

Changing Spectrum of Diseases in Our Clinical Practice

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There has been a tremendous advancement of medical science in last few decade. We had to keep pace with it complying with modernization and the expenses. Health problem of our country of 160 million in 56sq kilometer is obviously enormous. In Government sector it is at present run by structured organogram from grass root level of community health clinic with graduate medical officer to tertiary level care in academic and service institute by specialists and supspecialists. The private sector is coming up and contributing a lot. Our climate, natural disasters, sociopolitical cultures play a great role in disease pattern we need to handle.

Structure of health services: In government level it starts with

1. Primary health care at

Upazila Health Complex (Sub-District) Population coverage 200, 000/UHC.

Union Health and Family Welfare Centre & Rural Dispensary, Population coverage 20, 000/centre. Community Clinic, Population coverage 6, 000/CC

2. District Level: District Hospital MCWC & Teaching Hospital (Located at some district)

3. Tertiary Level: Teaching Hospital & Specialized Hospital

Our private sector is expanding fast. They are rendering services from district to city level.

General health situation: Bangladesh is the world's worst climate victim. We received UNMDG 4 award as we could achieve the target infant mortality to less than 41 per 1000 in 2010. We could not reach the set target of maternal mortality to less than 75% by 2015. We could reduce maternal mortality from 554 in 1994 to 194 per 100000 live birth by 2010 (a 66% reduction), we could not receive UN MDG 5 award. Full immunization coverage rate for children: >75% (EPI, CES 2009), now reached to 83%. Life expectancy at birth: 67 years (BBS 2008). Global burden disease compare source designate top 10 causes of death 2010. Cancer death ranked top

of the list then, ischemic heart disease become the cause of highest (61%) death. CVD became second (49%), COPD 4th and diabetes mellitus ranked the 5th cause in 2016 census. Among other preterm birth complication came down to 19 which in 2005 was in 9th position. Situation of infectious diseases like diarrhoeal diseases, respiratory tract infection, tuberculosis remains more or less similar. So our health situation is changing and the change is perplexing.

The country now faces double burden of diseases communicable diseases (CD) and non communicable disease (NCD). High burden of CDs was historical in a developing & tropical country like US. NCD, account for 61% of the total disease burden) is rapidly increasing due to social transition, unhealthy dietary habit & rapid urbanization. Globally NCDs accounts for 60% of total disease burden. Four in five deaths from NCDs now occur in low- and middle-income countries (2010).

A survey in 2010 for NCD risk showed 99% had at least one risk factor, 29% had more than 3 risk factors; virtually none was without a risk factor. NCD country profile (Bangladesh) 2014 showed 59% of total deaths are due to non-communicable disease (37% cardiovascular diseases, 11% chronic respiratory diseases 10% cancer, 3% diabetes mellitus).

Rural health problems: Malnutrition, warm infestation, upper respiratory infection, diarrhea, anemia, tuberculosis, malaria, kala-azar, leprosy. These are mostly due to lack of service, poor sanitation and poor housing.

Urban health: Hypertension, Diabetes mellitus, heart diseases, cancer, air pollution, sound pollution, sexually transmitted diseases, Dengue, drug addiction.

Hypertension: In Bangladesh 20% adult and 40-65% elderly suffers from hypertension; it was around 10-20% in last decade. Prevalence of self reported hypertension is 12.5% (male 10.9, female 13.9%). In detection of hypertension white coat hypertension and 24 hour ambulatory detection of hypertension is getting importance. US President Federal D Roosevelt died in

1945. He had cerebral hemorrhage with HTN. Records showed the his blood pressure was around 245/120 in the month he died. His physician described it as normal saying the president was well all along with good health but died all on a sudden. That was the situation of HTN in USA in 1945. Evidence-Based Guideline Committee in 2014 (JNC 8) recommends in the general population aged ≥ 60 years, should initiate pharmacologic treatment to lower blood pressure (BP) at systolic blood pressure (SBP) ≥ 150 mmHg or diastolic blood pressure (DBP) ≥ 90 mmHg.

