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Screening Guidelines for Chronic Kidney Disease in Sri Lanka - I

This is the first in a series of three articles on Screening Guidelines for Chronic Kidney Disease in Sri Lanka.

Introduction

During the recent past, high prevalence of Chronic Kidney Disease was observed in some geographic areas of Sri Lanka. Especially the North Central Province (NCP) was noted as an endemic area for CKD. Some areas outside the NCP, but geographically adjacent, were later on detected to have similarly high prevalence of CKD.

Unfortunately, a fair proportion of CKD cases was not attributable to known aetiological factors. This scenario has led to coining a term "Chronic Kidney Disease of Uncertain aetiology" (CKDu). The unknown aetiology has hampered implementation of effective preventive measures over the years.

At present, scientific data are available on the high endemicity of CKD in these areas. The World Health Organization (WHO) report on "Kidney Disease of Uncertain Aetiology (CKDu) in Sri Lanka" says that the age standardized prevalence of CKDu among females in the age group of 15 to 70 years of age is 16.9% and that of males in the same age category is 12.9%.

In January 2014, the Standing Cabinet Appointed Officials' Committee for the Mitigation of CKDu in the North Central Province has recommended to establish a criterion for diagnosing CKDu patients and to plan a systematic Screening Programme for early diagnosis. It has further recommended mapping the cases of CKD/ CKDu considering the Grama Niladhari (GN) divisions as the base for mapping.

The Screening Programme for CKD/CKDu is intended to detect asymptomatic individuals in the early stages of CKD. The screening programme will serve as a comprehensive and active epidemiological surveillance with provisions for mapping and analyzing attributes and possible aetiologies.

Surveillance on Chronic Kidney Disease in Sri Lanka

The Epidemiology Unit of the Ministry of Health, Sri Lanka has established surveillance on chronic kidney disease since October 2013. Thirty hospitals were declared as sentinel sites. The rationale of selecting the hospitals as sentinel sites was the available statistics on the disease burden and the media reports and public concerns of the presence of the disease in geographic locations. Based on the hospital statistics and the statistics at the renal research unit, the Polonnaruwa and Anuradhapura districts and geographically adjacent areas namely, Dehiattakandiya, Girandurukotte, Welioya, Polpithigama, Padavi Sripura, Wilgamuwa and Vavuniya South Divisional Secretariat divisions were proclaimed as high risk areas. The hospitals catering to the populations in the proclaimed areas were selected as sentinel sites, namely

1. DH Padaviya
2. DH Madawachchiya
3. BH Kebithigollawa
4. BH Thambuttegama
5. DH Kekirawa
6. BH Medirigiriya
7. DH Hingurakgoda
8. DH Bakamuna
9. DH Welikanda
10. DH Aralaganwila
11. DH Nikawewa
12. DH Padawi Sripura
13. DH Girandurukotte
14. DH Galenbindunuwewa
15. TH Anuradhapura
16. GH Polonnaruwa
17. GH Vavuniya
18. BH Dehiattakandiya
19. DH Hettipola
20. DH Kahatagasdigiliya
21. DH Sampathnuwara

Another set of hospitals were selected on the basis of patients referral mechanisms, resource

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availability including availability of specialists' services, having renal clinics, which are as follows,

1. BH Mahiyangana
2. GH Mullaitivu
3. TH Kurunegala
4. TH Kandy

Further, the following institutions were selected considering the potentials of having the disease, anecdotal reports on the presence of disease and public concerns on the presence of the disease.

1. TH Jaffna
2. DH Tanamalwila
3. DH Buttala
4. GH Killinochchi
5. GH Mannar

As the surveillance continues, the list of sentinel sites could be evolved based on the evidence generated.

