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"IMMUNIZATION OF CHILDREN WITH PENTAVALENT VACCINE IN MANDORE BLOCK OF JODHPUR DISTRICT".

Medical Science

KEYWORDS: Vaccine Preventable Diseases, Pentavalent Vaccine, Immunization.

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ABSTRACT

Background: Immunization is one of the most well-known and effective methods of preventing childhood diseases. With the incorporation of pentavalent vaccine under the Universal Immunization Programme (UIP) by the Government of India there is reduction in the number of pricks the child gets during vaccination along with the benefits of additional benefits of antigens of Hib. In the State of Rajasthan pentavalent vaccine was first started in 4 selected hospitals in 2014 and later on the whole of the State hospitals are using pentavalent vaccine.

Aims & Objectives: The present study was undertaken:-

1. To know immunization of children with pentavalent vaccine under Universal Immunization Programme.
2. To know month-wise trend of immunization of children with pentavalent vaccine under UIP.

Materials and methods: This is an Institutional based study and has been conducted in CHCs, PHCs, and Sub-centers of Mandore Block of Jodhpur District of Rajasthan from 1st October 2015 to 30th November 2016. Children upto one year of age who have been immunized during this period, are included in the study.

Results: During our study period of 14 months, a total of 5175, 4964 and 4735 children below the age of 1 year have been administered with the pentavalent vaccine respectively as 1st, 2nd and 3rd dose under Universal Immunization Programme. From 1st dose to 3rd dose there is slight decrease in the number of immunization of children.

Introduction: Routine Immunization is one of the most cost effective public health interventions and was first introduced in India in 1978. Yet, despite the concerted efforts of the government and other health agencies, a large proportion of vulnerable infants and children in India remain unimmunized [3].

National Family Health Survey (2005-06) reports that only 43.5% of children in India received all of their primary vaccines by 12 months of age. There is a wide variation among states, and states with poorer immunization coverage have higher child mortality rates [4]. WHO has recommended inclusion of Hib vaccine in the regular immunization of children. More than 150 countries of the world are already using Hib in their regular immunization programmes. Inclusion of Pentavalent vaccine in the routine immunization of children would be very beneficial for the children in the State.

Aims & Objectives: The present study was undertaken:-

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Study design and setting: This is an Institutional based study and has been conducted in CHC, PHCs, and Sub-centers of Mandore Block of Jodhpur District of Rajasthan from 1st October 2015 to 30th November 2016.

Materials and Methods:-

Study Population: Children upto and below the age of 1 year who have visited CHC, PHCs, and Sub-centers of Mandore Block of Jodhpur District of Rajasthan for immunization purpose during this period. Three doses (each dose of 0.5 ml containing DPT+ Hep.B +Hib) of the vaccine were administered in the mid of anterolateral aspect of thigh at a minimum interval of about 4 weeks. Only the children who have not been administered previously with DPT vaccine were included in the study. The first dose was administered at 6 weeks (or more than 6 weeks, if reporting late) of life. BCG and Hep. B at birth and polio vaccines were also administered as usual as per national immunization schedule. Measles/MMR with Vitamin A is also administered as per schedule.

Pentavalent vaccine: It contains five antigens i.e. Hepatitis B, Diphtheria+ Pertussis +Tetanus and Haemophilus influenza b. Each vial contains 10 doses of the vaccine.

Result: Mandore Block is situated in Jodhpur district of Rajasthan. Jodhpur has eight blocks and one of the blocks is MANDORE. In Mandore block there are two Community Health Centre (2 CHCs), 7 Primary Health Centers (PHCs) and 52 Sub-centers. Data were collected from these institutes and were analyzed using excel and SPSS software.

During our study period of 14 months, a total of 5175, 4964 and 4735 children below the age of 1 year have been administered with the pentavalent vaccine respectively as 1st, 2nd and 3rd dose under Universal Immunization Programme. From 1st dose to 3rd dose there is slight decrease in the number of immunization of children.

