chyle and the day chyle stopped is depicted in the table below

Diets	Without Octreotide		With Octreotide	
	Mean volume of Chyle (ml)	Mean day chyle leak stopped	Mean volume of Chyle (ml)	Mean day chyle leak stopped
90 % MCT feeds	124.5±54.8	5.7±2.4	115	5
90% MCT feeds + Fat free diet	138±48.5	7.5±3		
60% MCT feeds	145±70.2	7±4.2	135	6±3.9
60% MCT feeds +Fat free diet	170.7±70.8	10±2.7		

Conclusion: Our experience suggests MCT is a vital adjunct for the treatment of Chylothorax in post operative cardiac patients. Ideally a 90% MCT seem to resolve the condition faster than lesser concentration (60% MCT). Due to non-availability in India / cost constrain of importing 90% MCT feed, 60% MCT can be used as it has a significant impact in the course of the illness.

Nutritional assessment of Cancer patients using Pg-sga tool

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Introduction: The patient-generated-subjective global assessment (PG-SGA) is a nutritional assessment tool to assess nutritional status in cancer patients.

Objective: To assess nutritional status of cancer patients coming to corporate hospital using PG-SGA nutritional assessment tool.

Method: The study was designed for a period of three months to evaluate the nutritional status of n=200 cancer patients. The patients were interviewed using PG-SGA tool, a food frequency questionnaire and a 24 hour food recall to assess the malnourishment and the nutritional intake. Each patient was classified as well nourished (SGA A), moderately or suspected of being malnourished (SGA B) or severely malnourished (SGA C). In addition, a total PG-SGA score was calculated. The higher the score the greater the risk for malnutrition. A score ≥ 9 indicates a critical need for nutrition intervention. The data was analysed using SPSS Version 16.0 and various statistical tests were used to assess the impact of malnourishment due to the cancer treatment on the PG-SGA score levels.

Results: Positive association between the PG-SGA score and Symptoms score showed a high significance at ($p > 0.01$) with Chi-square value ($\chi^2 = 5.97$). On associating the PGSGA score with the Weight loss, there was a negative association seen at ($p > 0.05$) ($\chi^2 = 26.0$). There was a significant negative association between the PGSGA score and the protein intake ($p > 0.05$) ($\chi^2 = 49.3$) However, there was no association between the PGSGA score and the energy intake of the patients and PG-SGA score and the age classification of the patients.

Conclusion: The scored PG-SGA was shown to be accurate at identifying the well-nourished patients from the malnourished patients. During the study, there was also a focus on the diet counselling which was given to the patients who fell in the B and C categories and who had poor PG-SGA scores.

The scored PG-SGA is an easy to use nutrition assessment tool that allows quick identification and prioritisation of malnutrition in hospitalised patients with cancer.

Assessment of food intake in hospitalized patients

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Background & Aim: The prevalence of disease related malnutrition in hospital in-patient is high. During hospitalization, many patients do not meet individual nutrition requirements. The purpose of this study was to measure food wastage and nutrition intake in hospitalized patients and to understand the reasons for inadequate nutrition intake, and to improve their intake by analyzing the factors involved.

Methods: Nutritional values of food provided, consumed and wasted over 24 hours including non-exclusive nutritional support were calculated individually. Nutritional needs were estimated as 110% of Harris-Benedict formula for energy and 1.2 or 1.0 g protein/kg/day for patients. Multivariate analysis identified factors associated with low nutritional intake standardized to body mass index (BMI) of 250 patients. All three daily meals were assessed this study. The record log included

patient's demographics, estimated nutrition requirements, prescribed diets, percentage of meal consumption and reason for reduced consumption. A structured interview recorded patients' evaluation of the meal quality, their reasons for non-consumption of food and the relationship between food intake and disease.

Recording methods: 1. [Precise weighing method](#), 2. [Weighed intake record](#) (**weighed inventory**), 3. **Food and Fluid Chart**

Results: Out of 250 patients included, (59% women; 68+/-21 years; body mass index: 24.3+/-5.1 kg/m²). Daily meals provided 2007+/-479 kcal and 78+/-21 g of protein and exceeded patients' needs by 41% and 15%, respectively. However, 30% patients did not eat enough. Plate waste was 471+/-372 kcal and 21+/-17 g of protein/day/patient. Moreover, the food intake of these underfed patients was not predominantly affected by disease. Logistic regression analyses

identified as other risk factors: elevated BMI, food habits, mouth ulcers, dysphagia and altered sensorium, prolonged length of stay.

Conclusion: Despite sufficient food provision, most of the hospitalised patients did not cover their estimated needs. Since insufficient food intake was often attributed to causes other than disease, there should be potential to improve the hospital meal service. Measures taken to improve the intake: Consistency changes based on patient preferences like double boiled foods, porridges, Oral nutrition supplements, close follow-up after each meal about the intake, fixing the nutrient requirements to meal wise requirement instead of per day requirement. For Example - Instead of fixing 1800 as per day goal per meal goal has been fixed and it is fixed as 450 per meal and allotting 450 for beverages and fruits. Improving the interaction with nursing staffs and implementation of food and fluid charts in patient bedside and it is reviewed closely to reduce the deficits.

Impact of decreased food intake on energy intake in hospitalized patient

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Background: The prevalence of disease-related malnutrition in hospital inpatients is high; hospitalization can contribute to decreased food intake making it a challenge to meet their nutritional needs. To better understand the reasons for inadequate nutrition intake, this study describes patient satisfaction, food provision, food intake, and causes of leaving food.

Objective: This study aimed to investigate the causes of low dietary intake and to know the differences between calorie prescribed and actual calorie taken by patients.

Methodology: All ward patients who were taking oral solid diet and whose intake was moderate for three consecutive days were included, the authors studied patient satisfaction with the hospital food

service using interviews. Appetite level of each patient was measured by using a (0-5) score card and causes for not taking their diet were analyzed. Their calorie intake was calculated by comparing their prescribed calorie verses amount of food eaten.

Result and discussion: A total of 301 subjects with mean age 51.6 ± 17.2 years, out of which 58.8% were male & 41.2% were female with average BMI of 23.54±3.26 and average length of stay (ALOS) of 12 days. Appetite score of 5, 4, 3, 2, 1 were 7%, 6%, 26%, 29%, and 21% respectively and 11% having no appetite at all.

The diets prescribed were normal diet (33%), diabetic diet (19%), low fat low cholesterol diet (12%), soft/semisolid diet (23%), renal diet (8%)

and miscellaneous diet (5%).

The mean calorie prescribed 1404.31±182.62 per day while average intake was 743.87±344.64calorie.

Calorie	>500	501-800	801-1200	1201-1600	1601-1800	1801-2200
Prescribed	Nil	Nil	11%	79%	8%	2%
Intake	29%	26%	40%	5%	Nil	Nil

Diet taken by patient-42% took 3/4p of diet provided to them, 29% had 1/2p, 25% had 1/4p and 4% took nothing in those days. The multiple reasons for not taking their diet are as follows:

Taste not liked by patients	Amount is too much for them	Nausea/vomiting	Distension/Constipation	Loss of Appetite	Feeling sick	Due to medication /antibiotics	Food not provided as per their wish
92	12	35	25	82	62	54	7

Conclusion: - Many reasons were given for not eating food including being unwell. Meal disturbances and assistance with meals needs to be improved. There was a huge difference between calorie prescribed and actual calorie intake by the patients which is insufficient for their recovery contributes prolonged stay at hospital.

Estimation of nutritional status of patients admitted to a mixed intensive care unit of a tertiary care hospital in India

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Background: Nutritional deficits related to chronic disease and acute illnesses are frequently found in patients admitted to the intensive care unit (ICU). Nutritional status is important to decide the degree of nutritional support required for the best outcomes. The objective of the study was to estimate the nutritional status of patients admitted to the mixed ICU of a new tertiary care hospital.

Methods: Nutritional status of adult patients admitted to a mixed ICU in a tertiary care hospital for a period of 1 year from January to December 2013 was determined using Subjective Global Assessment (SGA). All patients admitted directly to ICU and those transferred from emergency unit were only included in the study. Baseline details of demographics, nutritional status, admission diagnosis and outcome details were collected and analysed.

Results: Of 360 patients included (56.44 ± 17.35 y, range 18-93y), 246(68%) were well-nourished and 114(32%) were moderately malnourished (MM). Malnutrition was prevalent more in the females (36%) than males (30%). In the geriatrics 54% of males and 61% females were MM, while 20% of males and 18% females were MM in the adults.

Analysis of diagnosis data revealed that 44% were admitted with cardiac problems and MM was more in the geriatrics(44%) compared to adults (5%). Among cardiac patients, women were found to be more MM (59% and 10%) than men (38% and 4%) in both the age groups. Prevalence of malnutrition was high in the male geriatric (78%, 75%, 65%, 60%) and adults (18%, 50%, 41%, 75%) of neurology, surgical, general, and respiratory medicine. In the female geriatric group, malnutrition was high in the general medicine (83%) and neurology (33%) patients. MM group had a mean length of stay (LOS) of 17.75±16.05 and mortality 7.8%.

Age Group	Well-nourished			Moderately Malnourished		
	Male	Female	LOS (Mean ± SD)	Male	Female	LOS (Mean ± SD)
≥ 65 y (n=127)	42(49%)	16(39%)	5.65 ± 9.27	44(51%)	25(61%)	4.81±6.53
18-64 y (n=233)	139(80%)	49(82%)	4.98 ± 13.1	34(20%)	11(18%)	15.4±23.7

Conclusions: Prevalence of moderate malnutrition in the ICU could result in poor outcomes. Nutritional assessment is important to quantify the severity of malnutrition, identify the underlying causes and plan nutrition intervention for early recovery.

Keywords: Nutritional status, Intensive care unit, subjective global assessment

Prospective study on effectiveness of oral EPA supplementation In post bone marrow transplantation

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Back ground

Bone marrow transplantation (BMT) involves administration of toxic chemotherapy and infusion of marrow cells. This has become an increasingly common therapy not only for malignant hematopoietic diseases but also for autoimmune diseases. After the transplant, subjects may develop poor appetite, mucositis, gastrointestinal disturbances develop infection & GVHD leading to malnutrition. In order to prevent such complications, studies suggest that Eicosapentaenoic acid (EPA) supplementation is found to be effective in reducing post BMT complications and enhance nutritional status.