Objectives of the Screening Programme

- Detect asymptomatic individuals in the preclinical stages of the chronic kidney disease
- Assess the disease burden of CKD/CKDu in endemic areas
- Refer those found positive in the screening to the curative care system for further medical evaluation, and if found to have the disease, for clinical care.
- Study the factors associated with the chronic Kidney Disease with uncertain aetiology

Methodology

Screening Method – Selective Screening

The programme will aim at screening "high risk group" defined by the geographic terms and age limits. This may still be a large scale and can be considered as one form of population screening. Chemical assays will be carried out on urine and blood to detect the markers of CKD/CKDu.

High risk geographic areas

Following a series of consultative meetings, the panel of experts decided upon the under-mentioned areas as "high risk" considering the present pattern of geographic distribution of cases.

Hereinafter, the areas would be referred to as proclaimed areas.

No	Province	District	DS Division
01	North Central	Anuradhapura	All
02	North Central	Polonnaruwa	All
03	North Western	Kurunegala	Polpithigama & Giribawa
04	Eastern	Ampara	Dehiattakandiya
05	Eastern	Trincomalee	Padavi Sripura
06	Uva	Badulla	Mahiyanganaya & Rideemaliyadda
07	North	Mullaitivu	Welioya
08	North	Vavuniya	Vavuniya & Vavuniya South
09	Central	Matale	Wilgamuwa

Primary Target Group

Based on the available statistics and the natural history of CKD/CKDu, both males and females, who are above the age of ten years will be screened in the proclaimed areas.

Screening Settings – Community Settings

Screening will be carried out in community settings on pre determined dates with prior notification given to the target population. Screening will be carried out at Field Screening Clinics conducted in places easily accessible to the catchment population, preferably at the Gramodaya Health Centres, Central Dispensaries, Hospitals, and Offices of the Public Health Inspectors, Offices of Medical Officers of Health or any other facility depending on the programmatic feasibility.

Screening Tool

The screening tool is a package consisting of a combination of tests, testing for Serum Creatinine with calculating estimated glomerular filtration rate (eGFR), measuring urine albumin creatinine ratio (UACR) on a spot urine sample and measuring blood pressure and a data sheet (Annex – 1) to document basic socio-demographic data and significant medical history and exposure to or presence of risk factors.

Administration of Screening Tool

The tool is expected to be administered in the community setting, in a field screening clinic. The data sheet needs to be filled with legible letters and all fields must be filled.

The Blood Pressure needs to be measured and entered in the data sheet by a Medical Officer.

Collecting and Dispatching of Blood Samples

- The responsibility of venipuncture and proper labelling of samples of blood is vested upon the Public Health Nursing Sister and Nursing Officer. Labelling should be done after drawing blood into the tubes.
- A minimum of thirty minutes rest should be ensured before collecting blood for testing from an individual.
- Venipuncture should follow the routine procedure practiced in hospital settings.
- Either plain tubes or Serum Separating Tubes (also known as Serum Separator Tubes) should be used for collecting blood. 4 to 5 ml of blood is required.
- Irrespective of the type of test tubes used, serum separation by centrifuging needs to be done on site within two hours of blood drawing at most.
- If plain tubes are used, the separated serum needs to be transferred to a secondary tube taking precautions to label properly.
- The secondary tubes or the Serum Separating Tubes (SST) should be stored in cool boxes with ice packs in a temperature ranging from 10 to 15^0C.
- The properly stored samples should reach the laboratory within a maximum of six hours.

Compiled by Dr. H. A. Shanika Rasanjalee of the Epidemiology Unit

To be continued

Table 1: Selected notifiable diseases reported by Medical Officers of Health 26th – 01st Aug 2014 (31st Week)