All evidence based guideline v. Joint national council, JNC. National institute for health and clinical excellence, NICE. European society of cardiology, ESC has defined HTN as

- *Stage 1 Hypertension:* Clinic blood pressure is 140/90 mm Hg or higher and subsequent ambulatory blood pressure monitoring (ABPM) daytime average or home monitoring (HBPM) average blood pressure is 135/85 mm Hg or higher.
- *Stage 2 Hypertension:* Clinic blood pressure is 160/100 mm Hg or higher and subsequent ABPM daytime average HBPM average blood pressure is 150/95 mm Hg or higher.
- *Severe Hypertension:* Clinic systolic blood pressure is 180 mm Hg or higher or clinic diastolic blood pressure is 110 mmHg or higher.

To treat HTN any one of the four groups v. RAAS inhibitor, beta blocker, CCB (calcium channel blocker), diuretic can be used at initiation. Diastolic more than 100 needs a combination at initiation. Uptitration with any combination with highest doses to be done to reach a target of 130/80 mm Hg. ARB should not be used with ACEi in combination.

Diabetes mellitus (DM): Diabetes is an epidemic. In our country one out of 11 in city and one out of 12 in villages have diabetes. One out of 11 of pregnant woman have abnormal blood glucose. We have 5000 children registered to Bangladesh diabetic samity (BADAS) as diabetic. Every year 200 new cases of children diabetic are coming. Around 40 00000 people has been registered to BIRDEM and other affiliated organization of Bangladesh diabetic samity (BADAS). (BADAS) is rendering tremendous services to health sector of the

country through its branches all over the country parallel to the government. Researcher of leaf group (Lancet march 18) has demanded (DM) to be of 5 types instead of previous 2 types. This will also change the type of treatment initiation of DM. Previously for treatment only blood glucose level was taken as parameter. In recent days (American diabetic association, ADA guideline) HbA1C has been taken as parameter. If it is less than 9 one oral drug (OHA) should be prescribed with life style modification. If HbA1C is >9 but <10 two drug should be given at start. When HbA1C > 10 , Blood glucose (16.7mol) >300 mg/dl, patient is markedly symptomatic combination injection therapy should be considered. Previously only American association of clinical endocrinologist considered HbA1C as parameter to start therapy. There has been evolution of knowledge of diabetes management over last few decades. Many new oral hypoglycemic agent. Insulin has undergone a molecular revolution since its discovery by Best and Banting in 1921. Latest one is Degludeg, a true basal with long half life of 25 hours and minimum variability of action profile and lesser episodes of hypoglycemia especially nocturnal hypos. Insulin delivery system has been evolved to flexible pens and tolerable needles. The CSCII (continuous subcutaneous insulin injection) has still remained out of reach of common people. Availability of Glucometer have made home glucose monitoring easier and CGM has made it for busy corporate officials. It is myth now that diabetes is controllable, the control is in hand of those dealing with it. They should not fail to control glucose as in that case glucose will take over the control to cause all complications.

Lipid : The role of LDL in atherosclerosis and consequent vascular diseases is known to all. There are changes of ideas about the risk involved with different types of lipid. NCEP, (national cholesterol education programme expert panel) has its long journey from ATP1 (adult treatment panel) in 1988 to ATP111 to 2013 to guide the treatment strategy of lipids. ACC (American clinical cardiologists), AHA (American heart associations) have consensus opinion now.

Treatment: LDL-c is the target, not TG or HDL-c.

- a) Very high risk group-LDL-c to be reduced to less than 70mg/dl or 50% of base line (high intensity regimen).

- b) In high risk group: To less than 100 mg or 50% of base line
- c) In moderate risk group-less than 115 mg/dl or 25% of base line .HDL cholesterol has no target level but for women >45 mg/dl and for men >40 mg/dl is desirable. Triglyceride level > 500 mg is a target for treatment as it is associated with increased incidences of pancreatitis. When target level of LDL can't be reached with maximum tolerated dose of statin ezetimibe added and if further needed PCSK9 inhibitors and LDL receptor preserver can be added further.

