TO STUDY THE CURRENT PRACTICES OF POLIO VACCINATION (IPV & TOPV TO BOPV SWITCH).

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Abstract

Background: This study was conducted to know the operational strategies of polio surveillance to study the current practices of polio vaccination, to find out practices of key health care staff regarding strategies in polio eradication

Result: A significant difference between the knowledge of urban and rural area ANMs regarding. IPV is not a substitute for OPV (p value<0.05). 63% & 75% ANMs of urban & rural resp. were unaware about OPV being phased out. Only 1 out of 16 ANMs knew the correct reason for tOPV to bOPV switch. All (100%) ANMs reported AEFI monthly, always attended meetings & encouraged their ASHAs for community mobilization. 25% ANMs of rural area considered reporting of AFP cases and checking vaccine requirements & stock maintenance only sometimes.

Conclusion: Vaccines currently in use Indore district are bOPV & fIPV. IPV & fIPV are costly than OPVs. Shortage of bOPV (January to February 2018), IPV & fIPV was suffered due to manufacturing units not working. In this study OPV 3rd dose coverage is low as compared to OPV 1st dose coverage & OPV booster dose coverage has further declined. This practice leads to low population immunity for polio.

In this study PPI coverage over the years has remained $\geq 100\%$. However the RI coverage has ranged between 82-95%. It indicates towards possibility of lowering of population immunity and herd immunity because of not maintaining the RI coverage more 90% consistently.

Keywords: Polio Vaccination, Practice, IPV, tOPV, bOPV.

Introduction:

We are heading towards a polio free world and the world is on the verge of eradicating poliovirus for the first time ever. The future generations will be greatly benefitted by the achievement of this goal and will allow the enormous amount of funds which surmount to billions of dollars to be directed towards other health and development goals.¹

Trivalent oral polio vaccine (tOPV) to bivalent oral polio vaccine (bOPV) and inactivated polio vaccine (IPV) use in routine introduction, but added that this would require very accurate, detailed, timely, and global project planning, with regional as well as global consensus. In 2012, the World Health Assembly declared the completion of the eradication of poliomyelitis as a global public health programmatic emergency, and a Polio Eradication and Endgame Strategic Plan was developed. The second objective of the plan is the phased removal of oral polio vaccines (OPVs), starting with vaccine containing poliovirus type 2 (OPV2) and introduction of at least 1 dose of IPV in routine immunization as a risk mitigation measure.²

Use of IPV is intended to boost systemic immunity and to eliminate the rare risks of vaccine-associated paralytic polio and circulating vaccine-derived poliovirus (cVDPV).

Material & Method

This study was conducted to know the operational strategies of polio surveillance to study the current practices of polio vaccination, to find out practices of key health care staff regarding strategies in polio eradication,

Study period: One year July 2010 - June 2011

Study sites: Indore district of Madhya Pradesh state.

Study population: Key health care professionals involved in polio eradication (i.e. ANMs, MOs, DIO, SMO, CCHs, and VCCM)

Inclusion criteria:

Those involved in polio eradication programme, district planning, implementation & execution.

Exclusion criteria:

Those who did not give consent for the study.

1. Pre designed semi structured questionnaire(s) for the DIO, SMO, CCH & VCCM was used to enquire into the operational strategies of polio surveillance, the current practices of polio vaccination, and the emergency preparedness & containment measures in case of a polio outbreak.

2. Pre designed semi structured questionnaire was used for the ANMs and MOs to find out their knowledge, attitude & practices regarding the strategies in polio eradication programme.

Side notes were also taken while filling out the questionnaire and checklist to compliment the study findings.

Results

Table 1: Knowledge of ANMs regarding strategies in polio eradication (N=16)

S. No.		URBAN (N=8)		RURAL (N=8)		p-value (Fischer's Exact test applied)
		Correct N (%)	Incorrect N (%)	Correct N (%)	Incorrect N (%)	
1.	Knowledge of OPV being phased Out	3(37)	5(63)	2(75)	6 (75)	1.000 Not Significant
2.	Reason for tOPV to bOPV switch	0 (0)	8 (100)	1 (12)	7 (88)	1.000 Not Significant
3.	IPV a substitute for OPV	0 (0)	8 (100)	7 (88)	1 (12)	0.001 Significant
4.	Knowledge of what AFP is	7 (88)	1 (12)	7 (88)	1 (12)	1.000 Not Significant
5.	Age group of children to whom Pulse Polio is given	8 (100)	0 (0)	8 (100)	0 (0)	0.477 Not Significant
6.	PPI Doses as substitute of the RI OPV doses	4 (50)	4 (50)	3(37)	5(63)	1.000 Not Significant

-Table showing a significant difference between the knowledge of urban and rural area ANMs regarding IPV is a not a substitute for OPV (p value<0.05).

