

Sri Lanka Medical Association; Presidential Address 2009
**CHALLENGE OF NON – COMMUNICABLE EPIDEMIC
CHRONIC DISEASE IN SOCIETY**
Vidyajyothi Professor Rezvi Sheriff

I will briefly outline my programme of work for this year. In addition to having an exciting scientific, programme at the academic sessions in March 09 other activities contributing to CPD or continuous professional development at Wijerama House and with outstation clinical societies will fill the calendar. Professor Sir Roy Calne world-renowned Professor of Surgery at the Cambridge University has agreed to be our Chief Guest. Professor Gavin Becker President of the Asia Pacific Society of Nephrology and the Professor of Nephrology at Melbourne University will be a guest of honor. I plan to focus on the Chronic Kidney Disease Epidemic of unknown etiology in the different provinces of our country as a special theme. As a Councilor of the International Society of Nephrology I have been successful in enthusing a team of world leaders in kidney disease to come as a delegation from the COMGAN which is the Commission for the Global Advancement of Nephrology to have a joint meeting with the Ministry of Health, WHO team which is looking at the chronic kidney disease epidemic in the north western, north central and uva provinces of Sri Lanka. In addition to this renal focus many other areas of importance to doctors and specialists is planned.

I wish to have activities to enhance medical professionalism, ethical practice of medicine, patient centered approach and encouraging team effort between health professionals and to strengthen the necessary harmony between doctors and other allied health staff. A contribution to the public would be the creation of a tri-lingual compendium of SLMA vetted and approved patient information literature leaflets to aid patient and public understanding of diseases and procedures in medical care distributed to hospitals and practices to involve patients & relatives to understand illness. We plan to integrate our activities towards creating awareness, in the profession and in the public of the rising epidemic of chronic disease in society.

The SLMA address today will focus the Challenge of Non-Communicable Epidemic Chronic Disease in Society. I am acutely aware that amongst the audience are doctors and a significant number of non-doctors. In order to reach out to all of you I shall make this presentation as simple as possible.

The WHO has listed the Regional Health Situation in 2007. The challenges are identified in 5 domains viz Health Systems, Healthy Life course, Healthy Environments, Tackling NCDs and eliminating Communicable diseases. I have chosen to talk on some aspects of Non Communicable Diseases and the challenges this poses to the Sri Lankan society drawing on the global experiences. I have been a doctor from 1971. I have personally witnessed great changes in the type of illness we have treated from the time we were students viz in the last 40 years. This is referred to as Epidemiological Transition.

The world has faced the challenges posed by communicable diseases for centuries. This list is from the latest Notifiable disease released by our Epidemiology Unit website in Sri Lanka / SL. Some illnesses such as Small Pox are now eradicated and off the list. The WHO list of non-communicable disease list out CVD, Stroke, Cancer, Diabetes, COPD, Mental Disease & Trauma amongst a large array of other conditions. The listed ones mentioned are the bigger problems the society has to grapple with. This is true for Sri Lanka as well.

The word Epidemic is commonly used for acute infectious diseases. The WHO uses the word even in the chronic disease setting largely because of the enormity of the numbers at risk.

The Annual Health Bulletin of our Ministry of Health reports morbidity of inpatients in state hospitals. Remember we do not have a statistic on morbidity in the community. The yellow highlights pick out the significant problem chronic disease and the red ones the acute illnesses, which are major problems with respect to severity and fatality.

The leading cause of mortality in 2006 collected and arranged by the medical statistics unit of the MOH nearly reflects morbidity patterns. The difference between communicable and non-communicable illness is tabulated in this slide to clarify the definition of the subject I have chosen.

Non Communicable Diseases accounts for 77% of the global mortality and 85% of the global burden of

disease from low and middle income countries. The importance of the topic I have chosen is further highlighted again in this WHO document. The infectious diseases are diminishing and chronic non-infectious or NCD is increasing in almost all countries.

In countries like Sri Lanka, we have a double burden of disease as we still have a diminishing but sizeable communicable disease burden in addition to the increasing epidemic of chronic disease burden.

In numbers, we can report that in 2005, of the projected 58 million deaths amongst 6 billion people chronic disease accounts for 35 million. Chronic disease thus accounts for double the number of deaths from HIV, TB, Malaria, Maternal & Perinatal causes nutritional deficiencies combined. Many factors are responsible for this shift of focus. I have gently introduced the concepts of epidemiological transitions but there are other factors responsible for this change as listed in this slide.