Relation of diet with lipid: if high saturated fat is consumed it would increase LDL cholesterol. If fat is substitute with carbohydrate triglyceride would be raised, HDL and LDL will be reduced. If substituted with monounsaturated fatty acid LDL remain same but HDL will be increased but triglyceride will be reduced. When substituted with polyunsaturated fatty acid LDL and triglyceride will be reduced HDL will be increased. So polyunsaturated fat is desirable for health and as a whole Mediterranean type meals are health friendly.

Obesity: If diabetes is an epidemic obesity is pandemic. In USA >65% of the population is overweight to obese. Worldwide there is obesity has a female preponderance. Two things to be considered whenever dealing with obesity management. a) Metabolic syndrome. whenever you think of obesity you need to think of the metabolic syndrome. So if you wish to treat DM, need to treat hypertension and or hypertriglyceridemia and like this. Like wise if can reduce weight you can get rid of a group of diseases. Whenever BMI is 37 or more life style change and pharmacotherapy in combination needs a bariatric surgery. Now days some form bariatric surgery has open the horizon of treating obesity and metabolic syndrome. Sleeve gastrectomy if we can name one is an easy way to reduce substantial amount of weight in short time. b) Obstructive sleep apnea (OSA) and when it is associated with respiratory failure, the pickwickian syndrome or Obstructive hypoventilation syndrome (OHS). Relief of obstructive symptom may reduce high blood pressure, high blood sugar, Stroke, depression and so on. The easy availability of BiPAP and CPAP machine has made the task easier.

Geriatric medicine: In recent days unit of geriatric medicine has been opened in Both Dhaka Medical

College and Bangobandhu Shaikh Mujib Medical university. In our student life we heard there is unit like geriatric medicine in Internal Medicine, many of our teacher at that time had their residency in those unit. In each chapter of the text book there is box with particular features of diseases in elderly people.

- a) In recent days cognitive changes is a precious topic of discussion in western research of medical science. We know everyone experiences cognitive decline with aging through preclinical, medically significant impairment to dementias. Dementias again may be mild moderate, severe. Cognitive impairment at menopause also a big subject. These are part of neurodegenerative diseases. The life expectancy is increasing, so these impairment are to be recognized to handle those aged people. This says the importance of geriatric medicine in our daily practice.
- b) Osteoporosis: another important aspect of aging. Senile osteoporosis and postmenopausal osteoporosis has occupied the domain of internal medicine, endocrinology, rheumatology, orthopedics, gynecology and of course geriatrics. Knowledge of BMD, FRAX, Bisphosphonate is part and parcel of both under and postgraduate medical studies. Commonest fractures of osteoporosis are colles, collapse vertebrae and fracture neck femur. Nailing and plating have revolutionized their management. This treatment are at our door now.

Rheumatology

1. Introduction of DMARD and biologics have lessened the number of burned out cases.
2. Regenerative (Prolotherapy) therapy for OA: a) Stem cell injection into joints have raise a great hope aspiration. b) PRP; Platelet rich plasma contains several different growth factors and cytokines that stimulate healing of bone and soft tissue.
3. Physical medicine and physiotherapy: Shortwave therapy and Ultrasound therapy is now at door which can be used to relieve pain and inflammation to save our work time.
4. Joint replacement is easy available in our country which have reduced the morbidity with deformed joint

Vitamin D and Calcium : (a new horizon of medicine): One glass of milk can give us daily requirement of 600mg Calcium. We need 800 unit of Vit D daily.

Benefits of Vit D: Elderly people are 11 times prone to develop depression, Vit D can help them reduce this. Vit D reduces the risk of breast cancer by 80%, risk of heart attack in men by 30%, risk of type 1 Diabetes by 66%, risk of fracture by 50% an fibromyalgia by 60% and so on.