- 63% & 75% ANMs of urban & rural resp. were unaware about OPV being phased out.

- Only 1 out of 16 ANMs knew the correct reason for tOPV to bOPV switch.

Table 2: Attitude and Practices of ANMs regarding strategies in polio eradication (N=16)

S. No.	Attitude & Practice aspects	URBAN(N=8)			RURAL(N=8)			P-value (Kruskal Wallis test applied)
		Always N (%)	Some-times N (%)	Never N(%)	Always N(%)	Some-times N (%)	Never N(%)	
1.	Reporting of AEFI monthly	8 (100)	0 (0)	0 (0)	8 (100)	0 (0)	0 (0)	0.082 Not Significant
2.	Reporting every case of paralysis in children under 15 years of age group to their respective MO	8 (100)	0 (0)	0 (0)	6 (75)	2(25)	0 (0)	0.122 Not Significant
3	Checking vaccine Requirement and Stock maintenance at their health facility	8 (100)	0 (0)	0 (0)	6 (75)	2(25)	0 (0)	0.122 Not Significant
4	Frequency of attending meetings	8 (100)	0 (0)	0 (0)	8 (100)	0 (0)	0 (0)	0.082 Not Significant
5	Encouraging their ASHAs for community mobilization of Children for vaccination at right time	8 (100)	0 (0)	0 (0)	8 (100)	0 (0)	0 (0)	0.082 Not Significant

-All (100%) ANMs reported AEFI monthly, always attended meetings & encouraged their ASHAs for community mobilization.

-25% ANMs of rural area considered reporting of AFP cases and checking vaccine requirements & stock maintenance only sometimes.

Discussion

In this study, 120 reporting sites were shown in Indore district (2018) of which 19% were from govt. sector and 81% were private ones. Maximum were Private Informers (70%). The probable reasons being: OPD input of private facilities & practitioners is more than govt. facilities; more no. of private health facilities than govt. in Indore; also on the basis of HFCA Saravoye *et al.* (2015)³ results, since the AFP related cases come more to the private practitioners, they are made the informers. Comparable findings in the State of Karnataka, India was cited by Sathyanarayana (2005)⁴, where a very strong NPSP system is present because of involvement of private sector at the start of the program-a best practice that was recommended for scale up in India.⁵ In Zvimba district, all health centres including the private ones participate in the AFP surveillance system according to the study done by Tapera This is contrary to findings by Makurira *et al.* (2007)⁶ in Masvingo and Bangure *et al.* (2013)⁷ in Sanyati district who found out that all private clinics were not participating in the AFP surveillance system. Participation by private sector helps reduce the chances of missing AFP cases. On representativeness, study done by Kufakwanguzvarova W Pomerai *et al.* (2010)⁸ found out that the system in Bikita was representative since missions, councils and government health centres were participating or involved in surveillance. No private clinics/ hospital are present in Bikita district. Few studies have been done among the private practitioners involved in immunization services. These studies have discussed and recommended about the quality standards that should be maintained for cold chain management, vaccine storage & handling, vaccination schedule, safe & appropriate use of injections, adherence to vaccine expiry date, screening for contraindications, proper recording, vaccine messaging, and adverse event and disease surveillance reporting and waste management & disposal.^{9,10&11}

Conclusion

Vaccines currently in use Indore district are bOPV & fIPV. IPV & fIPV are costly than OPVs. Shortage of bOPV (January to February 2018), IPV & fIPV was suffered due to manufacturing units not working. In this study OPV 3rd dose coverage is low as compared to OPV 1st dose coverage & OPV booster dose coverage has further declined. This practice leads to low population immunity for polio.

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