The changes in the last 50 yrs on societal health are attributable to many factors inclusive of the well recognized Demographic and Epidemiologic Transitions. Factors such as Industrialization, urbanization, westernization, changes in dietary styles, sedentary life styles, stress, improving infant and child survival, life expectancy, technological advances in diagnosis and treatment, health seeking behavior, cost of health care, expectations of outcome, access to health information, easy communication, litigation have all contributed in some measure to this change.

Chronic ill health in society, which presents to the doctor, is smaller in number than the larger numbers undiagnosed. This iceberg phenomenon puts health-screening packages a useful tool in tackling this epidemic. We may need to mobilize the patient and family who present with symptomatic illness to volunteer to screen those around them to help the cause as health workers alone may be insufficient to identify all at risk

I will not have time to talk extensively on the 7 listed illnesses in our society. I will concentrate to an extent on Diabetes, Hypertension and chronic kidney disease as they are close to my heart and only mention others to give a broad overview of the subject.

Firstly – Diabetes in an individual is detected by a blood test FBS >7mmol/L (12h fast) is the starting point. Other prediabetic conditions are tabulated as IGT (Impaired Glucose Tolerance) or IFG (Impaired Fasting Glucose).

We must take note that IDF Global estimates nearly 250 million people are affected with a prevalence rate of 6.6%. This number will be closer to 400 million by 2025. South Asia will be a lead region for this malady by then. India will be having most numbers of Diabetics in this world

Many doctors have studied the diabetic scenario in Sri Lanka from the 1990s. These studies although small shall have been showing a increasing trend with time and we now have a prevalence rate of 10% in 2008. In Sri Lanka, too we find the prevalence as the rise and earlier onset of diabetes in 20s & 30s. Prasad Katulanda's studies in my department at Faculty of Medicine Colombo linked with Oxdem – The Oxford Dept of Diabetics & Endocrine Medicine showed diabetes prevalence of 10.3% and 36% of them did not know they had diabetes when diagnosed. This shows the value of screening programmes to detect diabetes in the community.

The alarming feature is the increasing tendency for diabetes to be detected earlier in young adults.

If we detect early, and the patients comply, they can minimize the onset and progress of the dreadful complications of diabetes. Diabetic nephropathy / retinopathy are serious as Sri Lanka is woefully short of Retinal surgeons and Nephrologists. Many suffer in silence with sexual dysfunction. Treating patients at these late stages is very expensive and will account for need for large funding allocations. In these difficult times, many patients suffer or die disappointed due to shortage of facilities.

Thus, Diabetes is undoubtedly a serious malady accounting for a big portion of epidemic chronic disease burden in society. It is a major risk factor in Hypertension and Cardio vascular diseases and contributes to mortality. It is controllable, complications preventable and we can reduce the misery if planned effective and timely preventive measures are put in place.

A major effort by the SLMA in the form of the Diabetes Prevention Task Force headed by Prof Chandrika Wijertane & Prof Ravindra Fernando Chairman Non communicable disease Committee have been very active in 2008 to increase awareness in society, amongst doctors, patients, school teachers, school children etc. The National Diabetic Centre is a model for the country but we need more Diabetic Centers in Provinces, Hospitals & the Private Sector too should be encouraged and helped to set up organized specialist led teams of doctors, nurses, dietician, eye care, foot care personnel linked to such centers to serve the public. This is the way forward in giving quality clinical care. Case detection / screening; clinical care teams and other population based strategies especially to reduce risk factors contributing to morbidity can be tackled at multiple levels led by government using all help available. NGOs International Agencies, Private Sector and Voluntary Patient Groups.

Let us examine hypertension as our next chronic illness in society.

Like diabetes, one has to actually measure blood pressure under standard conditions and repeatedly before, you can label one hypertensive. I founded the Hypertension Society of Sri Lanka and one of the first tasks we had was to have our own guideline, which we distributed to hospitals and doctors countrywide. We used the JNC6 and WHO guidelines as guides to adapt it based on Sri Lankan available studies. This was a joint activity with SLMA/CCP/CCCP/SLPA and you can see their definition in this table. Low, medium & high-risk persons were identified and management suggested.

Hypertension like diabetes is increasing worldwide and in Sri Lanka. The more recent JNC7 has introduced the concept of PRE HYPERTENSION. This parallels the PREDIABETES and PRE OBESE where the goal posts are shifting towards detecting even earlier onset of disease before one sees established disease. We are warned that IGT, IFG can be prediabetic i.e. will develop Diabetes soon – the same strategies will therefore apply with respect to prevention. Thus, the population at risk will be greater than the 286 million we talked about.