Diseases caused by D deficiency:

There are 12 recognised diseases and disabilities caused by Vit D deficiency. 1. osteoporosis-it causes bone weaker as alcium is lacked. 2. Asthma-block inflammation causing protein in lung 3. Heart health-related to risk of hypertension 4. D deficiency is associated with number of inflammatory diseases like rheumatoid arthritis, Lupus, inflammatory bowel diseases etc 5. Cholesterol: without sunexposure D precursore can be converted to cholesterol. 6 Allergies: Children having lower level of vit D prone to have multiple allergies 7. Iinfluenza-there are indications that people with lower vitD prone to have severe form of influenza 8. Depression: receptors of Vit D are present in many areas of brain so it's deficiency is linked to depression 9. Type-2 Diabetes-glucose tolerance is influenced by the effect of Vit D on insulin 10.Periododntal disease and teeth loss is associated with vit D deficiency 11.Rheumatoid arthritis: woman with more vit D has less Rh. Arthritis and also have less severe symptoms of rheumatoid arthritis. 12.75% people with variety of cancer have low Vit D level.

Cancer: Cancer is still unexplored. Situation is like that of Diabetes before discovery of insulin (1921) We need some invention like insulin by someone like Best and Benting. We are still looking for the etiology of cancer. Invention of different modalities of management have made cancer treatment costlier There has been lot of advance in this field. Cancer markers, their scoring (vz phi in prostate cancer) has made the grading easier. Advanced use of MRI, PET CT has made early detection and decision easier. We know by this time curable cancer like Seminoma testis, Choricarcinoma, Advanced, . Hodgkin's lymphoma. Targetted therapy like Imatinib in Chronic Myeloid leukemia, Trustuzumab in Her 2 receptor positive breast cancer, Rutiximab in CD20 positive lymphomas. Stopping cigarette can prevent

80% cancer. 20% lung cancer death can be reduced by screening with low dose CT. 250000 persons suffer from cancer in our country per year .We have the facility to serve only 25000.

Comorbidities: Chronic Obstructive Pulmonary Disease, Ischemic Heart Disease, and stroke. Combined, they were responsible for 18 percent of deaths in 2010

The problem is a patient mostly suffer from multiple disease and it's complication. To manage one is to manage the comorbidities, to reduce the morbidities, Renal failure is the end of many diseases. Many of our patient end up with end stage renal failure who needs renal replacement therapy. All types of dialysis is available in the country. There are people with dialysis years after year, A patient with dialysis unedergoing other major intervention like CABG. There are institute where daily 200 maintenance hemodialysis is performed. Renal transplant is a regular phenomenon of many institute. These things were dream in 70s or even 80s. We have cardiac surgeon who has done alone 2500 open heart surgery. Many interventionist are performing 1000-1500 CAG in a year. We have liver and bone marrow, transplant cocclear implent in the country.

Prevention of Noncommunicable diseases:

Smoking: It is established that ceasation of smoking or no smoking can prevent many cancer. hange of habit of smoking has decreased the incidence of COPD many fold.

Exercise:

Adult: 30 min moderate exercise/day for 5 days week or 25 min vigorous exercise 3 days per week (benefit greater with more exercise).

Children: 60 min everyday. 10 min non coordinated resistance exercise in two sessions a week. Runners has 30% all cause reduction of mortality.

Regular exercise decreases osteoporosis, increases neuromuscular function improving cognitive function. It decreases cardiovascular mortality and morbidity.

Diet: Emotional cleansing dietary habit, detoxification are three pillar of cancer protection and also the prevention of other NCDs. Dietary modification helps antihypertension, antithrombotic therapies and improved lipid profile. Basically three categories of food we take in our menu. Fat and fatty foods supply energy,

Protein and carbohydrate build and repair building blocks like muscle bones. The micronutrients and vitamins increases the immunity and protection from diseases. On principle we should avoid poly unsaturated and transsaturated fats. Increased consumption of fish, vegetable fat (i.e polyunsaturated fat) is desirable. In that respect mediterranean type food is the best one. We should not consume more than 60% carbohydrate in our food.

