WEEKLY EPIDEMIOLOGICAL REPORT

A publication of the Epidemiology Unit
Ministry of Health

231, de Saram Place, Colombo 01000, Sri Lanka
Tele: + 94 11 2695112, Fax: +94 11 2696583, E mail: epidunit@sltnet.lk
Epidemiologist: +94 11 2681548, E mail: chepid@sltnet.lk
Web: http://www.epid.gov.lk

Vol. 41 No.04 — 18th – 24th January 2014

WER SRI LANKA - 2014

Polio Eradication Endgame (Part II)

This is the second in a series of two articles on Polio Eradication

OPV in Eradication of Polio

Because of the advantages of OPV including its superiority in conferring intestinal immunity, trivalent OPV is recommended as the vaccine of choice for eradication of poliomyelitis.

In industrialized countries, sero-conversion rates after 3 doses of OPV have been demonstrated to be high (>90%) to all 3 types of virus. However sero-conversion rates are lower in the developing countries. These are estimated to be 73% (range36% to 99%) for type 1, 90% (range71% to 100%) for type 2, and 70% (range 40% to 99%) for type 3.

The efficacy of three doses of OPV in preventing paralytic poliomyelitis in developing countries ranges from 72% to 98% when the cold chain is properly maintained. Interference from other entero-viruses (which may be related to seasonal differences in response) thought to be an important factor which reduce the immune response in developing countries (other than cold chain problems).

Eradication and Endgame Strategic Plan

With the success of Global Polio Eradication Initiative (GPEI), the World Health Assembly (WHA) declared ending polio as a "programmatic emergency for global public health" on 26 May 2012. The Eradication and Endgame Strategic Plan 2013–2018 is a comprehensive, long-term strategy developed to capitalize this purpose. It was developed considering both wild polio virus eradication and cVDPV elimination and the goal is a polio-free world by 2018.

Under the strategic plan, switching from trivalent OPV(tOPV) to bivalent OPV (bOPV) by removing type 2 component from vaccine is considered as a necessary step due to the fact that wild polio virus type 2 has not been reported since 1999. It was found that majority of cVDPV outbreaks and a substantial proportion of VAPP cases are due to type 2 component of OPV and this rationalizes the removal of type 2 component from OPV overweighing benefits than risk. Therefore it will be replaced with bivalent OPV (bOPV) vaccine, which will continue to target the remaining polio types, WPV1 and WPV3. Once these types are eradicated, bOPV will also be withdrawn. This sets the stage for ending bOPV use entirely by 2019-2020.

WHO Strategic Advisory Group of Experts on immunization (SAGE) recommends that prior to the switching of tOPV to bOPV, all countries which currently use OPV only in their routine immunization programmes should introduce at least 1 dose of IPV to their routine schedules by the end of 2015. As this should be introduced at least 6 months before the switching of tOPV to bOPV, such countries will replace tOPV with bOPV in 2016.

So that, all polio endemic and high risk countries should develop a plan for IPV introduction by mid - 2014 and all other OPV only using countries including Sri Lanka should do so by the end of 2014.

SAGE has called for a global withdrawal of type 2 containing OPV as soon as possible and ideally by the end of 2016.

Until polio transmission is interrupted globally, OPV will be a critical component of the eradication strategy. OPV is the appropriate polio vaccine for achieving the eradication of wild polioviruses worldwide because it is inexpensive, is easy to administer and offers good mucosal immunity, which is needed to interrupt person to person spread of virus – particularly in settings of high population density and poor sanitation.

Contents — *Page*

Therefore cessation of OPV cannot be done immediately and replacement of tOPV with bOPV is necessary.

Importance of introducing IPV before replacing trivalent OPV with bivalent OPV

Once the OPV2 is withdrawn globally, IPV will help to fill the immunity gap by priming the population against type 2 polio virus. A region immunized with IPV would have a lower risk of re-emergence or reintroduction of wild or vaccine derived type 2 poliovirus. As mentioned earlier, it is necessary to introduce the first dose of IPV into all routine immunization systems, at least 6 months before the switch from trivalent OPV (tOPV) to bivalent OPV (bOPV).

Introduction of IPV will play a role in interruption of transmission in the case of outbreaks. Monovalent oral polio vaccine type 2 (mOPV2) will be needed to control an outbreak and having a population primed with IPV would facilitate rapid control as immunity level needed to stop transmission will be easier to reach with mOPV compared to a completely unvaccinated population.

This is also important as IPV will boost immunity against poliovirus type 1 and 3 in children who have received OPV, which could further hasten the eradication of these two wild viruses. Therefore, the introduction of at least one dose of IPV by all countries worldwide is considered as a crucial step for the Polio eradication endgame.

The risks of not introducing IPV and cessation of OPV2 will be an immediate time-limited (1 to 2 years) risk of cVDPV2 emergence and medium and long term risks of polio virus reintroduction from a vaccine manufacturing site, research facility or diagnostic laboratory.