In Hypertension too our cut off was 140/90 and now JNC7 highlights ‘prehypertension’. 90% of 55 year olds BP <140/90 developed Hypertension in their lifetime. CV risk doubled for IHD & Stroke with doubling incidence with Systolic 20 / Diastolic 10 increment over 115/75.

Thus, we need to apply our control strategies from 120/80 upwards. This then increases the global target risk population even more than 972 million.

Maldives Islands has NCD clinics in its national network of hospitals, and as part of an integrated Human Development Programme gave the necessary leadership to develop management strategies. Maldives Islands uses the JNC7 in their Standard Treatment Protocols. I was associated with their Integrated Human Development project with Drs Reggie Perera. RananEliya and Shanthi Dalpatadu in these efforts. These two illnesses together is undoubtedly of major public health importance to Sri Lanka and SLMA will support all strategies through its committees and educational programmes.

The National Prevalence Survey; Wijewardene, Mohideen and others in 2005 looked at a community sample of 6047 individuals. The prevalence is approx 20%. You will recall Diabetes is - 10%. Therefore, you can understand why Hypertension is considered a bigger problem and its dreaded complication – the stroke can be disabling and even a fatal event. The iceberg effect is very worrying as hypertension can be symptom less unless detected early on screening. In addition, strokes prevented.

Diabetes & Hypertension are silent killers in society and we should be more careful to protect ourselves from them than from unmarked white vans! The worldwide death rates has risen from 5.8% to 7.2% in 10 years since 1990. The next few slide show local trends in hospital mortality/morbidity in the last two decades.

In spite of detections of HPT and taking medication. This global study on control rate shows the pathetic global picture. Less than 30% of the treated population is treated adequately.

As Sri Lankan figures were not on this map as there was no data, I undertook to organize a study with Dr Ruwana Ekanayake, Prof Rifdy Mohideen & Dr Upali Illanagasekara. Our adequacy on control rate was 22% close to USA and better than UK and India.

However, by increasing awareness of Doctors & Patients we must improve this rate to reduce morbidity. In the case of Diabetics & Proteinurics, we need to get the blood pressure to even lower levels of control for Reno protection. [Before I leave Hypertension, the National Prevalence Survey deserves some mention]

The National Prevalence Survey data are shown in the next few slides. Prevalence in previous studies in Sri Lanka; smaller studies but provide useful information on smaller cohorts. One of note by Prof Rifdy Mohideen current President of the Hypertension Society of Sri Lanka in the Galle Fort shows an unusually large 35% prevalence. It is a small study and I would hazard a possible? Explanation.

I suggest that the urbanized Muslim females living in this area with risk factors such as high prevalence of obesity, metabolic syndrome, diabetes, high salt intake may account for this difference. This highlights the need for studies in ethnic and other social groups where food habits and lifestyles may need special attention

Our studies by Katulanda et al at the Colombo Faculty in 2006 shows a higher prevalence 27.1 and 27.5% in males and females in properly constituted samples in 7 provinces on 4532 subjects, This is approx 7% higher than the Wijewardene et al National Prevalence Survey published in 2005..

The National Prevalence Survey showed that prehypertensives are nearly 30% whilst hypertension is 20%. Thus, nearly half the adults walking around are at risk of hypertension and need to be told to reduce weight, eat less salt, and reduce stress in addition to modifying other risk factors. Alcohol & cigarette smoking is significantly associated with the prevalence of hypertension.

I will make some passing reference now about Obesity which is another condition contributing to chronic ill health. Globally Obesity was defined as BMI over 30Kg/M². Here again we are witnessing evidence based decisions to change the goal posts. Asians are recommended lower cut offs Preobese > 23 Kg/m² & Obese > 27.5 Kg Kg/m² for Asians is now the proposed new cutoff with reduced waist circumference (Ethnic specific) of male >90cm and female of >80cm. these new cut off marks for Asians increase the numbers of persons at risk.

Generalized obesity is ~10% in the Katulanda Study Population database and his unpublished data on Central Obesity in this population is nearly 30% prevalence. It has been hitherto not been recognized to be so high in SL. In fact, urban females and rural females overshadow their male counterparts in their waist circumference. In Sri Lanka as you, drive down from the plantation areas through rural areas to urban areas towards Colombo the “pot belly” indicating the treacherous visceral fat increases that too in females if you do not look at the pregnant ones. This parallels the prevalence in Metabolic Syndrome in which waist circumference is a pivotal finding.