Infection: The American father of nation George Washington died in 1799 due to epiglottitis. This we all know is an infection with Hemophilus influenzae. He had asphyxia, he went into septicemia shock. This infection and of course death due to it is almost unknown now a days (less than one in 100000). Infectious diseases has now a days gone down due to discover different antimicrobials and introduction of vaccines (immunization). As per ICDDR&B information in 2009 main two infections in our country was Pneumonia and Diarrhoeal diseases.

RTI, Pneumonia: Respiratory infections such as influenza and pneumonia rank second in the top ten causes of death in Bangladesh, with lower respiratory infections alone resulting in seven percent of total deaths in the country. In 2011 about 71% with suspected pneumonia had received appropriate antibiotic in comparison to 21 % in 2001.

Diarrhoea: Diarrhea is a common and often dangerous condition for many in Bangladesh. The dangers are especially true for young children: 78% of Children with diarrhea was taken to health facility and were given ORS. Constraints include in appropriate use of anthelmintics and anti-diarrhoeals.

Antimicrobials: Penicillin was invented in 1945, cephalosporin 1964. There were new derivatives and classes coming on throughout centuries.

Drug resistance: is our problem now. 63% of Escherichia coli and 61% Sulmonella typhi are resistant to quinolones. MRSA (methicillin resistant staphylococcus aureus) is a great threat and so vancomycin resistant strains vs VRE (vancomycin resistant enterococcus). We are to use newer antibiotics like Tazobactam-piperacillin for pseudomonas, Linezolid for VRE and the Tetracycline for others.

Antifungal (Amphotericin): We are to use it as the isolation and detection of sensitivity to fungus is now possible.

Antiviral: Not only antiretrovirals for HIV-AIDs, we are using other antiviral agents because of the increased prevalence of immunocompromised people with Wide use of cancer chemotherapeutics and the immunotherapies in transplant patients.

Immunization:

Children: In Bangladesh there is universal access to immunization and 1.2 million deaths have been prevented from 1987 -2000. Immunization programme in 2011 could cover 83% of all children at one year of age. It was 51% in 1991 and 53% in the year 2000.

Adult: The trend has been changed, now is the era of adult immunization. So provide routinely recommended vaccinations for children and adults with by age.

- Annual vaccination against influenza is recommended for all people ≥ 6 months of age,
- Administer 3-dose series of hepatitis B vaccine to unvaccinated adults
- Human papilloma virus vaccine to adolescent girls and boys.
- age ≥ 65 years, regardless of vaccination history, additional PPSV23 (pneumonia) vaccination is necessary
- Others on demand: Meningococcus B in Hajj like other pilgrims for example. Hemophilus B vaccine for splenectomy cases, Varicella zoster for elderly, immunocompromised. Tetanus in cut injuries and likewise diphtheria as it is for Rhabdomyolysis rehabilitation areas.

Natural disasters & health: We have Cyclones (Morla May 2017, Bhola 1970, Gorky 1991, Sidr 2007, Aila 2009, Roanu 2016). We have torrential monsoon rain especially in southeastern Bangladesh in recent days (June 2017 and later) have claimed many lives. There were renewed mudslides, collapsing hillsides and heavy flooding estimated to have cause further damage. All are associated with infectious disease transmissions, outbreaks but documentation is generally lacking.

Our Climate and Our Health Risks:

Melioidosis: is only recently (2013) has been well recognized by our clinicians. It is prevailing in this zone since the discovery in 1961. We have been recognizes as the 18th endemic country after culture of the organism in our soil (Gazipur district) in the year 2013. Only 41 cases have so far been recognized in our country of 16 million population, so we need vigorous surveillance and awareness by the practicing clinicians.

Viral infections: like Japanese encephalitis, Nipah, Bird flu, SARS, Swine flu could raise concern but not to the extent like Dengue and Chikungunya. In 2009 there was an outbreak of swine flu which was later got the nomenclature Pandemic Influenza A (2009). It raised public concern like Spanish flu and Asian flu but seems no longer a threat to public health.

