WEEKLY EPIDEMIOLOGICAL REPORT

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Ministry of Health, Nutrition & Indigenous Medicine

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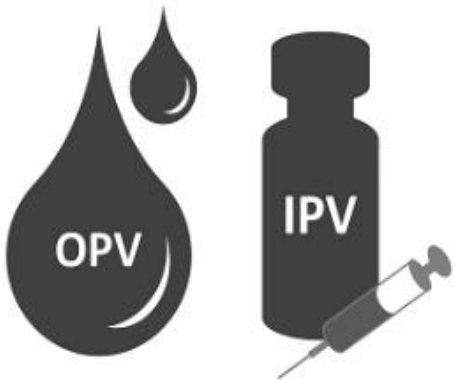
Introduction of fractional dose IPV

Inactivated Polio Vaccine (IPV)

The first polio vaccine developed was the Inactivated Polio Vaccine (IPV). It was developed by Jonas Salk and came into use in 1955. IPV contains inactivated (killed) polio strains of all three polio virus types. This is the vaccine of choice for immunosuppressed individuals.

After administration, IPV produces sufficient serum antibody levels which protect the recipient from acquiring the infection via blood stream. However, it produces less gastrointestinal immunity than Oral Polio Vaccine (OPV). Because of that, persons who are immunized with IPV have a risk of getting infected with ingested wild polio virus. However, due to the immunity posed by IPV, it will prevent developing viraemia thus protecting the motor neurons. But, as IPV produces low gastrointestinal immunity, it does not reduce intestinal excretion of polio virus. For this reason, even though children immunized with IPV are less likely to develop poliomyelitis, they can still spread the wild polio virus to others.



Dosage of IPV is 0.5 ml, which can be given either subcutaneously or intramuscularly. Intramuscular route is preferred when it is given with other vaccines such as Diphtheria– Tetanus–Pertussis (DPT) or Hepatitis B. A minimum of four weeks interval should be there between two consecutive doses.

Contraindications to IPV are moderate to severe illness and severe allergy to vaccine components. IPV is a relatively safe vaccine where adverse effects are rare and uncommon. IPV should be stored at 2 ^{0} C to 8 ^{0} C. Freezing can affect the potency of the vaccine.

Disadvantages of IPV over OPV are producing less gastrointestinal immunity, being more expensive and being difficult to administer with the requirement of well trained staff. However, IPV has the main advantage of no risk of producing Vaccine Associated Paralytic Polio (VAPP).

Introduction of IPV

The global polio eradication is planned to be achieved in 2018 in Polio Eradication Endgame Strategies. In that, Polio type 2 withdrawal has been identified as an important step. Inactivated Polio Vaccine (IPV) introduction has been done in 2015 as an initial step in polio type 2 withdrawal procedure. This measure has been taken to ensure maintenance of polio type 2 immunity before the plan of switching over from trivalent OPV (tOPV) which contains live attenuated poliovirus types 1, 2 & 3 to bivalent OPV (bOPV) which contains only types 1 & 3.

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Introduction of fractional dose IPV

Fractional dose IPV is administration of 0.1 ml of IPV which is a smaller dose, through intradermal route as two doses. This has the same efficacy of full dose IPV where 0.5 ml of IPV is administered Intramuscularly as a single dose.

Even though full dose IPV was introduced into the Expanded Programme on Immunization, there is a global scarcity of IPV production where polio low risk countries like Sri Lanka will receive the next stocks of IPV only in late 2017.

Therefore, the Advisory Committee on Communicable diseases (ACCD) has decided to change the full dose IPV schedule to a fractional dose IPV schedule.

This will be effective for Sri Lanka from 15th July 2016. For the smooth conduct of the process, Regional Epidemiologists are advised to arrange district level refresher training for Public Health Midwives on intradermal administration of the vaccine.

How to administer fractional dose IPV

Available IPV 5– dose vials will be used and only the administering schedule will be changed.