Note the young ones enjoying themselves near a pool I hope they also exercise and swim prior to walloping double burgers at Fast Food outlets but they are all clearly obese and have gynaecomastia. Paediatric Obesity is also an issue growing in Sri Lanka, which Dr Pujitha Wickremasinghe recently highlighted. Therefore, we need to educate at school level children, parents, and schoolteachers if we do not plan to fit large broad seats in our already overcrowded buses in the future.

This brings me to my next subject of Metabolic Syndrome.

The argument whether this Metabolic Syndrome is a disease entity or nor rages on. I support the learned arguments that it is to be considered a disease entity with many interacting factors as it helps in clinical care and in public health risk factor intervention and is a more inclusive approach. I follow the IDF criteria and the Metabolic syndrome is more useful in CVD risk reduction strategies.

Central obesity is pivotal in its diagnosis of the clusters of factors, which pose as CVD risks. In addition Dysglycaemia, reduced HDL cholesterol, elevated triglycerides, hypertension, etc and other associated factors..

The prevalence of metabolic syndrome in SL is 18.7% from the studies and as expected females predominate at 23.6% prevalence. In Sri Lanka Insulin resistance plays a significant role in Metabolic Syndrome. Plantation sector 5.9%, Rural Sector 17.10% and Urban Sector 28.7% respectively is the prevalence of

Metabolic Syndrome

Global figures on Cancer shows 6 million deaths and tobacco as a main player. Early detection and avoiding carcinogens is the answer. This poster captured on my cell phone is the crowded SJP medical faculty exhibition last week informs the public of cancer by organ statistics in the country. This kind of awareness exercise in a literate population continually and repeatedly helps people seeking screening programmes. We need more organized screening efforts in every province in the country in the government and private sectors.

The importance of mentioning CVD in this presentation is to show integration of all the risk factors we spoke of in Hypertension, Diabetes, Obesity and Metabolic Syndrome. You can see how very important many low cost measures can be put into operation to control, avoid or treat to reduce the impact of chronic disease.

I cannot but overemphasize the importance of the take home message to our population to

- Stop smoking,
- Reduce salt intake
- Reduce sugar intake
- Reduce stress level
- Reduce weight
- Modify diet ... reduce carbohydrate & saturated fats
- Increase exercise
- Reduce Alcohol intake

These are low cost measures but effective and it is important to apply social marketing techniques if we are to win this WAR ON NCD like the WAR ON TERROR going on all around us.

The final part of my address is on Chronic Kidney Disease. Although on our list of Hospital mortality it does not appear in the top 10, the Hypertension associated contributes to deaths recorded as cardiovascular and cerebrovascular deaths. It is now being recognized as an additional risk factor for CVD. Nephrology is my field of specialty and I have a long dialysis & transplant experience in this country. I can unreservedly say that Diabetes & Hypertension causing ESRF accounts for over 90% of our uraemics entering Chronic Dialysis programmes today. 30 years ago in 1978 it was less than 30% taken together.

The increasing trends of CKD in the world in South Asia and in Sri Lanka are now noticeable as increasing numbers are seeking dialysis & transplantation. The sheer high cost of care has made the Ministry of Health take notice of renal disease in Sri Lanka.

This slide lists acute and chronic kidney diseases in Sri Lankan Community. A new entity of Chronic Kidney Disease of Unknown cause was emerging.. In the last 10 years, practicing physicians and nephrologists have noticed the increasing morbidity and mortality attributable to CKD. No evidence of the cause was evident in the History, Examination or Investigation. This illness was first noticed in Anuradhapura in the NWP and is now seen in NCP and Uva. WHO has named it CKDu. The Ministry of Health's first reaction was to setup special renal clinics in several areas. Doctors from Kandy & University of Peradeniya worked in these clinics. In some areas like Padaviya CKDu was more prevalent. These areas also had CKD associated with Diabetes, Hypertension & Urological disease but the CKDu was clearly different. It was reported that Anuradhapura medical ward mortality pattern was changing fast.

It was a disease starting in the young adult and slowly progressing to ESRF in 10-15 years. There was little anemia or HPT. Kidneys were stunted on Ultrasound Scan. Chronic Interstitial Nephritis was the predominant pathology in the few cases renal biopsy was undertaken Dr Tilak Abeysekare and Dr Nimmi Athureliya gave leadership to these early studies and served to create the needed awareness..

It is now accepted as a Public Health Problem and available evidence suggests an exposure to environment toxins.

Many researchers based in the Hill capital have suggested possible etiological agents based on their studies. Examples are...