Method

Adults aged between 25yrs to 60yrs admitted for BMT transplantation from March-2013 to April 2014 were considered as subjects for the study. The selected samples size was 20, out of which 10 subjects received EPA supplementation (EPA group) 2.2g of EPA was recommended and the other 10 subjects were control group, Effectiveness of oral EPA therapy throughout the

hospital stay was studied.

Results

In summary, the present study indicated that there were no significant differences in underlying disease, disease stage, conditioning regimen, and GVHD prophylaxis between the EPA group and the control group. The nutritional status and length of stay was found to have significant difference. Among the EPA group only 10% had GVHD whereas 30% developed GVHD among the control group. Mucositis was found to be common in both groups. Poor appetite was found evident in both groups in the initial post-transplant period, later there was improvement in their intake.

Conclusion

EPA group was found to have reduced infection rates, improved appetite and gradually improved calorie count. 90% of reduced length of stay was the most significant and evident finding in the EPA group. As a result of this observational study, nutritional support through EPA supplementation on post BMT subjects was found to be beneficial and effective.

Parenteral nutrition in the neonatal intensive care unit of a tertiary children hospital

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Aim: To analyze the effectiveness of nutritional support using Parenteral Nutrition (PN), as the nutritional management of neonates presents a constant challenge.

Method: A retrospective analysis was done from May 2011 to May 2013 in all neonates who received PN in NICU. 50 babies received PN

during the study period. Case notes were reviewed and outcomes were analyzed.

Results: 48 babies were included and 2 were excluded in view of mortality. 42 babies were of the gestational age <36 weeks (n = 18 <30/40 weeks and the lowest was 26 /40 weeks) .The lowest birth weight noted was 800gms. 6 babies were born at

term. In this cohort male to female ratio was 1:2. Modes of PN administration was central line (12%), peripheral line (50%), PICC line (34%) and PICC and peripheral line (4%).

Nutrient requirements met through PN were analyzed. Table below depicts it.

No of babies	Protein (gm/kg)	No of babies	Fat (gm/kg)	No of babies	Calories/kg
20	2.5-3	6	<2	11	40-60
22	3.1-3.5	10	2.1-2.5	25	60-80
6	3.5-4	32	2.6-3	12	80-100

27 babies gained weight during PN. In this group preterm babies (n=23) weight increase was 107.8 ± 98 gm and term babies (n=4) increase was 219 ± 266 gm. 21 babies had weight loss. In this group, preterm babies (n=19) had weight loss of 98 ± 66.7 gm and term babies (n=2) had weight loss of 110 ± 14 gm. The reason for weight loss were sepsis (n=12) and the low calorie provided from PN due to the associated co morbidities -

Hypertriglyceridemia (n=4) and azotemia (n=5). The duration of PN was longer in preterm (10.3±6.4 days) when compared to term babies (8±3.6). Through Enteral Nutrition (EN), EBM (Expressed breast milk) was predominately used (n=27) when compared to EBM+Human Milk Fortifier (n=16) and Formula feed (n=5) along with PN. Introduction of breast milk along with PN showed weight gain which was significant at 5% level (r = 0.30). Mean weight gain of 14.2 ± 5.3 gm / day was noted in 42 babies at the end of the study period. The difference in the weight before PN (1411 ± 572gm) and at discharge (1630 ± 551 gm) was found to be significant at 1% level (t=6.175).

Conclusion: Our study reveals nutrition support from PN and breast milk has weight gain and reduced ventilator dependent days. Suboptimal PN will affect weight gain therefore implementation of a standardized PN protocol will improve outcomes.

Daily enteral feeding practice on the ICU: attainment of goals and interfering factors

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Background: The appropriate and timely provision of nutritional support to the critically ill hospitalized patient is recognized as an important quality benchmark and has been proposed for considerations a 'standard of care'. The purpose of this study was to evaluate the daily feeding practice of enterally fed patients in an intensive care unit (ICU) and to study the impact of preset factors in reaching predefined optimal nutritional goals.

Methods: The feeding practice of all ICU patients receiving enteral nutrition for at least 24 hours was recorded during 100 days. Actual intake was expressed as the percentage of the prescribed volume of formula (a success is defined as 90% or more). Prescribed volume was guided by protocol but adjusted to individual patient conditions by the intensivist. The potential barriers to the success of feeding were assessed by multivariate analysis.

Results: Fifty five patients were receiving enteral nutrition in ICU over a period of 100 days. In this 26 patients were receiving enteral nutrition in ICU for a period of 1- 5 days, in this for 9 patients received above 95%, 2 patients it's around 90-95%, 3 patients -85-90%, 2 patients received 80-85% and 10 patients received below 80% of prescribed calories and protein during these 5 days. Reasons for this feeding interruption are lesser volume provision and procedures. 21 patients were receiving enteral nutrition in ICU for a period of 6-25 days, 15 patients received above 95%, 1 patient around 90-95%, 1 patient met 80-85% and 4 patients received below 80% of prescribed calories and protein. In this category of 21 patients the deficit was due to fluid restrictions, diarrhoea and surgeries. 7 patients were receiving enteral nutrition in ICU for a period of long duration of 26-

50 days in ICU. In this 5 patients met above 95% and 2 patients received 90-95% of prescribed calories and protein which has to be appreciated.

Conclusions: Appropriate nutritional interventions are necessary to prescribe appropriate nutrients and achieving the prescribed nutrients by using disease specific enteral feeds will help to restore nutritional status, prognosis of

the patient, to reduce ICU length of stay and to help to optimize functionality and quality of critically ill patients.

Early initiation of Enteral feeding, reducing the nutrient deficit by minimising the interruptions and the team efforts of Nutrition Support Team are the key factors for successful Nutrition delivery for enterally fed ICU patients.

Comparitive study of dietary intervention on the biochemical parameters of dialysis patients

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Objectives: Dietary intervention can show significant changes on biochemical parameters in pre and post dialysis patients. The goal of this study is to show the effectiveness of diet on the biochemical parameters of dialysis patients.

Design: Interventional study

Setting: Dialysis unit, Apollo hospitals, Bangalore

Patients: Thirty patients (16 females, 14 males, 54.387±11.88yrs) with severe CRF being treated with high protein diet (1.2g/kg/day). Patients undergoing dialysis for more than 6months. Patients undergoing dialysis for three times per week.

Results: The mean dry weight of the patients after dialysis (61.08±11.26) has decreased as compared to the weight before dialysis (67.03±12.37), which shows a definite amount of fluid loss post dialysis. This is further emphasised

by the reduced BMI values after dialysis (24.23±3.94) than the BMI values before dialysis (26.09±4.25). The biochemical parameters of the patients before undergoing dialysis differed from the values after dialysis. The sodium levels (133.517±9.56 vs 136.161±3.65) was within normal range. Potassium levels (5.29±0.51 vs 4.96±1.01) state which is after dialysis. Hemoglobin levels have increase (10.093±1.93 vs 10.216±1.58) which is a result of erythropoietin injections. Changes in levels of creatinine (7.65±2.14 vs 5.73±2.77) indicated change in muscle mass. Increase in the levels of albumin (3.1±0.54 vs 3.8±0.36) was result of high protein diet with the benefit of supplements and lower levels of urea (122.93±83.85 vs 94.51±25.25)

Conclusions: This shows that dietary intervention has an impact on the biochemical parameters of the dialysis patients.

Early enhanced nutrition results in better outcome in critically ill patients

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Introduction: The use of early enhanced enteral nutrition geared at improving nutrition on patient outcomes was seen. Critically ill patients are often hypermetabolic and can become malnourished. Malnutrition has been associated with increased morbidity and mortality in acutely ill patients. Therefore, the generally accepted goals of nutritional delivery in critically ill patients are to provide nutritional therapy consistent with the patient's condition, prevent nutrient deficiencies, avoid complications related to delivering nutrition, and improve patient outcomes.

Methods: Retrospective study was conducted. Dietitian assessed the nutritional status of 68 patients who were on ventilator support admitted to the Multi Disciplinary Medical Intensive Care Unit. Patients who received enteral nutrition for ≥ 5 days were included. The aims of this study were to see the effect of early enhanced nutrition support in critically ill patients, the nutritional goal achieved, the number of days within which the target was achieved, feed intolerance(nausea, vomiting, diarrhea, high GRV& abdominal distention)), VAP, length of stay in ICU, length of stay in hospital were analyzed.

Results: A total of 68 patients on ventilator support were assessed. The average age of Male 48.42 ± 19.4 & Female 53.8 ± 15.2 . The average ideal body weight was 63.38kg & BMI 23.16kg/m^2 . Subjective Global Assessment revealed that

38(56%) were well nourished & 30(44%) were moderately malnourished. 5 (7.3%) were admitted with cardiac illness, 4(5.8%) with renal disease, 32(47%) with neurological conditions, 5(7.3%) with burns, 10(14.7%) pulmonary diseases, 12(17.6%) with Fever and other complications. The caloric goal (100%) was met within 4.4 ± 1.78 days & the prescribed target calories were 1857 & 69g of protein, & the patients were provided with 1864 calories & 73g of protein. The hours of interruption due to feed intolerance was 0.0096 hours per day & 65% of patients tolerated enteral feeds well. VAP was 5.85 per 1000 patient ventilator days. The average length of ICU stay was 18.3 ± 13.4 & the total hospital stay was 25 ± 14 days.

Number of ICU ventilated patients	Prescribed target calories		Prescribed target Protein		Target dose achieved days
	Target	Delivered	Target	Delivered	
68	1857	1864 (100%)	69	73 (100%)	4.4

Conclusion: This study concludes that with early enhanced nutrition support; the caloric goal was achieved within 4.4 ± 1.78 days. 65% of patients tolerated feeds well. The VAP was 5.85/1000 patient ventilator days which is below global bench mark. The average length of stay in our ICU patients is 3-4 days, since our study group had more number of patients with neurological conditions, the length of stay was higher despite the caloric goal being achieved. With enhanced nutrition support there were no patients requiring TPN.

Quality assessment and the effectiveness of a structured teaching program on enteral nutrition among critical care nurses at Yashoda hospital

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Background: Early and appropriate nutritional intervention for critically ill patients has been considered as a vital factor in minimizing adverse clinical outcome. Enteral nutrition is the most preferred choice of feeding the critically ill patients whenever feasible. In addition to physicians and dietitians nurses play a crucial role in facilitating enteral nutrition practices such as tube placement and verification, elevation of the head of the bed, preparation and administration of feeds to reach the desired goals etc. Nursing and nutrition being derived from the same word “nutricus” have remained inseparable and compliment each other.