Doses, route and site of administration will be as follows,

- Fractional IPV should be given as two doses at the age of 2 months and 4 months, together with other 2 recommended vaccines of Oral Polio Vaccine and Penta valent vaccine at 2 and 4 months.
- Fractional dose IPV should be administered to the left arm (below the BCG scar)
- Sequence of vaccination of infants at 2 and 4 months of age at the visit of vaccination should be as follows,
    - **Step 1– Give OPV first**
    - **Step 2– Give Pentavalent vaccine to left thigh**
    - **Step 3– Give fractional IPV to left arm**
- IPV vaccine contraindications, side effects, vaccine safety and vaccine storage, injection safety and accountability will continue as the same
- IPV vaccine will continue to be used in open vial policy, taking all measures to minimize wastage.

Records and returns

Records and returns will continue as the same for existing IPV. However, following specific changes are essential to be effected in the documents

Child Health Development Record (CHDR)

Year, month and the date of the fractional IPV immunization along with the batch number of the fractional IPV vaccine doses should be recorded in the 2 rows mentioned under 'other' vaccines for 2 month and 4 month (until updated CHDR will be available) and it should be entered as 'fIPV 1' for the 2 month dose and 'fIPV 2" for the 4 month dose. It is mandatory to fill both A and B portions.

Other records

IPV column should be divided into 2 columns and should be mentioned as fIPV 1 and fIPV 2 in,

- The Clinic Immunization Register - H 1216
- The Clinic summary - RH– MIS518
- The Birth and Immunization Register - EPI/03/79 (Revised 2014)

Infant Immunization												
BCG	Penta 1	Penta 2	Penta 3	DT 1	DT 2	DT 3	Polio 1	Polio 2	Polio 3	fIPV 1 IPV	fIPV 2	LJEV

Quarterly EPI return– WEBIIS data entering will be changed for fIPV 1 and fIPV 2 and it is requested to enter relevant data separately in the relevant cages.

Sources

1. Immunization Handbook, Epidemiology Unit, Sri Lanka

2. Circular on Change of the Polio vaccination schedule: injectable Inactivated Polio Vaccine (IPV): Introduction of fractional IPV (fIPV)