Funding for IPV

GAVI Alliance Board has recognized the importance of strong partnership and complimentarity between the GAVI Alliance and the Global Polio Eradication Initiative (GPEI) in support of GEPI's responsibility for eradication efforts. GAVI Alliance partners, WHO and UNICEF in particular, are committed to supporting countries with any information and assistance that may be required and GAVI Alliance will support the countries to introduce one dose of IPV and subsidized pricing for introduction will be available for some low and low-middle income countries that are not-GAVI eligible. Other countries will be able to self-procure products at affordable prices. Currently, the funding required for tOPV is provided by the Government of Sri Lanka. According to the final decision made by GAVI Board in November 2013, Sri Lanka is eligible to receive GAVI support for a period of five years for the process of introducing IPV to the routine immunization programme and for replacement of tOPV with bOPV.

Sources

- http://www.polioeradication.org
-- http://www.gavialliance.org
- http://www.cdc.gov/polio
- Eradication of Poliomyelitis; A comprehensive guide for Medical Officers

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

Invasive Bacterial Disease surveillance in Sentinel Sites- 1ST quarter 2014

No. of suspected meningitis cases	22
No. of probable meningitis cases	3
Percentage (%) of CSF samples tested positive for organisms	0%
No. of children who met the pneumonia case definition	50
Percentage (%) of Pneumonia cases with positive blood cultures	0%
No. of sepsis cases	24
Percentage (%) of Sepsis cases with positive blood cultures	0%

Source-LRH, Epidemiology Unit

Rota virus surveillance in Sentinel Sites – 2nd- quarter 2013

Number of acute diarrhoea hospitalizations in children <5 years	284
Number of stool specimen collected	68
Number of stool specimen tested positive for rotavirus	10
Percentage (%) of stool specimen tested positive for rotavirus	14.7%

Source-MRI, Epidemiology Unit

Table 3 : **Water Quality Surveillance**
Number of microbiological water samples - Dece / 2013

District	MOH areas	No: Expected *	No: Received
Colombo	12	72	55
Gampaha	15	90	48
Kalutara	12	72	-
Kalutara NIHS	2	12	32
Kandy	23	138	94
Matale	12	72	0
Nuwara Eliya	13	78	23
Galle	19	114	108
Matara	17	102	60
Hambantota	12	72	NR
Jaffna	11	66	0
Kilinochchi	4	24	27
Manner	5	30	21
Vavuniya	4	24	24
Mullatvu	4	24	29
Batticaloa	14	84	NR
Ampara	7	42	0
Trincomalee	11	66	34
Kurunegala	23	138	51
Puttalam	9	54	31
Anuradhapura	19	114	40
Polonnaruwa	7	42	18
Badulla	15	90	31
Moneragala	11	66	63
Rathnapura	18	108	NR
Kegalle	11	66	22
Kalmunai	13	78	0

* No of samples expected (6 / MOH area / Month)
NR = Return not received

to be continued

Table 4: Selected notifiable diseases reported by Medical Officers of Health 11th – 17th Janu2014(03rd Week)