Excess fluoride in water
Organophosphate contamination

Heavy metal Cadmium / Aluminium
Contaminants in fertilizer

Enthusiastic scientists to find a quick solution to a growing problem affecting largely poor farmers with much media hype have done these studies. Some were convinced that their theory is confirmed by their results. The WHO Team felt a more organized study needed to be undertaken.

It was evident that the studies lacked direction towards finding a cause. We must commend the leadership given by the MOH and WHO who got all stakeholders together to work out a phased out plan with promise of adequate funding. The WHO local, regional and Geneva offices all joined the Hon Ministers call and the Epidemiology Unit is giving operational leadership. This National Research Programme for CKDu is now under scientific leadership of Prof Shanti Mendis. 9 Expert committees looking at house to house survey, GIS mapping, histology & multi-element studies in human and animals./plants, Sociology/Dietary Studies , Analysis of water sources of suspected substrates etc. There is now a master plan.

I have chaired many research presentations in this effort and I feel confident that the programme is progressing well. This is a map produced by Dr Janakan and Dr Paba of the Epidemiology Unit showing registered CKD cases. You can see that Padaviya and Medawachchiya are hot spots. However, this is preliminary. Those of us working in this project internationally have now agreed a case definition acceptable. I have given you a brief idea of what is going on towards solving this problem, which the SLMA is also deeply interested as it is a National Public Health problem. I am sure given a year the Team will report on their findings and the way forwards.

Another important issue is that of accurately estimating GFR in mls/min. Collecting 24 hour Creatinine Clearance from urine & blood is not practical and has many errors. The MDRD equation calculating GFR is the commonly used method in the field. Other methods such as Inulin clearance, radiolabelled Chromium EDTA clearance, Bioimpedence measurement are not easy enough and need equipment and technical help.

Thus, MDRD GFR is the most practical at present. However, I must warn that CKD-1 calculation can have inaccuracies. However, CKD 2-5 usually indicate renal dysfunction in a straight-line graph and more is reliable. These studies are well planned and being executed in a timely fashion and I am impressed by the WHO – MOH – Epidemiology Unit interaction supporting the researchers. We are grateful to Hon. Nimal Siripala de Silva for using his new office in the Executive Board to help find the answer to this CKD question. Give us the year 2009 to find the answers.

I have placed before you 7 diseases giving epidemic chronic illness in our society. Sometimes acute situations leave behind chronic disability. I have not focused on this. Prof Lalitha Mendis has focused attention on this form of chronic disability last year.

Prof Sherifdeen continues his good work as President of the RTA subcommittees. It is ignoring simple road rules that can cost ones life exemplified by the death of Princess Diana...No seat belts, Alcohol excess, high speed and the scapegoat Papparazzi. So how do we reduce the Chronic Disease Burden?

Ill approach it with classical prevention strategies viz Primordial, Primary, Secondary & Tertiary.

Primordial—aiming at reducing the underlying conditions leading to exposure to

Causative factor targeting at total population or selected groups

Primary-----aiming to limit incidence by controlling causes and risk factors targeting on

Total population or high risk individuals

Secondary---aiming at cure and reduction of serious complications targeting early

Detection and treatment

Tertiary-----Reduce Progress of Complications targeting Therapeutic and

Rehabilitative efforts

The slides details out under these four headings of examples in the chronic diseases I spoke about. Prevention of chronic diseases needs both population based strategies and Individual based strategies listed. The Regional Framework for strategy for prevention and control of NCDs has been worked out by WHO and individual countries are asked to adapt as per their needs. The agencies that play lead roles are indicated but what is crucial is the integrated and coordinated approach.

How can the SLMA help as an Apex Medical Professional Organization?

The SLMA has many Standing Committees many of them will have a role to play in reducing chronic morbidity in the community. The NCD committee and its Diabetes Prevention Task Force are directly relevant to my address today. Many Publications of the SLMA are directed towards the profession. An advocacy document towards preventing Type 2 Diabetes to commemorate World Diabetes Day was released in 2008.

Health Equity is of great concern to the SLMA. We as individual doctor action and as an apex organization act as advocated and agents of change which is of great importance especially in chronic disease. I feel the enormity of the task in view of the numbers and it will become necessary to use community leaders and indeed the patient and close relatives in screening the community immediately around him or her in order to reach out by whatever means available if we can make a dent bon the frightening situation this country will face from epidemic Chronic Diseases in the coming decades. I renew a call for action from all stakeholders on behalf of the new generation yet to be born. Thank you for your patient listening and I hope you will all join in the efforts to stem NCD incidence and its unacceptable burden on the Sri Lankan society.