Aims and objectives of the study were to assess the quality of enteral nutrition among critical care nurses, to evaluate the effectiveness of the structured teaching programme on enteral nutrition among critical care nurses and to associate the relationship between demographic variables and enteral nutrition.

Methodology: A quasi experimental design one group, pre test post test design was adopted. Forty critical care nurses were selected by using simple random sampling method from eight different critical care units. The quality on enteral nutrition was assessed by using multiple choice questionnaire and observational checklist derived

from topics relating to enteral nutrition. The pre test scores were found to be lower than the anticipated in terms of knowledge and practice. In order to improve their knowledge and enhance their practicing skills, a structured teaching program based on evidence-based guidelines was conducted. After a gap of seven days a post test was conducted and there was a remarkable improvement in their scores.

Results: The effectiveness of structured teaching programme on enteral nutrition was significant at $p < 0.001$.

	PRE TEST			POST TEST		
	Inadequate (<50%)	Moderately adequate (50-75%)	Adequate (>75%)	Inadequate (<50%)	Moderately adequate (50-75%)	Adequate (>75%)
Knowledge	25	14	1	0	12	38
Practices	8	32	0	0	12	29
Total	25	15	0	0	6	34

Conclusion: The data proved that the structured teaching programme was a primary measure which markedly improved the quality on enteral nutrition among critical care nurses irrespective of demographic variables. Thus enteral nutrition practices are directly influenced by nurses, educating them on evolving aspects of enteral nutrition from time to time will ensure improved patient outcome.

Comparison of risk factors, nutritional status, morbidity rate between breast feed and bottle feed infant at Apollo Hospitals, Dhaka

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Background: Breast feeding practices plays a vital role in the optimal development of infants and child survival also. Although Bangladesh is traditionally regarded as a country with widespread breast-feeding, the practice continues to be improper as different studies observed. For many years, pediatricians and nutrition scientists have stressed the dangers of artificial feeding of infants. The differing compositions of human and other animal is reflected in biochemical differences between breast feed and bottle-feed infants, but the long term effects of these differences have not been established. Our objective was to assess the nutritional status, morbidity rate & risk factor between breast-fed & bottle-fed infants. In our study we hypothesized that increasing breast-feeding rates improve the nutritional status & reduce infant morbidity compared to bottle fed infants.

Methods: The study was based on cross sectional study. It was conducted at Apollo hospitals, Dhaka during October 2013 to April 2014. 100 infants of 0-24 months were randomly selected. Among the 45 respondents were 0-6 month's group and 55 respondents were 7-24 month's group. Where 45.2% were breast feeding group and 54.8% were bottle feeding group in 0-6 months. In 7-24 months

42.3% were breast feeding group and 57.71% were bottle feeding group. We took note on nutritional status (height, weight), morbidity & risk factors of breast feed and bottle-feed infants both. We used SPSS for data entry and for statistical analysis χ^2 and t-test both.

Result: In our study we found that in the breast-fed group (0-6 months), among 27.6% was wasted which was lower than bottle-fed infants (31.6%) where as 23.40% was under weight which was lower than bottle-fed group (33.33%). On the other hand breast groups in 7-24 months, among 18.18% was wasted which is lower than bottle-fed infants (29.16%). Compared two groups we found that bottle-fed infants suffered from different kind of disease more than breast-fed infants. We found the morbidity rate of diarrhea, fever and ARI was at significant level.

Conclusion: The proposed study may be give us the best feeding pattern which beneficial for child and mother in developing country like us. These study findings will suggest the appropriate feeding pattern which will proved maximum outcome of breast feeding Vs bottle feeding. It's attempted to highlight the approaches towards protection, promotion and support of breastfeeding and thus save the infant from various type of illness causes by bottle feeding.

The Nutritional Behaviour and Physical Activity Levels Among Urban Adolescents (13-14 years) of Hyderabad City

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Introduction: Overweight and obesity are two such words, which are gaining popularity in the present day scenario. Diseases are getting transformed worldwide in a rapid pace catching the attention of medical professionals and policy makers alike. This is particularly true in low and middle-income countries that form the major chunk of global population. The emerging epidemics of obesity, cardiovascular disease (CVD) and diabetes form the crux of this phenomenal change. These are the epidemics that are mainly caused due to the drastic life style changes among the developed and the developing countries. Among these entities, obesity has become a colossal epidemic causing serious public health concern and contributes to 2.6 million deaths worldwide every year. Obesity is an independent risk factor for CVD. Obesity is associated with an increased risk of morbidity and mortality as well as reduced life expectancy. The last two decades of the previous century have witnessed dramatic increase in health care costs due to obesity and related issues among children and adolescents too. Overweight and obesity, the growing health problems presently in the adolescents due to faulty dietary and low levels of physical activity are studied under the topic “The Nutritional Behaviour and Physical Activity levels among urban adolescents (13-14 years) of Hyderabad city.”

Hyderabad being a metropolitan city,

accommodates a variety of population from all the sections of socioeconomic status, religion, regions etc. Variety is the spice of life and there is a lot of variety in lifestyle as people from all the corners of India live in Hyderabad. The culture in the city of Hyderabad has changed rapidly in the past years. Eat outs, restaurants; Hotels, Pubs, Night parties, etc have increased drastically. This change has its impression on the people exposed to it. The lifestyles have changed and it has an impact directly or indirectly on the health of the people living there. As the researcher also hails from the city, it is selected as the study area.

Tools

- Questionnaire, Stadiometer, Weighing Scale (platform type)
- WHO Standards, 24-hour Dietary method, Dietary nutrient adequacy
- Physical Activity Level

Conclusion: To conclude that the nutritional status of the adolescents according to their BMI and dietary intake was below normal. The frequency of food intake showed that intake of millets, green leafy vegetables, and fruits were considerably low, which need to be increased. The health status of the adolescents depending upon the study was poor. The physical activity levels were also low and irregular. This indicates that the regularity of the physical activity had to be improved.

Development of low cost high protein drink

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Protein malnutrition is a major nutritional problem in India. To treat malnutrition, preparation based on cereal-pulse combination are of paramount importance, hence attempt was made to formulate a low cost high protein drink that could be processed domestically by simple inexpensive processing technology for age group above 2 years. Its nutrient content was calculated using nutritive value of Indian foods. The product was evaluated for sensory, appearance and overall acceptance.

Materials and methods:

The product was developed using basic ingredients like Soya beans, wheat, Green gram dhal, Skim milk Powder & Sugar powder procured from local market. Sensory analysis was done using 5 point hedonic scale with the help of 10

panel members.

Results and discussion:

Standardized product developed had equal proportions of wheat, soya beans & green gram dhal in view to fetch maximum energy and protein as well as acceptance. 100 grams of the product gave 380 Kcal and 20 grams of protein. Overall acceptance was extremely good. Cost calculated per serving (200ml) was approximately rupees 5 /- which gave 150Kcal and 7.6 grams of protein.

Conclusion:

On the whole it can be concluded that consumption of high protein drink increases the overall consumption of major and minor nutrients like energy, protein, fat, calcium, fiber. This product can be used to combat protein malnutrition.

Fatty acid oxidation and other biochemical changes induced by cooking in commonly used Indian fats and oils

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Purpose of this paper is to determine biochemical changes due to cooking in commonly used Indian fats and oils through an experimental study.

Design/methodology: Changes in [chemical properties](#) of various edible oils [Indian ghee, hydrogenated oil, coconut oil, mustard-rape seed oil, groundnut oil, soyabean oil, cottonseed oil and [sunflower](#) oil] were studied. Oils were subjected to various cooking methods (shallow frying, sautéing, single deep frying and multiple deep fryings) using an inert substance. Peroxide content was estimated as index of fatty-acid oxidation, free fatty acids, [iodine value](#) for determination of fatty-acid unsaturation and trans-fatty acids at baseline and after cooking using colorimetric and gas-liquid chromatography methods. 3 samples were analyzed for each 3 (n = 144). Significance of

change was determined using t-test.

Findings: There was a significant increase in peroxide content (mEq/L) of Indian ghee from 1.83 ± 0.03 at baseline to 4.5–6.6 by different cooking methods, hydrogenated oil (0.45 ± 0.07 to 1.7–8.5), [coconut oil](#) (1.01 ± 0.01 to 3.2–9.2), mustard-rape seed oil (0.90 ± 0.01 to 2.1–5.3), groundnut oil (0.96 ± 0.01 to 1.9–3.7), soyabean oil (0.86 ± 0.02 to 1.9–3.4), cottonseed oil (0.71 ± 0.01 to 2.9–6.4) and [sunflower oil](#) (1.09 ± 0.01 to 2.3–10.2) ($p < 0.05$). [Free fatty acid](#) content (g/100 g) was in undetectable amounts in all the fats at baseline and increased in Indian ghee (0.16–0.22), hydrogenated oil (0.09–0.23), [coconut oil](#) (0.09–1.39), mustard-rape seed oil (0.07–0.19), groundnut oil (0.09–0.18), soyabean oil (0.06–0.12), cottonseed oil (0.09–0.22) and

[sunflower oil](#) (0.08–0.13). Trans-fatty acids increased from 0.1% at baseline to 14.5% after sautéing and shallow frying and 15.8–16.8% after deep frying in hydrogenated oils ($p < 0.01$). The [iodine value](#) decreased, indicating a decrease in unsaturated fats, insignificantly. The largest amount of oxidation was observed by shallow frying and free-fatty-acid formation by multiple deep frying. Hydrogenated, coconut and [sunflower](#)

oils were the most susceptible to oxidation and soyabean oil the most resistant. Single deep frying caused the least changes in [chemical composition](#) of various fats and oils. Indian cooking practices significantly increase the peroxides, free fatty acids and trans-fatty acids in edible oils and fats. Single deep frying appears to be the least harmful method and soyabean oil the least susceptible to degradation.

Nutritional Status Of Children Attending Integrated Child Development Services (ICDS) And Pre-School – A Comparative Study

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Background: Malnutrition is an underlying factor in many diseases in both children and adults, and it contributes greatly to the disability-adjusted life years worldwide. Malnutrition is particularly prevalent in developing countries, where it affects one out of every three preschool age children.