RDHS Division	Dengue Fever		Dysentery		Encephalitis		Enteric Fever		Food Poisoning		Leptospirosis		Typhus Fever		Viral Hepatitis		Human Rabies		Chickenpox		Meningitis		Leishmani-asis		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	299	867	5	8	0	1	7	8	0	123	3	10	0	0	1	2	0	0	7	20	3	4	3	3	**77**	**23**
Gampaha	87	327	6	11	0	1	2	5	2	2	3	5	0	1	0	2	0	1	4	8	3	9	0	1	**93**	**7**
Kalutara	42	166	5	9	0	0	0	3	0	3	6	20	0	0	1	2	0	0	4	8	2	4	0	0	**92**	**8**
Kandy	9	58	1	5	0	0	0	0	0	0	0	1	1	5	0	3	0	0	4	10	0	2	0	0	**65**	**35**
Matale	4	21	3	6	0	0	0	0	0	0	1	7	0	0	1	6	0	0	1	3	0	1	0	0	**85**	**15**
NuwaraEliya	1	19	2	7	0	0	0	2	0	0	0	0	0	2	0	3	0	0	3	8	0	1	0	0	**69**	**31**
Galle	19	78	5	8	0	2	0	0	0	1	2	20	0	6	0	0	0	0	4	16	0	4	0	0	**85**	**15**
Hambantota	5	28	1	10	1	2	1	3	0	0	1	8	2	6	0	3	0	0	5	11	1	9	0	13	**83**	**17**
Matara	9	31	2	6	0	0	6	15	3	3	3	5	2	7	1	4	0	0	4	11	2	9	1	5	**100**	**0**
Jaffna	10	81	1	23	1	1	4	21	0	5	0	2	12	70	0	1	0	0	3	5	0	2	0	0	**83**	**17**
Kilinochchi	0	8	1	2	0	0	0	2	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	1	**50**	**50**
Mannar	0	2	0	2	1	3	5	10	0	0	0	2	2	3	0	0	0	0	0	0	0	0	0	1	**100**	**0**
Vavuniya	2	5	1	8	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	3	0	1	0	0	**75**	**25**
Mullaitivu	3	9	0	6	0	0	0	2	0	0	0	1	0	0	0	0	0	0	0	1	0	2	0	2	**100**	**0**
Batticaloa	4	20	11	25	0	0	1	4	1	1	0	1	0	0	0	0	0	0	1	2	0	0	0	0	**86**	**14**
Ampara	0	7	1	2	0	0	0	0	1	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	**29**	**71**
Trincomalee	8	30	1	5	0	1	0	0	0	0	0	2	0	0	0	0	0	0	3	5	0	0	0	0	**92**	**8**
Kurunegala	22	84	1	6	1	2	0	1	1	1	2	6	4	9	1	3	0	0	11	20	4	5	4	8	**96**	**4**
Puttalam	16	51	1	7	0	0	0	0	0	4	1	7	0	0	0	0	0	0	0	4	0	0	0	1	**62**	**38**
Anuradhapura	13	31	2	12	0	0	0	0	0	1	0	6	3	7	0	0	0	0	6	12	0	2	3	16	**63**	**37**
Polonnaruwa	17	50	2	10	0	0	0	0	0	0	1	6	0	0	1	1	0	0	2	13	0	1	7	14	**100**	**0**
Badulla	3	31	1	1	0	1	1	1	0	0	1	1	1	2	0	0	0	0	1	4	1	2	0	0	**65**	**35**
Monaragala	5	15	3	7	0	0	0	0	0	2	6	11	0	5	0	4	0	0	1	4	1	2	0	1	**73**	**27**
Ratnapura	17	48	3	14	0	0	0	3	0	2	5	28	5	8	4	25	0	0	4	13	0	1	0	0	**83**	**17**
Kegalle	9	55	2	5	0	2	2	5	0	0	5	15	3	5	1	7	0	0	9	23	0	3	0	1	**91**	**9**
Kalmune	3	8	2	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	11	0	1	0	0	**46**	**54**
SRILANKA	**607**	**2130**	**63**	**221**	**4**	**16**	**29**	**85**	**8**	**150**	**40**	**164**	**35**	**142**	**11**	**66**	**0**	**2**	**80**	**215**	**17**	**65**	**18**	**67**	**79**	**21**

Source: Weekly Returns of Communicable Diseases (WRCD).

*T=Timeliness refers to returns received on or before 17th January , 2014 Total number of reporting units 337. Number of reporting units data provided for the current week:268 C** Completeness

A = Cases reported during the current week. B = Cumulative cases for the year.H Rabies*= Human Rabies, E Fever*=Enteric Fever, F Poison* =Food Poisoning, T Fever*=Typhus Fever, V Hepatitis*=Viral Hepatitis

Table 1: Vaccine-Preventable Diseases & AFP 11th – 17th Janu 2014 (03rdWeek)

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 2014 & 2013
	W	C	S	N	E	NW	NC	U	Sab					
AFP*	01	00	00	00	00	00	00	01	01	03	01	03	02	+50%
Diphtheria	00	00	00	00	00	00	00	00	00	00	-	00	-	%
Mumps	01	01	03	00	00	01	00	00	00	06	22	66	88	-25%
Measles	37	03	21	00	00	10	04	01	23	99	01	280	12	+2233.3%
Rubella	00	00	00	00	00	00	00	00	00	00	-	00	-	%
CRS**	00	00	00	00	00	00	00	00	00	-	-	-	-	-
Tetanus	00	00	00	00	00	00	00	00	00	00	02	00	02	-100%
Neonatal Tetanus	00	00	00	00	00	00	00	00	00	00	-	00	-	
Japanese Encephalitis	00	00	02	00	00	00	00	00	00	02	-	05	-	%
Whooping Cough	00	00	00	00	00	00	00	00	00	00	01	01	05	-80%
Tuberculosis	54	19	21	11	11	26	10	02	12	166	96	685	492	+39.2%

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

Influenza Surveillance in Sentinel Hospitals - ILI & SARI								
Month	**Human**					**Animal**		
	No Received	ILI	SARI	Infl A	Infl B	Pooled samples	Serum Samples	Positives
December	4096	203	31	5	0	416	198	0

Source: Medical Research Institute & Veterinary Research Institute

PRINTING OF THIS PUBLICATION IS FUNDED BY THE WORLD HEALTH ORGANIZATION (WHO).

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

Dr. P. PALIHAWADANA
CHIEF EPIDEMIOLOGIST
EPIDEMIOLOGY UNIT
231, DE SARAM PLACE
COLOMBO 10