RDHS Division	Dengue Fever		Dysentery		Encephalitis		Enteric Fever		Food Poisoning		Leptospirosis		Typhus Fever		Viral Hepatitis		Human Rabies		Chickenpox		Meningitis		Leishmaniasis		WRCD	
	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	T*	C**
Colombo	209	8786	7	82	0	9	0	57	0	162	2	79	0	1	1	26	0	0	1	290	1	33	0	3	**75**	**25**
Gampaha	80	4335	1	99	0	6	0	25	0	18	0	129	0	8	7	137	0	5	1	221	0	40	0	2	**53**	**47**
Kalutara	42	1753	1	111	1	5	1	30	0	54	5	162	0	1	0	8	0	1	2	174	2	52	0	0	**85**	**15**
Kandy	36	870	3	64	0	4	0	15	2	10	1	26	0	53	5	91	0	0	1	141	0	16	0	2	**96**	**4**
Matale	7	282	1	40	0	1	0	11	0	16	0	28	0	2	0	107	0	1	2	39	1	30	0	25	**46**	**54**
NuwaraEliya	3	185	3	179	0	3	0	15	0	67	0	12	1	48	0	22	0	0	2	83	0	21	0	0	**69**	**31**
Galle	8	682	2	74	0	4	1	5	0	32	1	119	3	62	0	5	0	0	1	317	0	28	0	3	**25**	**75**
Hambantota	5	415	0	33	0	4	0	10	0	9	0	64	2	49	0	11	0	0	3	106	0	29	7	213	**83**	**17**
Matara	19	321	4	65	0	4	0	21	2	17	2	51	1	31	0	24	0	0	0	136	0	24	2	60	**100**	**0**
Jaffna	25	692	8	287	0	5	0	153	0	48	0	7	0	260	0	8	0	0	10	95	2	24	0	0	**100**	**0**
Kilinochchi	1	40	5	66	0	1	0	18	0	0	0	0	1	17	0	0	0	0	0	14	2	6	1	9	**75**	**25**
Mannar	2	41	1	29	0	10	2	31	0	9	0	4	1	23	0	1	0	0	0	9	0	6	1	2	**80**	**20**
Vavuniya	0	96	1	24	0	1	1	20	0	17	0	9	1	5	1	4	0	0	0	7	1	13	0	2	**75**	**25**
Mullaitivu	2	76	3	42	0	0	0	9	0	13	0	8	0	9	0	0	0	1	0	5	1	5	0	7	**100**	**0**
Batticaloa	6	628	9	181	0	2	0	21	0	20	0	14	0	1	0	7	0	1	2	41	0	5	0	0	**93**	**7**
Ampara	2	107	2	42	0	1	0	1	0	8	0	15	0	12	0	4	0	1	2	69	0	8	0	7	**71**	**29**
Trincomalee	5	472	0	28	0	1	0	1	0	5	0	14	1	14	0	2	0	0	1	69	0	4	0	3	**92**	**8**
Kurunegala	60	1164	2	80	0	20	1	16	0	20	2	68	1	36	0	31	0	1	4	287	2	56	3	91	**93**	**7**
Puttalam	9	428	1	48	0	1	0	11	0	9	1	56	0	20	0	3	0	3	2	62	1	15	0	6	**69**	**31**
Anuradhapura	10	363	9	86	0	3	0	2	1	25	2	73	0	27	0	9	0	0	4	156	1	37	6	236	**74**	**26**
Polonnaruwa	8	320	0	27	0	3	0	6	0	0	2	44	0	3	0	5	0	0	1	110	1	18	3	85	**57**	**43**
Badulla	10	379	11	85	0	9	0	9	0	5	1	38	4	67	5	96	0	0	0	46	3	74	0	0	**76**	**24**
Monaragala	6	175	1	38	1	3	1	6	0	33	1	60	2	115	5	86	0	2	1	57	0	14	0	21	**91**	**9**
Ratnapura	60	1961	2	166	1	17	1	17	0	25	6	221	1	73	7	281	0	0	1	150	2	29	0	21	**83**	**17**
Kegalle	33	1030	1	81	0	8	0	28	0	34	1	111	0	40	7	72	0	0	3	182	1	47	0	1	**91**	**9**
Kalmune	6	107	2	82	0	1	0	5	5	66	0	1	0	0	0	0	0	0	0	81	0	6	0	0	**38**	**62**
SRILANKA	**654**	**25708**	**80**	**2139**	**3**	**126**	**8**	**543**	**10**	**722**	**27**	**1413**	**19**	**977**	**38**	**1040**	**0**	**16**	**44**	**2947**	**21**	**640**	**23**	**799**	**77**	**23**

Source: Weekly Returns of Communicable Diseases (WRCD).