Aim: To study the nutritional status of the **Integrated Child Development Services** and Pre-school Children belonging to the age group of 3 – 6 years for the period of three months.

Objectives: To assess the nutritional status of **Integrated Child Development Services** and Preschool children using anthropometric measurements, to compare the Body mass index, Gomez of the two groups, to assess the calorie and protein intake of the two groups, to compare the calorie and protein intake of the two groups with requirements, to compare the iron and vitamin A intake of the two groups with requirements.

Methodology: A **Prospective study design with Purposive random sampling** technique was chosen to study the differences existing in the nutritional status of children in both the groups. The nutritional status of the study subjects were assessed using interview schedule – Subjective data, Anthropometric data and 24hrs food recall from the mother of the subjects. Statistical analysis

used in the study includes estimation of numbers, Percentage, Frequency distributions, Mean, Standard deviations and Persons' correlation analysis was carried out using [software package](#) used for [statistical analysis](#) version 17.1.

Observation and discussion: An equal distribution of subjects was observed in both the study groups. All the anthropometric parameters observed in the boys of **Integrated Child Development Services** group were lower than the Pre-school. However, the difference between the two groups in the weight ($p < 0.01$) and Body mass index ($p < 0.01$) were statistically significant. All the anthropometric parameters except height was observed in girls to be lower in the **Integrated Child Development Services** group, and the difference between the two groups in the weight ($p < 0.01$) and Body mass index ($p < 0.05$) were statistically significant.

Conclusion: It can be concluded that the children on **Integrated Child Development Services** program receiving supplement have benefited in terms of protein, iron and vitamin A intake, however as they all belong to low socio economic group, their energy requirement has not been met, hence educating and monitoring on low cost foods items will add on the benefits.

Nutritional status assessment of liver disease patients and parameter predicting the outcome

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Background: Malnutrition is prevalent in patients with liver disease (LD) related to multifactorial causes. Accurate nutritional assessment is a real challenge because many of the traditionally measured parameters of nutritional status vary with severity of liver disease independently of nutritional status.

Aim and objective: Aim of the study is to find out the prevalence of severe malnutrition in hospitalized liver disease patient and the correlation of the same with readmission.

Methods and material: A retrospective randomized study was design to assess the nutritional status of the liver disease patients at the time of admission. 50 patients were analyzed for the study. Height, weight BMI and Albumin was assessed as per the protocol. Nutritional parameters like SGA were studied. Statistical analysis was performed with the help of SPSS.

Results: Liver cirrhosis and CLD were the most common clinical condition in the study. 38% of the total sample were severely malnourished, 30% moderately malnourished and 32% falls in the normal nutritional status group. Average albumin was 3.02 mg/dl, which is below cut off levels. Association of various parameters like SGA and albumin is statistically significant with readmission of the patients ($p < 0.05$).

Conclusion: In country like India where malnutrition is very high in hospitalized patients, SGA is one of the reliable tools for categorizing patients with high risk of mortality at the time of admission. An early nutritional intervention thereafter might help in improving the outcome of such patients and might reduce the economic burden of the individuals.

Key words: Subjective global assessment, Albumin, Liver Disease, Readmission, outcome

Risk of Depression in Elderly Diabetic: Assessment by Geriatric Depression Scale

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Ageing is a natural process which slowly deteriorates functioning of body system. Depression is the fourth – leading cause of disability worldwide according to the WHO. In this study an attempt has been made to assess the depression level in diabetic and non-diabetic subjects. The sample comprised of elderly men aged above 65 years of age (n=30) diabetic and (n=30) non- diabetic were selected from various parts of Patna, Bihar, India. Literature was collected from different sources including books, journal etc. Questionnaire was designed to elicit general information, physical activity and anthropometric data like height, weight, BMI. BMI

results revealed that most of the diabetic subjects fall in obese grade I category whereas none of the non-diabetic fall in obese grade I category. Depression status of both diabetic and non-diabetic elderly was assessed with the help of geriatric depression scale. Diabetic subjects have higher scores suggesting higher depression on geriatric depression scale compared to non-diabetic counterparts. Sedentary life style, change in eating habit, less physical exercises lead to depression in elderly. Results revealed more depression level is seen in diabetic subjects when compared with non-diabetic. There was significant difference between depression score of diabetic and non-diabetic subjects.

Nutritional assessment and macro nutrient intake in 60 adult medical ICU patients

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Introduction: The prevalence of malnutrition at the time of hospitalization has increased over the years, due to development of aggressive medical and surgical treatments for various chronic debilitating diseases. Concomitantly, progress in intensive care has allowed prolonged survival of patients suffering from protracted catabolic disease, such as sustained sepsis and multiple organ dysfunction. Hence, severe malnutrition, slowing down recovery and increasing intensive care unit (ICU) and hospital stay, is often present in such patients.

Objectives:

- To analyze the nutritional status of the patients in ICU.
- To find out the correlation between Protein intake and serum albumin levels in ICU patients.
- To assess the actual nutrient intake Vs Planned nutritional care
- Correlation between calorie intake to no. of ventilated days and length of ICU stay

Methodology: All the 60 patients' data was collected from only medical ICU. Patients every day calorie and protein intake was collected. Biochemical parameters such as Serum albumin

and pre-albumin levels, no. of ventilated days and length of stay in ICU were also captured. Data was collected from the day of ICU admission to the day of discharge from ICU. The statistical analysis used is Karl Pearson's correlation coefficient.

Results: 55% of the patients coming to the ICU are mild-moderately nourished. Effect of Protein intake on serum albumin indicates that there is a positive impact on each other in 88% of the patients. Effect of protein intake on serum prealbumin also indicates there is a positive impact on each other in 86.6% of the patients. 46% of the patients received the 80 percent of the planned calories; however 42% reached between 50-80% due to feed interruptions. As energy deficit increased no. of ventilated days also increased in 63% of the patients showing So, we could say that there is a correlation between no. of ventilated days and calorie intake. In this study, there was no correlation found between calorie intake and length of ICU stay.

Conclusion: The study revealed that patients in the ICU are nutritionally compromised and hence nutritional planning needs to begin on day one and careful follow-up required to ensure adherence to planned nutritional intake. Those with adequate intake showed good correlation to serum albumin, prealbumin and number of days on ventilator.

Cumulative calorie - protein deficit and clinical outcome

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Background & Aim: Calorie-Protein deficit occurs in critically ill patients and has been shown to adversely impact outcome. We sought to audit the magnitude of calorie-protein deficit in our critical care unit (CCU) and evaluate its effect on length of stay (LOS)/mortality.

Methods: A prospective single centre study was conducted in our CCU from January to December 2013. Patients receiving only Enteral Nutrition (EN) for ≥ 7 days in CCU were included. Data on these patients were extracted from the database of all CCU patients. Data including demographics, severity of illness (ie, Acute Physiology and Chronic Health Evaluation (APACHE II) score); baseline nutritional status and nutrition delivery including duration of interruptions, intolerance, and outcomes were recorded. Statistical analysis using Pearson correlation, Linear regression and Chi-Square test were performed.

Measurements & results: Of the 1020 patients in the dataset, 195 met the inclusion criteria. The mean age was 57.0 ± 16.72 y, male/female 64%/36% (range 20-89) and the APACHE II score was 28.7 ± 8.7 . On admission, SGA revealed that

59% were moderately malnourished. The mean EN initiation time was 13.49 ± 22.46 h. The mean prescribed calorie in the first week was 10745 ± 1672.5 while protein was 453.28 ± 71.6 . The mean calorie and protein deficits of the goal were 17.67% and 19.91% respectively. The mean EN interruption in the first week was 9.038 ± 10.34 h. The average LOS in CCU and hospital were 45 ± 14.39 , 30.53 ± 21.56 . Outcomes measured were 51 (26%) deceased and 144 (74%) discharged alive from CCU. Contrary to expectation, there was a strong negative correlation between APACHE and calorie-protein deficit ($r = -0.044$ & -0.045 respectively). Late initiation and prolonged interruption of EN leads to higher calorie-protein deficit ($p < 0.005$). Among age, sex, APACHE, EN initiation and interruption, EN interruption had a higher association with calorie-protein deficit in the linear regression model ($p = 0.000$).

Conclusion: Calorie-Protein deficit is increasingly common and its magnitude is clinically relevant. Further mechanisms have to be identified to address the factors which minimize calorie-protein deficit.

A survey on nutrition care in critically ill

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Background & Aim: Nutritional support (NS) is an essential part of the treatment of the critically-ill patient during their hospital stay to minimize severity of malnutrition. The aim of this survey was to assess the delivery of nutrition and to evaluate the clinical outcome.

Methods: A prospective 24 hour nutrition survey was carried out in 5 critical care units (CCU) of our hospital on November 7, 2013 by 6 clinical dietitians. Details of demographics, biochemical parameters, vitals, high risk medications, Ramsay's score, nutritional status, nutritional delivery, 60th day outcome data and re-admission into hospital were collected.

Results and Discussions: A total of 70 patients (66% male/ 34% female) aged 57.9 ± 13.6 y with a mean body mass index 25.6 ± 4.6 kg/m² were surveyed. On admission, based on subjective global assessment 71% were well-nourished and 29% were moderately malnourished. On survey

day, 56% were on oral nutrition support, 31% was enterally fed and the remaining 13% was nil by mouth. An oral intake of 100% in 9 patients, 50% in 11 and 25% in 7 were observed. The mean prescribed calorie and protein for enterally fed patients were $1590 \pm 216.5/66 \pm 8.8$ and the mean delivered calorie and protein were $1158 \pm 441.54/47.5 \pm 20$. The average length of stay in CCU/hospital was $8.28 \pm 8.42/13.5 \pm 10.92$ d. Moderately malnourished patients had a greater median length of stay in CCU (11 days) compared with well nourished patients (5 days). The rate of discharge in well-nourished group (92%) was higher than the malnourished group (55%). Higher mortality rate of 20% and re-admission (10%) was observed only in the malnourished group.

Conclusion: It is evident that the nutritional status of the patients on admission and the nutritional delivery during their hospitalization had an impact on clinical outcome.