Dengue : Recognised outbreak of dengue occurred in 2000. It is a monsoon diseases as it's out break highly correspond to the period of heavy rain from month of July to October. Initial years it was panic now we have become adopted to it like other communicable diseases. Death rate has been reduced in recent year due to increased awareness of public and physicians.

Chikungunya outbreak first was in 2016, it has given a perception that mortality is negligible in it though long time severe pain is big trouble to physician and sufferer as a differential diagnoses of inflammatory musculo-skeletal diseases.

Malaria: In 2008, there were 84, 000 malaria patients which had gone down to 26, 000 by 2013. Deaths due to malaria were 154 in 2008 while it came down to 74 in 2013. Our target was to have 0 death for malaria in 2020. WHO declared that malaria could not be eradicated and subsequently a new strategy for malaria control was launched. Strategy now is zero indigenous transmission and zero death. Threat from malaria is the resistant strain and newer areas of transmission due to global warming. The 2015 Nobel prize given to the Chinese physician for work to the discovery of artemisinin as we know combination with artesunate is now main armament of treatment against resistant malaria.

Kala-azar: The target of kala-azar elimination programme is to reduce annual incidence rate to <1/10, 000 population in all endemic upazila (sub-district) by 2015. Kala-azar cases are reported from 45 districts (130 upazila) and an estimated 51.2 million populations are in endemic areas

Diagnosis and treatment of Post-Kala-azar Dermal Leishmaniasis (PKDL) is a challenge. Relapse, recurrent and resistance cases are problem in our clinical practice.

Change of kala azar treatment strategy: Amphotericin B first line, Miltefosine second line,

stibogluconate is later option. we need different (difficult) combination of treatment in difficult cases

Filariasis: Target of Elimination of Lymphatic Filariasis is to eliminate lymphatic filariasis from the country by 2015. Main strategies are: Mass Drug Administration (MDA DEC+Albendazole) once a year; The elimination programme was expected to achieve target by 2015. All 32 districts was covered by 5 round MDA by 2015. In other countries ivermectin was used in MDA to eliminate the tissue dwelling nematodes like filarial and onchocerciasis (which causes blindness). Ivermectin was joint claimer of 2015 nobel prize of Medicine and Physiology.

Prevention should be possible for vector born diseases. Problem is the emergence of lervicidal resistant strain of these vectors. Newer strategies of mass scale mosquito elimination is not getting popularity neither becoming successful. Vaccine has been tried but remaining an elusive approach. There is no vaccine for Chikungunya. The first dengue vaccine Dengavaxia (CYD-TDV), a live recombinant tetravalent vaccine has been evaluated as a three dose series in phase III clinical trials and first registered in Mexico in December 2015

Environment and our health: Soil transmitted helminth infection , water born diseases are our problem due to living habits. Open space defaecation, lack of hand washing habit after defaecation is spreading many water borne diseases. Having hand washed before meal or serving meal and taking bottled water can prevent this, it needs mass awareness. Bangladesh has 75% of population access to safe drinking water. 14% rural people have sanitary latrine (2011). Insecticides Pesticides, formalin & insecticides has become part of our daily life. It is of routine use by vendor and businessman in vegetable, food and fish market. Currently over 4, 000 cases of arsenicosis have been diagnosed and many more individuals are considered at risk. Dangerous level of arsenic level was first mentioned in 1984. Anthrax an infection by spore bearing organism occurred in 2010 to 2012 in some part of the country. Still we are in threat of it and yet unexplored diseases due to our environment.

River pollution, drying up of river, unplanned throwing of dirt and working place, women insult/acid throwing

has become part of our regular life now a days. Air pollution by combustion in brick field, industries & dirty/dusty highways has become life threatening factors. One in eight dies from air pollution.

The majority of the deaths associated with air pollution were due to heart disease, stroke, chronic obstructive pulmonary disease and lung cancer

TB: 2016 annual report showed 86% success rate in TB treatment and control project.