Table No. 1 No. of Children Immunized with pentavalent vaccine Under UIP in Mandore Block of Jodhpur District

S. No.	Month	No. of Children immunized		
		1st dose	2nd dose	3rd dose
1	October 15	422	332	350
2	November 15	425	376	310
3	December 15	457	474	351
4	January 16	394	380	376
5	February 16	389	413	421
6	March 16	363	393	419
7	April 16	393	344	347
8	May 16	350	371	351
9	June 16	286	322	323
10	July 16	323	295	309
12	August 16	288	291	268
12	September 16	340	280	307
13	October 16	372	315	276
14	November 16	373	378	327
Total		5175	4964	4735

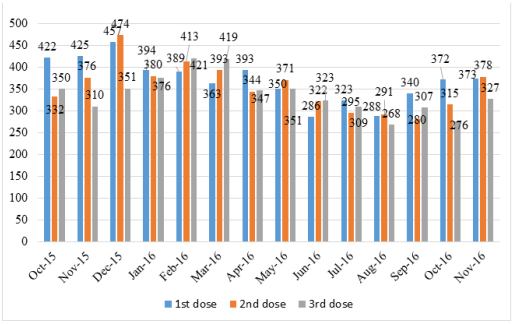

Fig. 1. No. of Children Immunized with pentavalent vaccine

DISCUSSION:

Immunization against common childhood diseases has been an integral component of mother and child health services in India since the adoption of the primary health care approach in 1978. Universal Immunization Programme (UIP) was introduced by the Government of India in 1985-86 to cover at least 85 per cent of the infants against the six vaccine-preventable diseases by 1990 [3]. It was hoped that by the turn of 20th century, the coverage of children for vaccination against the 6 VPDs would reach 100 per cent. In our study maximum number of children (average= 427 Children) were immunized with the pentavalent vaccine in the month of December. For the routine immunization coverage (without pentavalent vaccine) fluctuations were also documented in other studies by Khokhar et al and Kar et al in urban slums of Delhi [8, 9]. Singh et al have reported the complete coverage for India to be lower at 63.3 per cent [10]. National Family Health Survey–III reports that only 54.7 per cent of the urban children are fully vaccinated [4]. All the children who have received measles vaccination have also received Vitamin A. The main reason for dropout or non-immunization of the children may be ignorance and illiteracy among parents which can be improved through effective communication efforts and other awareness campaigns. Data for the pentavalent vaccination are also coming.

CONCLUSION:

While Routine Immunization has played a significant role in preventing childhood deaths and disability, thousands of children in India continue to die from vaccine preventable diseases each year. Inclusion of Pentavalent vaccine in the routine immunization programme will prevent morbidity and mortality of children especially from meningitis and pneumonia due to infection with Haemophilus influenzae type b. Strengthening of Immunization under NRHM has been done under the following points:-

- Introduction of Auto Disable (AD) syringes and hub cutters.
- Support for alternate vaccine delivery to session sites from the last storage point.
- Mobility support to State and District Immunization Officers and other supervisory staff.
- Alternate vaccinators for sessions in urban slums and under-serve d areas, including vacant Scs.
- Mobilization of children and pregnant women by ASHA/link-workers to increase coverage, decrease dropouts and for convergence of Nutrition with Immunization.
- Biannual Routine Immunization review meetings at national and state levels.
- Computer Assistants for every district and at state.
- Routine Immunization Monitoring System (RIMS).
- Decentralized printing of recording, reporting and monitoring tools (e.g. Immunization cards, monitoring charts, tracking bags, temperature charts).
- Miscellaneous (e.g. polythene bags, POL for generators etc.)
- Strengthen cold chain maintenance and expansion.
- Strengthen vaccine management.
- ASHAs/ Link Workers provide critical support in mobilizing and tracking beneficiaries for immunization.
- Finally inclusion of pentavalent vaccine in the regular immunization programme of children will not only decrease the number of pricks but also will have advantage of additional protection against the Haemophilus influenza infection.

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