CLINICAL CASE VIGNETS

Drug nutrient interaction in enteral nutrition for Parkinson's disease

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Introduction: Parkinson's disease is believed to be caused by low levels of dopamine in certain parts of the brain. When Syndopa is taken orally, it crosses into the brain through the "blood- brain barrier. The resulting increase in brain dopamine concentrations is believed to improve nerve conduction and assist the movement disorders in Parkinson disease. The protein in the food can interfere with absorption of this medicine into the bloodstream and interferes with transport of this medicine from the blood into the brain, where the medicine actually works.

Objective: To report and discuss a drug-nutrient interaction involving Syndopa and protein in patient suffering from Parkinson's disease.

Case Summary: A 79 years old Lady with Parkinson's disease, diabetic, CVA & hypertensive was admitted to the Intensive care Unit with low grade fever from 5-6 days. The patient was bed ridden from last 2 years with a tracheostomy tube and a PEG tube placed. The Patient was on PEG feeds from last two years where the care was given at home. When the patient was admitted, she was Hyponatremic (98mmol/L) and hypoglycaemic (92mg/dl).

Nutritional Assessment showed as mild moderately malnourished. The PEG tube was

replaced on the third day of admissions and feeds started with 100ml 2nd hourly bolus feeds. The feed timing was planned one hour after the medication of syndopa drug administration as there is a strong review of literature revealing that there is a potential interaction between Syndopa and protein intake. Medication Tab. Syndopa – 125mg was administered 4th Hourly through the PEG tube. By the 5th day the patient received about 1364 Kcal and 60grams Protein and the same was continued till discharge.

Discussion: The drug-nutrient interaction between protein and levodopa in outpatient settings has been reported widely in the literature; Withdrawal or dose reduction of levodopa in patients with Parkinson's Disease has been reported to leads to NMLS (*neuroleptic malignant-like syndrome*), which is potentially fatal. Because dietary protein can decrease the absorption of Syndopa so there should be a gap between the food & drug intake.

Conclusion: Health-care professionals should be aware of the interaction between Syndopa and protein content of enteral nutrition to avoid the occurrence of NMLS (*neuroleptic malignant-like syndrome*) in patients with Parkinson's disease.

Case report on Low Arginine diet in Gyrate Atrophy

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Introduction: Gyrate Atrophy is a rare cause of retinal degeneration. Extreme nearsightedness is common. Vision is usually good throughout childhood but by the third and fourth decades of life it is often 20/200, the equivalent of legal blindness. The retina deteriorates from the periphery to the center causing a progressive narrowing of the field of vision.

Objective: To report a case of Low arginine diet in Gyrate Atrophy.

Case Summary: A 63 year old with Gyrate Atrophy complained of diminished vision and partial blindness. He reported with a medical history of Night blindness since childhood and had diminished vision since 18 months. The patient was 5'6' and weighed 86.2 kg with a BMI of 31. The patient was highly myopic and showed the typical pattern of gyrate atrophy in the fundi with a visual acuity of the Right eye : 6/12, N6 and Left Eye: 6/24, N18. The IOP was 16 and 18 respectively. The patient's dietary intake was assessed by interview method using the food frequency

questionnaire and 24 hour diet recall. A high amount of arginine in chapattis, savouries such as Samosas, and Kachoris were observed to be consumed frequently as a major part of the meal. Other foods such as, groundnut, coconut, refined flour products such as Biscuits, White Bread, and Pooris were prescribed to be avoided.

A follow up after two months showed he followed a strict low arginine, low salt diet and avoided the unhealthy fried items which were also Arginine rich.. The patient now followed an active lifestyle and showed a reduction in the weight of 3 kgs i.e from a pre-counseling weight 86.2 kg to a post-counseling weight 83 kg.

Conclusion: Most researchers believe that low arginine diets are non-curative but do help in delaying the progression of the chorioretinal degeneration. Hence, an arginine restricted diet was prescribed. Gyrate atrophy being a rare ophthalmology case, its relation with restriction of arginine in the diet was less known, this is an attempt to present such a rare case study.

Nutritional intervention in a rare case mix of CABG + gastrectomy

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Background: Coronary artery bypass graft surgery (CABG) is a procedure used to treat coronary artery disease. Coronary artery disease (CAD) is the narrowing of the coronary arteries. Total gastrectomy is a surgical procedure to remove all of the stomach which is often used to treat stomach cancer. The Roux-en-Y anastomosis looks like the [letter Y](#); typically, the two upper limbs of the Y represent the [proximal](#) segment of stomach and the distal small bowel it joins with and the blind end that is surgically divided off, and the lower part

of the Y is formed by the [distal](#) small bowel beyond the anastomosis.

Objectives: To present the nutritional intervention and the nutritional impact on a person who underwent two major surgeries at a time.

Case Summary: A 67 year old man came with the complaints of pain in abdomen and vomiting on and off, on investigation revealed signet ring carcinoma, and he was also a known case of single vessel disease.. He was posted for CABG and

complete gastrectomy on 15th of March 2014. To prepare him for Gastrectomy he was given a high protein oral full liquid diet two days prior to the surgery, which gave about 1400kcal and 50g of protein. He underwent off-pump CABG followed by a total gastrectomy by roux-en-y method. TPN was initiated as oral intake was restricted in view of total gastrectomy till 5th POD which gave up to 915Kcal and 36g of protein. Later oral liquids along with a high protein supplement were initiated and tolerated well for 5days which gave 1300Kcal and 57g of protein. He was discharged on a stable

condition with a high protein liquid diet for 3 weeks which gave about 1700kcal and 93g of protein. His weight was found to be 61kg on the day of discharge. Follow-up was done after a month of his surgery, showed he continued a high protein diet; a 24 hour recall gave about 2000kcal and 80gm of protein and could maintain his weight.

Conclusion: This case is reported to show that a well-planned nutritional intervention can help maintain nutritional status during hospital and later even in simultaneous surgery of CABG and gastrectomy.

Malnutrition in graft versus host disease may lead to Pleural Embolism

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Introduction: Graft-versus-host disease (GVHD) is a common [complication](#) following an [allogenic](#) tissue transplant

Acute GVHD of the [GI tract](#) can result in severe intestinal inflammation, sloughing of the mucosal membrane, severe diarrhea, abdominal pain, nausea, and vomiting.

Nutritional status should be carefully monitored and appropriate intervention started as early as possible.

Case study: A 20 yr old male suffering from hemolytic anemia underwent bone marrow transplant (BMT) and was discharged in stable condition after 21 days. On 26th day of post BMT he presented with GVHD of the gastrointestinal tract 4th stage. Oral intake was very poor as he was not tolerating even liquid diet.

Nutritional assessment: Nutritionally assessed as severely malnourished, Oral intake was not at all tolerated and he could have had only 2-3 feeds of clear liquids since 4-5 days.

Nutritional Planning and Intervention: The nutrition requirement was of 2000kcal and 90gmprotein, based on Harris Benedict Equation.

Parenteral Nutrition: Patient could not tolerate even the semi elemental liquid diet and hence initiated on parenteral nutrition

Enteral nutrition contraindicated –There was serious risk of bleed due to Ryle tube insertion and hence enteral nutrition was contraindicated keeping the patients delicate condition in mind.

Patients had shortness' of breath and shifted to ICU on day 9 of admission and expired on the same day.

Conclusion: This case exhibits the complexity of managing a patient with extensive GVHD and nutrition interventions for clinicians to consider optimizing outcomes.

Nutritional Intervention could have been more aggressive, with initiation of parenteral nutrition on admission. A severely malnourished case on admission, did not further receive appropriate nutrition due to oral non tolerance, enteral contraindication and abrupt and limited usage of parenteral nutrition.

Patient had pleural effusion; this can be correlated with the various studies that malnutrition may lead to pleural effusion due to low oxygen carrying capacity to the blood.

To study and evaluate the nutritional status and management of a hospitalized patient with Maple Syrup Urine Disease (MSUD)

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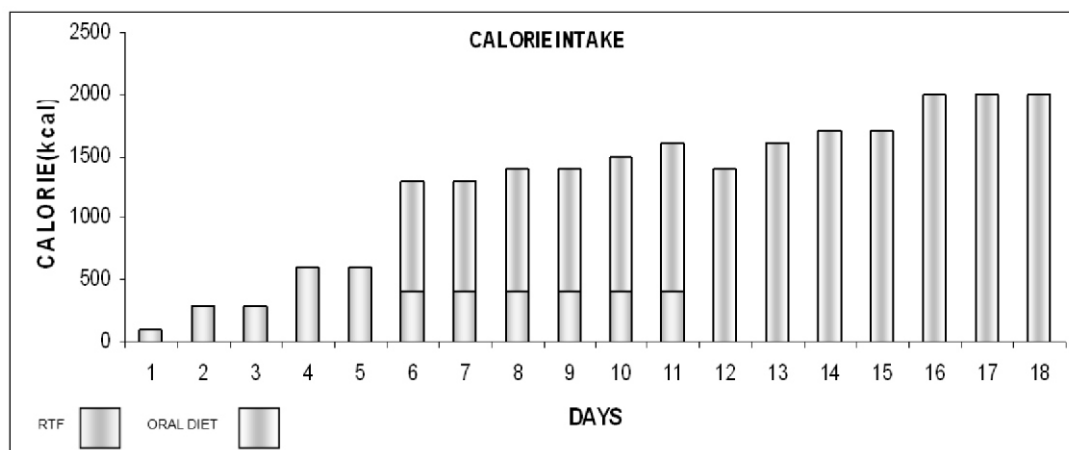
Method: MSUD is caused by a block in the oxidative decarboxylation of the ketoacids of the branched chain amino acids (BCAA) valine, leucine and isoleucine. .There is difficulty in feeding, an absence of the neuro-reflex and the development of irregular, jerky respirations. These are followed by signs of spasticity, opisthotonus and coma.

A 11year old male child known case of MSUD was admitted with recurrent seizure more than 24 episodes per day, lasting for 5-10seconds, regress spontaneously. He had global developmental delay. It was associated with decrease response, decrease food intake, decrease urine output for the last 10days.He was brought for management. At the time of admission to the hospital, his weight was 15kg and height 115 cm. Nutritional score as per Pediatric Nutritional Assessment signified severe malnutrition. Bio chemical test at the time of admission were - Plasma ammonia 102mg/dl, CRP 0.69 and calcium 9mg/dl. MRI brain revealed recent brain stem change and cerebral atrophy with gliosis.