Compiled by Dr. S.A.I.K. Sudasinghe of the Epidemiology Unit

Table 1: Selected notifiable diseases reported by Medical Officers of Health 25th – 01st July 2016 (27th 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	351	7369	1	83	0	3	3	37	2	24	0	116	1	5	0	18	0	0	4	225	1	28	0	0	56	63
Gampaha	34	2091	0	34	0	5	0	12	0	5	0	127	0	7	0	16	0	0	0	183	0	20	0	3	7	20
Kalutara	5	1363	0	39	0	3	0	16	0	16	2	251	0	4	0	13	0	0	1	131	0	35	0	0	7	50
Kandy	172	1553	3	106	0	13	0	11	0	28	3	82	1	59	0	39	0	0	5	108	1	29	1	7	87	100
Matale	49	302	1	33	0	1	1	11	0	2	0	56	0	14	0	13	0	1	0	22	0	47	0	15	54	85
NuwaraEliya	21	192	4	56	0	1	3	33	0	15	1	29	3	47	0	26	0	0	0	83	0	26	0	0	100	100
Galle	22	893	3	60	0	8	1	3	0	3	3	174	2	56	0	6	0	0	2	178	0	26	0	3	60	95
Hambantota	32	422	3	34	0	1	0	2	0	50	1	80	0	38	2	21	0	0	2	146	0	11	25	190	75	100
Matara	59	543	11	75	1	11	0	5	0	35	2	116	1	28	0	17	0	0	7	110	0	13	3	131	94	100
Jaffna	33	1337	4	133	0	3	1	51	1	42	0	8	6	539	0	8	0	0	4	108	1	32	0	1	100	100
Kilinochchi	1	52	0	26	0	0	0	25	0	4	0	11	0	18	0	0	0	0	1	9	0	7	0	0	50	100
Mannar	1	96	2	13	0	4	1	17	1	5	0	8	0	37	0	0	0	0	0	7	0	1	0	0	80	100
Vavuniya	7	163	1	8	0	3	7	48	0	28	0	12	0	8	0	6	0	0	1	23	0	7	0	4	100	100
Mullaitivu	5	120	2	19	0	2	0	16	0	36	0	22	0	5	1	1	0	0	0	10	0	6	0	4	80	100
Batticaloa	7	324	10	172	0	0	3	23	0	88	0	32	0	4	0	9	0	0	0	63	0	5	0	1	64	100
Ampara	0	116	0	23	0	1	0	0	0	20	0	23	0	0	0	7	0	0	0	78	0	1	0	5	14	71
Trincomalee	6	294	1	38	0	1	0	10	0	24	0	22	2	20	0	32	0	1	3	113	1	9	0	3	83	92
Kurunegala	76	1236	6	162	1	8	0	1	5	11	6	105	2	20	1	18	0	2	5	187	0	35	0	53	59	93
Puttalam	22	653	2	33	0	2	0	4	0	0	0	33	1	58	0	0	0	0	0	45	0	25	0	2	46	62
Anuradhapura	13	325	6	43	0	1	0	4	0	22	4	207	1	22	0	12	0	0	3	145	2	24	5	126	47	79
Polonnaruwa	10	226	0	17	0	2	0	9	0	10	1	75	0	1	0	2	0	0	1	73	0	11	0	79	57	100
Badulla	29	390	0	72	0	10	0	5	0	22	1	85	1	55	0	82	0	0	4	117	4	113	0	2	76	88
Monaragala	5	186	1	38	0	1	0	2	0	10	3	143	0	78	0	102	0	2	4	43	0	17	4	28	82	100
Ratnapura	66	1405	3	220	0	20	1	21	0	22	9	336	1	21	0	84	0	0	0	112	4	90	0	1	50	89
Kegalle	28	782	5	53	0	15	1	19	1	45	2	128	0	18	0	16	0	0	8	194	0	31	0	0	73	100
Kalmune	2	366	0	43	0	3	0	4	0	40	0	11	0	0	0	3	0	4	0	55	0	13	0	0	54	85
SRILANKA	1056	22799	69	1633	2	122	22	389	10	607	38	2292	22	1162	4	551	0	10	55	2568	14	662	38	658	63	86

Source: Weekly Returns of Communicable Diseases (WRCD).

*T=Timeliness refers to returns received on or before 01st July, 2016 Total number of reporting units 339 Number of reporting units data provided for the current week: 296 C**-Completeness

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

Table 2: Vaccine-Preventable Diseases & AFP

25th – 01st July 2016 (27th Week)

Disease	No. of Cases by Province									Number of cases during current week in 2016	Number of cases during same week in 2015	Total number of cases to date in 2016	Total number of cases to date in 2015	Difference between the number of cases to date in 2016 & 2015
	W	C	S	N	E	NW	NC	U	Sab					
AFP*	00	00	00	01	00	00	00	00	00	01	01	33	39	-15.3%
Diphtheria	00	00	00	00	00	00	00	00	00	00	00	00	00	0%
Mumps	00	01	01	01	01	02	01	00	00	07	04	222	209	+6.2%
Measles	00	00	01	00	00	01	00	00	00	02	40	288	1334	-78.4%
Rubella	00	00	00	00	00	00	00	00	00	00	00	06	06	0%
CRS**	00	00	00	00	00	00	00	00	00	00	00	00	00	0%
Tetanus	00	00	00	00	00	00	00	00	00	00	00	04	10	-60%
Neonatal Tetanus	00	00	00	00	00	00	00	00	00	00	00	00	00	0%
Japanese Encephalitis	01	00	00	00	00	00	01	00	00	02	00	07	07	0%
Whooping Cough	00	00	00	00	00	00	01	00	00	01	00	31	44	-29.5%
Tuberculosis	94	27	17	02	17	03	06	06	26	198	346	4932	5057	-2.4%

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

Number of Malaria Cases Up to End of June 2016,

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All are Imported!!!

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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**

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