*T=Timeliness refers to returns received on or before 01st August , 2014 Total number of reporting units 337 Number of reporting units data provided for the current week: 261 **C**-Completeness

A = Cases reported during the current week. **B** = Cumulative cases for the year.

Table 2: Vaccine-Preventable Diseases & AFP

26th – 01st Aug 2014 (31st Week)

Disease	No. of Cases by Province									Number of cases during current week in 2014	Number of cases during same week in 2013	Total number of cases to date in 2014	Total number of cases to date in 2013	Difference between the number of cases to date in 2013& 2014
	W	C	S	N	E	NW	NC	U	Sab					
AFP*	01	00	00	00	00	00	00	00	00	01	03	52	52	0%
Diphtheria	00	00	00	00	00	00	00	00	00	00	-	00	-	%
Mumps	01	03	00	07	01	01	01	01	00	15	34	444	989	-55.1%
Measles	15	00	03	02	02	07	05	02	03	39	126	2297	1790	+28.3%
Rubella	00	00	00	00	00	00	00	00	00	00	00	13	21	-38.1%
CRS**	00	00	00	00	00	00	00	00	00	00	00	04	06	-33.3%
Tetanus	00	00	00	00	00	00	00	00	00	00	00	09	12	-25%
Neonatal Tetanus	00	00	00	00	00	00	00	00	00	00	00	00	00	0%
Japanese Encephalitis	00	00	00	00	00	00	00	00	00	00	-	19	-	%
Whooping Cough	00	00	00	00	00	00	00	00	00	00	01	33	56	-41.0%
Tuberculosis	81	12	06	00	00	60	09	06	36	210	171	5731	5206	+10.1%

Key to Table 1 & 2

Provinces: **W**: Western, **C**: Central, **S**: Southern, **N**: North, **E**: East, **NC**: North Central, **NW**: North Western, **U**: Uva, **Sab**: Sabaragamuwa.

RDHS Divisions: **CB**: Colombo, **GM**: Gampaha, **KL**: Kalutara, **KD**: Kandy, **ML**: Matale, **NE**: Nuwara Eliya, **GL**: Galle, **HB**: Hambantota, **MT**: Matara, **JF**: Jaffna, **KN**: Killinochchi, **MN**: Mannar, **VA**: Vavuniya, **MU**: Mullaitivu, **BT**: Batticaloa, **AM**: Ampara, **TR**: Trincomalee, **KM**: Kalmunai, **KR**: Kurunegala, **PU**: Puttalam, **AP**: Anuradhapura, **PO**: Polonnaruwa, **BD**: Badulla, **MO**: Moneragala, **RP**: Ratnapura, **KG**: Kegalle.

Data Sources:

Weekly Return of Communicable Diseases: Diphtheria, Measles, Tetanus, Neonatal Tetanus, Whooping Cough, Chickenpox, Meningitis, Mumps., Rubella, CRS,

Special Surveillance: AFP* (Acute Flaccid Paralysis), Japanese Encephalitis

CRS** =Congenital Rubella Syndrome

AFP and all clinically confirmed Vaccine Preventable Diseases except Tuberculosis and Mumps should be investigated by the MOH

Dengue Prevention and Control Health Messages

Look for plants such as bamboo, bohemia, rampe and banana in your surroundings and maintain them free of water collection.

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Comments and contributions for publication in the WER Sri Lanka are welcome. However, the editor reserves the right to accept or reject items for publication. All correspondence should be mailed to The Editor, WER Sri Lanka, Epidemiological Unit, P.O. Box 1567, Colombo or sent by E-mail to **chepid@sltnet.lk. Prior approval should be obtained from the Epidemiology Unit before publishing data in this publication**

ON STATE SERVICE

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