Treatment : BCAA valine leucine and isoleucine should be excluded from diet. Gelatin can be used as a significant source of protein since it contains relatively low quantities of BCAA. Tryptophan and methionine should be added to gelatin. In addition fats, carbohydrate, vitamins, mineral, low protein products made from gluten free flour are used to provide more variety in diet and to make diet nutritionally balanced and adequate. Food like lean meat, poultry, egg, cheese, diary product, milk, fish, pulses and legumes were avoided.

Conclusion: On discharge the patient and family members were counselled regarding diet prescribed.

Results



Treatment : BCAA valine leucine and isoleucine should be excluded from diet. Gelatin can be used as a significant source of protein since it contains relatively low quantities of BCAA.

Case study presentation on continuous nocturnal feeding for management of type 1 glycogen-storage disease (GSD)

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Introduction: Glycogen storage disease is a disorder caused by a deficiency of the enzyme glucose 6 phosphatase in the liver. Nutritional Intervention therapy is based on nutritional support and supportive management to improve growth, bone metabolism and correct dislipidemia. Combination therapy with complex carbohydrate is helpful. Foods that contain galactose and fructose should be limited or avoided because of their conversion to lactate which contributes to development of lactic acidosis. Patients with GSD type 1 depend on exogenous sources of glucose that are administered with frequent feeding or through continuous nocturnal nasogastric infusion of glucose or glucose polymers.

Method: 4 months old male weighing 4.75 kgs was admitted with fever, excessive crying and kussmaul's breath, hypoglycaemia (60mg/dl). USG revealed hepatomegaly with coarse liver texture. CBG showed compensated metabolic acidosis with pH of 7.32, serum carbonate 10mm/Hg, Potassium 2.54 mmol/l, lactate 130.9 mmol/l. Serum ammonia and uric acid was 300mg/dl and 9 mg/dl respectively. Urine dipstick test showed 2++ ketones and negative sugars. LFT showed elevated SGPT and SGOT levels with values of 82 U/l and 503 U/l. Triglycerides were 994 mg/dl. Clinical examination showed doll like faces. IEM panel confirmed GSD type 1. The baby

was treated with IV fluids and combination therapy of cornstarch, glucose and MCT.

Result:

Days	Nutritional Intervention	Nutrition Intake
1	NBM	
2	Rtf @ 30 ml/hr 300kcal, 6 gms protein on continuous feeds	200kcal, 4 gms protein
3	Rtf @ 40 ml/hr 350 kcal, 7 gms protein on continuous feeds	350kcal, 7 gms protein
4	450 kcal and 9 gms protein Oral diet with a combination of cornstarch, salt, glucose, MCT. with 2-3 hrs interval on	400Kcal, 8 gms protein
5, 6	Same	400Kcal, 8 gms protein

Medical Nutrition Therapy: Children with GSD type 1 must consume foods rich in starch at interval of 3-4 hrs. The first morning feed should be administered immediately or 30 mins after nocturnal feeding is discontinued or 4 hrs after the night dose of cornstarch. Cornstarch and eating complex carbohydrate such as whole grain, breads, cereal grains, brown rice and starchy vegetables should be incorporated in the diet.

Conclusion: On discharge, family members were counseled regarding diet prescribed. A regular follow up was done initially at one weeks interval which was followed by fortnight and finally once in every month. Childs anthropometric measurement was considered in all visit to ensure normal growth and development.

OTHER ABSTRACTS AND CLINICAL CASE VIGNETS

Evaluation of metabolic changes post liver transplant

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Several studies have reported an increased incidence of long term complications following liver transplantation which include obesity, hyperlipidaemia, diabetes mellitus, renal dysfunction, hypertension and bone disease. The aim of the present study is to evaluate the metabolic changes over a period of 1 year post liver transplantation. Patients who have undergone liver transplantation at Global hospitals, Hyderabad from January 2011 to January 2013 were studied retrospectively. Patient's age, gender, diagnosis, Child Turcotte Pugh (CTP) score, anthropometric and biochemical parameters pre and post liver transplantation at one, six and 12 months were analyzed. Of the 81 patients followed a significant

increase in BMI occurred at 6 months ($p=0.039$) and a minimal raise was observed by one year. Percentage of sample with BMI above $25\text{kg}/\text{m}^2$ increased from 32.3 pre to 46.1 one year post transplant. The incidence of hypertriglyceridemia and hypercholesterolemia post transplant were 31% and 16% respectively which were significant at 1% level. Ten percent of the sample reported new onset diabetes in the study period. Metabolic changes are seen as early as 6 months post transplantation. In order to reverse the current situation, the best approach should focus on recognizing the problem and at identifying the modifiable risk factors mainly associated with excessive weight gain such as regular eating habits and physical activity.

A study on the prevalence of Overweight and Obesity as influencing factor for cancer on “World Cancer Day”

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Background: The prevalence of obesity has increased over the past 3 decades with a disproportionate growth in excessive weight categories [Body mass Index (BMI) 35.0–39.9 and BMI > 40.0]. Estimates suggest that being overweight [BMI 25 – to less than 30] reduces life expectancy by about three years, and being obese [BMI 30 (or) more] can reduce life expectancy by 10 yrs.

Material and Method: A survey method on a pre-designed, pre-tested structured questionnaire was used. Information regarding socio demographic profile, eating habits and current health status were recorded. Anthropometric data regarding height, weight and BMI was also taken.

Results: The sample size ranged from 30 individuals, out of which 50% were male and 50% were female. The prevalence of obesity among the group was classified under Overweight, Class I, II was increased from 23%, 17% and 10% respectively. Among the influencing factors, a weight change within the past 5 years (63%) seems to have increased due to improper life style.

Conclusions: There was statistically a significant difference noted in the food habits, decreased intake of fruits and vegetables and increased consumption of fast foods and synthetic drinks. In addition, higher stress full jobs and low involvement in physical activities may also have influenced the rate of overweight and obesity.

A study on Nutrition status, behavior and life style management among Coronary Heart Disease patient age 40 - 60 years

Ms. Madhuri*, Ms.Revathi

Introduction: In India, a heart disease effects people of all ages, but are most frequent in middle age and most often cause by atherosclerosis. With urbanization and economic development, a nutritional transition characterized by improvement in socio economic status and increasingly sedentary life style have been observed which has contributed to the increasing prevalence of coronary heart disease among the adult population.

Objectives: The study was exploratory and aimed at assessing the diet and life style patterns, nutritional status and estimating the prevalence of coronary heart disease risk factors among the patients followed by a nutrition education program. Strict adherence to all the prescribed dietary modification and life style changes shows

significant improvement in biochemical parameters.

Methodology: Patients aged 25-60 years from hospital Narayan Hrudayalaya underwent anthropometric measurements (body mass index) Body fat percentage, protein mass, body fat mass skeletal mass etc. A detail interview will be conducted with the help of structured questionnaire. Questionnaire contain four parts, personal details, family history, life style and nutrition questions (frequency questionnaire, 24recall, etc.,)

Conclusion:

In patients with hypertension, the combination of diet control and behavioral modification effectively lower the B.P and may be useful in treating and reducing Coronary heart disease risk factors

Nutritional Adequacy in Patients Receiving Enteral Nutrition in ICU

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Back Ground: Inadequate nutritional intake in critically ill patients can lead to complications resulting in increased mortality and healthcare cost. Several factors limit adequate nutritional intake in intensive care unit patients given enteral nutrition. Critically ill patients receive inadequate nutrition support as a result of under feeding. Malnutrition in intensive care unit (ICU) patients associated with increased mortality and morbidity. The present study aimed to identify the significant factors that influence energy deficit in the ICU.

Method: A prospective, descriptive design was used to study 50 patients receiving enteral nutrition at a target or goal rate. Energy requirement were determined for the entire sample by using Harris-Benedict equation. Energy received via enteral

feeding reason and duration of interruptions in feeding was recorded for 5 consecutive days.

Results: On an average, only 77% of the quantity of energy prescribed was delivered to the patient. Feeding interruptions are caused because of diagnostic or therapeutic procedures. These decreased the intake especially during the first five days of ICU admission.

Conclusions: Efforts to initiate feeding as soon as possible and minimise interruptions to feeding may reduce energy deficits in these vulnerable patients. Reducing unnecessary interruption of feeding circuits is likely to minimise the risk for splash injury and contamination of feeding sets through less manipulation and interruption to enteral nutrition flow.

Influence of pre- pregnancy weight, food habits and lifestyle on gestational diabetes

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Gestational diabetes mellitus (GDM) is a common form of diabetes diagnosed during pregnancy affecting ~ 7.1% of pregnancies each year. GDM increases the risk of complications during pregnancy and delivery for both mother and foetus. Women who have had GDM are seven times more likely to develop type II diabetes than women who have not had GDM in pregnancy. The children born to GDM mothers are likely to be at a greater risk for obesity and type II diabetes. Gestational diabetes mellitus (GDM) is a common complication of pregnancy, affecting 14% of pregnancies each year.

In the present study, the influence of pre-pregnancy weight, dietary habits and physical activity during pregnancy in increasing the risk of Gestational Diabetes was evaluated. Pregnant women in the age group 20 to 39 (n=102) were recruited for the study at 20 weeks by filling up a questionnaire to elicit information about personal data, OGTT, 24hr dietary recall and physical activity levels. The recruited subjects were classified as Controls (n=51) and GDMs (n=51) based on Carpenter coustan criteria (Assiamira Ferrara, september 2002)). Mean BMI of GDM

group.(25.6±3.50) and Control(24.02±3.18). The fact that majority of GDMs had a high pre-pregnancy BMI is higher might have been a contributing factor for the development of GDM. This information was analysed using suitable statistical tools. The calorie intake was low in comparison with the RDA in these women in both Control group and GDMs, fat intake was high mean intake was (67.5gms/day) and (68.58/day) respectively and this includes invisible and visible fat used in cooking and protein intake was low (59.28gms/day) and (57.81gms/day) respectively, which is the most important component for expectant mothers for the growth and development for the fetus. The physical activity levels were limited but the energy expenditure is high when it is compared with the intake. Pregnant women were overweight, sedentary, were involved in activities like watching television, browsing and taking a nap in the afternoon. It is inferred that, being overweight, consuming a high-fat diet and following sedentary lifestyle might have increased the risk of onset of Gestational Diabetes in comparison with those who maintained a normal BMI before pregnancy.

Are We Feeding Right in the ICU?