MDR TB is an emerging threat in Bangladesh. According to WHO estimates, MDR-TB rate among all newly diagnosed cases is estimated at 1.4%, and among previously treated cases at 22%. Doctors in Bangladesh have found a much shorter and more efficient method of treating multi-drug-resistant strains using a method now named the Bangladesh Regimen. This regimen results in almost 88 percent cured compared to the usual 11 to 79 percent. The availability of Xenexpert/RIF and MTB DNA PCR has widened the horizon of diagnosis specially drug resistant Tuberculosis.

Chronic liver diseases: HBV, HCV, NAFL-NASH

Elimination Hepatitis B-is possible by adopting safe sex, using (cheaper, easy available) oral drug, and Immunization, elimination of (HCV 1988)-also practical by screening blood trasfusion, oral drug, (*approved by FDA in 2013 of simeprevir and sofosbuvir*).

NASH/Metabolic syndrome: a newer entity of clinical spectrum of metabolic syndrome. Successful outcome depends on the management of metabolic disease, it is a new challenge. Fibroscan is a good alternative to liver biopsy and widely acceptable tool for diagnosis and staging of it.

Emergency medicine.

Bangbandhu Sheikh Mujibmedical University (BSMMU) is hopefully looking for a faculty to open in this name. Emergency medicine (EM), EM is well established branch of the medicine all over the globe. It is not only for the accident and head injury cases. Primary PCI, cranial intervention of clot bluster, clipping/coiling of diferent types of CVD are available but done under facilitis of different supraspecialities.

EVL: Endoscopic variceal ligation has become life saving in hematemesis, melaena cases of portal hypertension, an easy procedure widely available and may be made available more. Like wise radiofrequency (RFT) ablation of tumors are done in the country.

Life saving maneuver: Sustained low efficacy dialysis, (SLED)/CRRT (continuous renal replace therapy (TPE-therapeutic plasma exchange))/CVVH (continuous venovenous hemofiltration) for very very vulnerable cases are done routinely in many centres.

EPS/radiofrequency ablation: there is a department (with a professor designated) of electrophysiological study in national institute of cardiovascular diseases; some private institutes are equipped with required instrument and ablation are done in difficult cases.

EBB: Endobronchial brachy therapy like RFT is also done here.

Nail placing, plating in fracture and early ambulation is common practice now a days same is with micro dissection in PLID. Ozone/oxygen disc nucleolysis is being practised in PLID

CCM, critical care medicine: Was a dream in 70'80's. Now virtually all established clinics and hospital has critical care medicine setting with facilities for, critical care, intensive care high dependency units and special SCABU. There is an MD course with 11 entry in each year in BSMMU.

Atrial fibrillation/Arrhythmias/stroke prevention:

Misconception of stroke protection by aspirin gone and Novel oral anticoagulants (NOAC), namely Rivaroxaban, dabigatran, apixabone are used for nonvalvular atrial fibrillation at the start.

Heart failure: Heart failure with preserved ejection fraction has opened up the field of research in to characteristic, pathophysiology and treatment of heart Failure.. concentric LVH (where EF preserved) can be prevented from eccentric heart failure (where EF is reduced in different grades) by treating the modifiable factors like obesity, HTN.

Summary: The country faces double burden of diseases –both CDs & NCDs. High burden of CDs was historical in a developing & tropical country like Bangladesh . We

have Melioidosis, anthrax & yet unrevealed diseases. NCD(NCDs account for 61% of the total disease burden) is rapidly increasing due to social transition, unhealthy dietary habit & rapid urbanization. All should be acquainted with recent methods of management. Current surveillance system is to be implemented appropriately.

Conclusion:

Changes of disease pattern should be adopted by treating physicians. Awareness development is the responsibility

of whole nation. Good news is we have different professional bodies. We have our own guideline of treatment in light of international and local requirement, compiled by their relentless effort .

(El-Saharty S, Ahsan KZ, Koehlmoos TLP, Engelgau MM. Tackling Noncommunicable Diseases in Bangladesh: Now is the Time. Washington DC: WorldBank Publications, 2013:1-3).

[Adopted from Gold medal memorial oration(N Islam memorial oration) in APB, association of physicians of Bangladesh 2018 annual scientific sessions].