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Background: Nutritional support is frequently neglected in a busy intensive care unit (ICU). Calorie and protein delivery to critically ill patients remains less than the recommended values. There is a paucity of data on monitoring of ICU nutrition in India and on what are best practices to implement to meet the adequacy of energy and protein.

Objectives: To assess the adequacy of nutritional supports administered to a patient requiring mechanical ventilation in the respiratory ICU of a tertiary-care institute and determine "best achievable" practice relative to evidence-based Critical Care Nutrition Clinical Practice Guidelines and that can be scaled up to all the ICU patients.

Methods: This was a study of a single patient diagnosed with H1N1 swine flu, on mechanical ventilation and was placed on ECMO for 50 days during the respiratory ICU stay of 73 days. Enteral nutritional support was initiated day 1 of admission. The daily calorie and protein prescription was 30 kcal/kg and 1.5 g/kg ideal body weight, respectively, with appropriate adjustments for critical illness (es) and co-morbidities. Anthropometric and laboratory parameters were assessed serially. The amount of calories and protein prescribed and administered were recorded daily, as well as duration and the causes of discontinuation of the feed.

Results: Patient received enteral nutrition, either alone or in combination with parenteral nutrition. The enteral feeds were administered as continuous feeds. Adherence to Clinical Practice

Guideline recommendations was good for some recommendations: use of enteral nutrition in preference to parenteral nutrition, glycemic control, utilization of immunonutrient-enriched enteral formulas, and the presence of a feeding protocol. However, significant practice gaps were identified. During the study period, calorie prescription increased from 48.7% of the recommended value on day 1 to 98.3% on day 10. Protein prescription improved from 61.5% of the recommended value on day 1 to 122.9% on day 10. Calorie delivery increased from 42.4% of the recommended value on day 1 to 84.0% on day 30. Protein delivery improved from 52.1% of the recommended value on day 1 to 97.9% on day 30. It was observed that feeds were interrupted 28 times during the ICU stay for a duration ranging from 3-6hrs. The total energy deficit for 70 days was 19,256kcal and a mean deficit of 275kcal/day. The interrupted feeds during the day were provided again to the patient as nocturnal catch-up feeds increasing the calorie delivery to 93.3% and protein delivery to 109.4% of the recommended value.

Conclusions: Interventions need to be developed and tested. Findings from this study are important as they form the foundation for the development of evidence-based care that is badly needed to eliminate underfeeding in this large vulnerable Indian intensive care unit population.

Key words: *calorie, delivery, intensive care unit, enteral nutrition, prescription, protein.*

Assessment of nutritional status of geriatric people in outpatient clinic

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This study was conducted to assess the nutritional status of geriatric out patients. Respective samples of 178 subjects (randomly selected) were studied out of which 83 were males and 95 were females. In this cross sectional study nutritional status was evaluated by anthropometric measurements was body mass index (BMI) and data collected through the mini nutritional assessment (MNA). Diet was assessed by food frequency questionnaire. A total of 178 patients (female/male) were included into this study. BMI was < 19.00 kg/m² in 53 patients (28 %), 19.00-20.95 kg/m² in 38 patients (21 %), 21.00- 22.95 kg/m² in 60 patients (33%) and above 23 kg/m² in 27 patients (15 %). The MNA results revealed that 15.1 % of subjects were malnourished and 55 % was at risk of malnutrition. When different age group were taken into consideration, 64.6 % of young old, 28.06 % of middle old & 6.8 % of the oldest old. Patients revealed low MNA scores (<23). Malnutrition was more prominent in males (5 %) as compared to the females (10%) of same age group. The prevalence of malnutrition was significant higher in upper age group of geriatric (80 yrs. & above) population. The stable diet was rice meal and vegetables; 24 (13.5

%) are protein containing meal less than once a week. The frequency of eating meat, milk egg and fried foods varied with income and declines with age. Malnutrition is highly prevalent among geriatric outpatient. Mini-nutritional Assessment appears to be a practical and reliable method to assess the nutritional status of elderly people but could not detect yet surplus nutritional problems in elderly. Early identification of malnutrition in the community followed by necessary medical and social interventions could ameliorate the nutritional status of old people and consequently their health and quality of life. Although an adequate food supply is key to the treatment of malnutrition.

Conclusions

The prevalence of malnutrition (by MNA) is significantly higher in upper age group of geriatric (80 years and above) population. Age factor is negatively associated with the nutritional status. Mini Nutritional Assessment (MNA) appears to be a practical and reliable method to assess the nutritional status of elderly people.

Keywords: Nutritional Status, geriatrics, malnutrition, Mini-Nutritional Assessment

Impact of dietary counselling and supplementation on hemodialysis patients

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The study aimed to evaluate the nutritional status of dialysis patients by dietary counseling and nutritional supplementation. A total of 40 subjects were randomly selected and were divided into two groups viz: control and study group comprising of 20 patients each. Subjective global assessment [SGA] was used to assess the nutritional status of the patients. Serum albumin level was assessed initially and at the end of study period. Subjects in the study group were given a high protein supplement. A follow up of two months was taken for each patient. The results revealed 5-10%

weight changes in the both groups of subjects. Complaints of gastrointestinal problems were noted in 60 – 70 % while 40% of subjects in control group complained of vomiting. 20% and 15-20 % of subjects in each group experienced nausea and changes in functional capacity respectively. The serum albumin levels were low (2.66) in control group initially which remained unchanged after two months (2.91). However an improvement in serum albumin levels were noted in test group subjects (initial 3.3) & final (3.7) maintained on high protein supplement and dietary counseling with

Nutritional Intervention in Nissen's Fundoplication Surgery for Gastro esophageal Reflux Disease

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Objective: A case report on Nutritional Intervention in Nissen's Fundoplication Surgery for Gastroesophageal Reflux Disease.

Introduction: Gastro esophageal reflux disease (GERD) is a specific clinical entity defined by the occurrence of gastro esophageal reflux through the lower esophageal sphincter (LES) into the esophagus to cause symptoms, injury to esophageal tissue, or both. The pathophysiology of GERD is complex and not completely understood. An abnormal LES pressure and increased reflux during transient LES relaxations are believed to be key etiologic factors. Treatment options for GERD may be different for each person; Nissen's Fundoplication Surgery is one of the options available.

Case summary: A 36 years old lady presented with history of burning pain in epigastric region, regurgitation of food and choking sensation was admitted to the hospital. Severe GERD with Hiatus Hernia was diagnosed. Patient was apparently all right 1 year and 3 months back. Then she developed epigastric pain which was burning type, progressive, temporarily relieved by medication, patient also developed regurgitation of food since 1

year and 3 months. Since patient has heart burning sensation and nauseatic feeling all the time, she lost appetite, thereby leading to weight lost by 2kgs even after the admission. The patient underwent Nissen's Fundoplication Surgery after two weeks of admission for the treatment of GERD and hiatus hernia. After the surgery, the patient was kept on clear liquids, followed by full liquids and soft bland diet. Other than this the patient was also given a protein supplement. After the surgery has been done and through a tailored diet, the patient felt better. The patient is stable with reduction in symptoms like pain in the abdomen, dysphagia and belching.

Conclusion: Nissen's fundoplication surgery was done as a last resort to treat GERD and hiatus hernia as all the other conventional mode of medical and nutritional therapy had failed to relieve the symptoms. The chronic symptoms were causing her constant pain while eating due to which the patient was tolerating only few liquids, thereby leading her to weight reduction by 2kgs. Slow gradual administration of liquid diet, bland soft semi solid diet post surgery helped her tolerate solids and her intake improved thereafter.

Effect of Papaya leaves - "A Cure for low platelet"

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Background: A female aged 64yrs was recently evaluated in her home town for swelling in the left side of the neck for 1&1/2 months duration and was treated with antibiotics. Since there was no improvement, patient was referred here for further management. Trucut biopsy of the left cervical lymph node was suggestive lymphoma. IHC revealed CD 20, CD79 a and BC 12 positivity Ki67

was 10 – 15 %. Serum LDH was 425 IU /lt. Whole body PET CT was done which showed lymphoma stage 3, HIV I – II (Elisa) tested positive

Procedure: The patient's height was 146cm and she weighed 56kg at the time of admission. The patient was described healthy but with extreme weakness. Subjective global assessment was done, no history of weight changes, dietary intake

and had mild GI dysfunction with (loose stools for 2 days) physical activity was normal for this patient. Based on the laboratory findings the total count was (400), Papaya leaf extract was tried for the patient on day 2 of the admission. A volume of 30ml of the leaf extract was given to the patient on alternate days CBC on day 3 was (3600) there was a gradual increase in the total blood count.

Outcome: Patient is continuing antiviral for retrovirus positivity and is periodically being reviewed by the consultant. CBC showed recovery, patient's condition gradually improved.

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A case report on post twin transplant - lung & heart

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Introduction: Organ transplantation is often the only treatment for end stage organ failure such as lung and heart failure and dietary therapy plays a vital role in the faster recovery of the patient.

Case report: A 67yr old male was admitted with the complaints of high grade fever, dyspnoea, worsening of cough and diagnosed to have interstitial lung disease. He underwent heart and lung transplant as surgical intervention. Nutritional management during post-operative stay in the hospital is discussed in this case study.

Nutritional assessment on admission: Subjective global assessment (SGA) revealed that he was moderately malnourished with the score of 24. In the past six months, he had weight loss of 10-15% and assessment of oral intake showed drastic decline from the nominal range due to gastrointestinal symptoms and breathlessness. His functional capacity was restricted due to breathlessness and was on continuous BIPAP.

Though his weight was normal (due to edema), physical examination revealed that he had signs and symptoms of muscle wasting. Height: 170 cms; Weight: 75 kgs; BMI: 26Kg/m².

Nutritional diagnosis (PESS statement): Moderate malnutrition and inadequate oral intake as related to poor appetite and insufficient physical activity as evidenced by SGA.

Nutrition care plan: Diet Prescribed: High calorie, high protein, diabetic neutropenic ryles tube feeds with oral liquids. Nutrition requirement: 2625calories (35cal/kg body weight (BW)) & 90grams (1.2gms / kgBW)

Nutrition education: Patient and family were educated on post transplant neutropenic diet protocol and importance of nutrition support in clinical outcome

Nutrition monitoring: He was nil by mouth following surgery for 4 days and was initiated on Ryles tube feeds along with trial oral liquids on day.

Special attention was given to the patient on daily basis and diet modifications done as per patient's preference to improve his oral intake. Contrary to expectation, he was on high fat diet since his cholesterol was too less (53mg/dl). Details of improvement in the nutrition support are given below.

Days	Energy (calories)		Protein (g)	
	Prescribed	Provided	Prescribed	Provided
1	2625	940	90	40
2	2625	1324	90	60
3	2625	1325	90	50
4	2625	2100	90	77
5	2625	2412	90	100
6	2625	2162	90	87

Discharge advice: Educated the patient and family on 2000calories, 89g protein, diabetic, Neutropenic Ryles tube feed @ 60ml per hour (6am to 10pm) plus trial oral semi solid diet. Emphasized on Neutropenic diet

Nutritional Intervention in Steven Johnson's Syndrome

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Aim: To report a case of nutrition intervention in drug reaction

Introduction: Stevens - Johnson syndrome (SJS) is a potentially deadly skin disease that usually results from a drug reaction. It ranges from mild skin and mucous membrane lesions to a severe, sometimes fatal systemic illness: toxic epidermal necrosis (TEN). Both forms of the disease can be deadly as well as very painful and distressing. It can affect any age group. It is a rare (one to two per 10,00,00 population per year)and life threatening life reaction. The most commonly drugs associated with SJS and TEN are Anticonvulsants (Phenytoin (Eptoin)).SJS is usually caused by a response to a medicine you have been taking. The response may happen within one week to two months of taking the medicine. SJS may also be caused by infection, vaccinations.

Case summary: A 33-year old gentle man is admitted into the hospital with known diabetic, known alcoholic presented with high grade fever, sore throat, running nose and rashes all over the body and was diagnosed as a drug rash called "Steven Johnson's syndrome". This drug rash was caused due to the intake of an anti-epileptic drug

called "Eptoin" which was taken 20 days back as he had convulsions. On admission, only sodium levels are low and other parameters like Hb, K+,Albumin, Prealbumin and urea were normal. His blood sugars were high (230mg/dl). A food frequency and 24 hrs dietary recall was captured at the time of admission and On day 1, he was advised diabetic soft diet along with the oral full liquids(1300k.cal& 55gms protein)and 8gms extra salt, From the 2nd day to 7th day the intake was decreased to 1000k.cal & 40gms of protein. Due to severe dysphagia, on 8th day he was kept on ryles tube giving around 1872 k.cal & 99gms of protein which continued till day 21 maintaining the nutritional intake. On 21st day swallow test was done which was negative, so he was given a high protein diabetic double soft. He tolerated well and was discharged on the same on day 23 (1700k.cal & 82 gms).

Conclusion: Steven Johnson's syndrome is a condition where nutritional intake is compromised due to severe dysphagia. Therefore nutritional plan and intervention should be initiated early and closely monitored to prevent deterioration in nutritional status.

Management of Pediatric Burn Nutrition

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Background: Burns it is a type of injury to flesh or skin generally caused by heat, chemicals, friction or radiation. Burns is characterized by four types of degree of burns, burn to superficial skin is called as 1st degree burn, burn which penetrates into the underlying layer is called the 2nd degree burn, full thickness burns of the skin – 3rd degree burns and burn to all the deeper tissues is called the 4th degree burn.

Objective: To present a case study of pediatric burnt patient.

Context: Current pediatric burn care has resulted in survival being the expectation for most children. Burn-related injuries are a leading cause of morbidity and mortality in children. In India, pediatric burns account for 17–25% of total burn admissions. Increases in energy expenditure accompany burn injury. The degree of hypermetabolism is generally related to the size of the burn, with burns of approximately 50% body surface expenditure. The body composition of the infant is 70-75% water, in contrast to that of an adult, which is 60-65% water

Case summary: A 6 years old girl presented with 20% scalds of groin and both thighs, 18degree burn over both lower limb upper part of thigh and was kept for further evaluation. On assessment her Nutrition status was normal, anthropometric measurement was - Height: 105cms, Weight: 19kgs. Her biochemical parameters were found to

be in normal range RBS – 155, Creatinine – 0.7, Glucose – 155, Hb – 12.04 and Platelete - 314. For calorie requirement Curreri formula was used (25kcal/kg actual BW + 40kcal/%TBSA burn). Patient presented with alleged history of spillage of hot water and was examined for scalds with blistering over groin. Her home intake was a veg South Indian diet , home diet gave 900kcal and 35g of protein.

Hospital diet planned was soft high protein diet which provides 1000kcal and 40g of protein. She was admitted on 23/March/2014 and discharge on 27/March/2014. On discharge she was given a High Protein diet with Liquids along with high protein supplement which gives 1600Kcal/day Energy and 40g/day Protein. The wound or burn area has healed and her current intake based on telephonic recall after 20 days of discharge was 1400Kcal/day Energy and 40g/day Protein.

Conclusion: Though well nourished, the Childs intake came down due to the accident, how ever after continuous counseling and explanation to child and mother the intake showed improvement and she was discharge with an advice on having an intake of 1600Kcal and 40g protein. A follow up after 1month revealed, the wounds had healed well and the child had continued on 1400kcal/day and 40g protein /day diet along with protein supplement suggested to her.

Post bariatric nutritional follow up

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Introduction: Bariatric surgery is a group of surgeries performed on people who are obese. Weight loss is achieved by reducing the size of the stomach with a [gastric band](#) or through removal of a portion of the stomach or by resecting and re-routing the small intestines to a small stomach pouch ([gastric bypass surgery](#)) The purpose of a post-bariatric diet is to reduce the symptoms associated with gastric bypass surgery, promote long-term satisfaction, and to achieve and maintain a desirable weight.

Case description: A 25 year old female weighing 98kgs and 160cms in height, with no medical history presented with complaints of gradual weight gain. Physical examination showed morbid obesity with BMI of 40. Laboratory findings demonstrated normal Hb and glucose levels but significantly low HDL levels. Her total cholesterol to HDL cholesterol ratio was also high. She underwent laparoscopic vertical sleeve gastrectomy. Post operative period was uneventful and a scan done after two days of the surgery showed no contrast leak. She was discharged three days later on few medications and a post bariatric diet chart. She was advised a low calorie, high protein diet and was recommended to include intense exercises in her routine. She was reluctant

to include any kind of proteins in her diet and was also not adhering strictly to the prescribed diet plan or activity schedule. But as days progressed the symptoms of poor protein intake and weight reduction were evident through hair loss and weakness felt. She also conceived few months after her surgery which led to excessive eating and her weight stopped reducing. The compliance to the prescribed diet thereafter increased significantly and has been better since. She started following the advised diet plan, increased her intake of proteins and also initiated activities in her schedule. She engaged in heavy eating recently and so there is no weight loss in the present month. Overall she managed to lose 21kgs in six months of time and is still being followed up by the dietician.

Conclusion/discussion: This case illustrates the potential benefits of combining a strong diet schedule with proper exercise regimen for a patient who has undergone bariatric surgery. This also depicts the non-adherence of the advised diet plan initially and later compliance of the same when the expected results were not being witnessed. Later inclusion of the proper diet pattern reduced further relapse and helped in progressive and healthy weight loss. The patient felt no discomfort throughout and was happy with the overall result.

Nutritional management of severely malnourished patient with crohn's disease: A Case Report

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Introduction: Crohn's disease is an inflammatory bowel disease which can lead to severe malnutrition. Avoiding refeeding syndrome and underfeeding are the challenges faced when planning nutrition intervention for the severely malnourished.

A Case Report: A 31yr old female was admitted with complaints of abdominal pain, persistent diarrhea and weight loss and diagnosed to have crohn's disease.

Nutritional assessment on admission:

Subjective global assessment (SGA) revealed that she was severely malnourished with the score of 30. Weight loss of 14% and intake of only hypocaloric liquids for 6mon was observed. Height: 145 cms; Weight: 24 kgs; BMI: 11.4Kg/m²; IBW: 45Kgs; Premorbid weight: 43kgs

Nutritional diagnosis (PESS statement): Severe malnutrition as related to psychiatric unusual dietary habits/malabsorption as evidenced by SGA.

Nutrition care plan: Diet Prescribed: Low residue, Low fiber diet; Nutrition requirement: 840calories (35cal/kg*) & 36grams (1.5gms / kg*); *actual body weight (ABW) was used. Calorie and protein goals were set at the lower rate initially and was calculated using ABW to prevent refeeding syndrome. She was initiated on low calorie diet by day 1 of admission and slowly progressed based on tolerance to achieve the nutritional goals. Semi-elemental Oral Nutrition Supplement (ONS) was suggested since the oral intake was inadequate and to meet the nutritional demands according to the low residue restrictions.

Nutrition education: Patient and family were educated on ingestion of pre- and probiotics and modifying the textures of the foods as needed (per patient symptomology)

Nutrition Monitoring: Diet modifications done as per patient's preference to improve her oral intake. She had psychological aversion to non-vegetarian foods due to fear of abdominal pain. Dietitian also played a role in overcoming the aversion to improve oral intake. On admission she was nil by mouth for procedure (OGD) and then started on liquid diet followed by 840calories, 37g of protein, low residue, and low fiber diet along with ONS "Semi elemental".

Days	Energy (calorie)		Proteins (g)	
	Prescribed	Provided	Prescribed	Provided
1	840	600	37	16
2	840	755	37	21
3	1000	1050	40	30
4	1000	1017	40	28
5	1200	1257	45	35
6	1200	1292	45	43

Protocols: on time of admission we started with less calories and less protein met requirement gradually for him. Calories: 35 cal/kg/B.wt * Activity factor * Stress factor / day; Protein: 2 gms/B. wt. /day was advised; Fat: MCT was given. Immune nutrition: Glutamine was added for faster recovery (BID)

Conclusion: Cancer prevalence in India is estimated to be around 2.5 million, with over 8,00,000 new cases and 5, 50,000 deaths occurring each year due to this disease. Hodgkin's lymphoma is characterised by the orderly spread of disease from one lymph node to group. The disease occurrence show two peak: the first in young adult hood 15-35 yrs. And the 2nd in those over 55 years old. Successfully reaching a predefined energy target and protein cumulative over the whole period of mechanical and with protein provision guided by at least 2 gm/kg of preadmission body weight, Immune enhance can improve nutritional status is associated with a decrease in 28 day mortality as much as 50%.