

Original Research Article

Immunization status and knowledge regarding newer vaccines among mothers in a rural area of Rangareddy District, Telangana, India

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ABSTRACT

Background: India was one of the first countries to adopt the World Health Organization's Expanded Programme of Immunization (EPI). Many newer vaccines have been added recently in the national immunization schedule some of which are being implemented in a phased manner throughout India.

Methods: A community based cross sectional study was done at Yenkapally and Peddamangalaram villages by household survey. Fifty children and their mothers were selected for the study by convenient sampling technique. A pre designed, pre tested questionnaire was used to get the relevant information by adopting interview technique. Questionnaire pertained to socio demographic information, immunization status and knowledge regarding newer vaccines.

Results: Out of the 50 children, about three fourths (74%) were completely immunized and 26% were partially immunized. About one third of the mothers were aware about pentavalent vaccination, one fourth were aware about IPV and extreme low level of awareness (2%) was seen regarding rota virus vaccine.

Conclusions: Present study found that one fourth of the children were partially immunized with majority missing the booster doses and a very low level of awareness was seen among mothers regarding various newer vaccines.

Keywords: Immunization, Knowledge, Newer vaccines, Mothers, Rural

INTRODUCTION

India was one of the first countries to adopt the World Health Organization's Expanded Programme of Immunization (EPI). The program started globally in 1974 and was initiated in India in 1978. Since its inception, considerable progress has been made in terms of reduction in disease burden. Immunization is the most effective known intervention to reduce the childhood morbidity and mortality.¹

In India, though the coverage levels of immunization are in increasing in trends, but lot of deficiencies still remain. According to the recent estimates of National family

health survey (NFHS 4) 2015-16 report, percentage of children aged 12-23 months fully immunized was 68.1% in Telangana State and in Rangareddy District.² In District Level Household and Facility Survey (DLHS 4) 2012-13 report from Telangana, percentage of children received full vaccination was 47.5%.^{3,4}

Many newer vaccines have been added recently in the national immunization schedule some of which are being implemented in a phased manner throughout India. Some of the new additions include Hib containing pentavalent vaccine (DPT+Hep B+Hib), Injectable polio vaccine (IPV), Rota virus vaccine, rubella vaccine as MR vaccine replacing the measles containing vaccine first dose (MCV1) and few others in the pipeline.⁵ With addition of

new vaccines, certain changes have been made in the existing schedule including addition of second dose of measles vaccine at 16-24 months and total 9 doses of vitamin A every 6 monthly starting at 9th month of age.

It is extreme important that the caretakers especially the mothers should be educated regarding these new vaccines and changes in the immunization schedule so that their children are immunized completely appropriate to the age. Knowledge regarding immunization is a key factor for immunization coverage regardless of other demographic characteristics including socio economic status. Hence the current study has been designed with an objective to assess the immunization status of the children and to determine the knowledge regarding new vaccines and changes in the immunization schedule among the mothers.

METHODS

Study design: Community based cross sectional study

Study period: 3 months (June 2016-August 2016)

Study area: Rural Health & Training Centre (RHTC), Peddamangalaram, Department of Community Medicine, Bhaskar Medical College, Rangareddy District, Telangana.

Study population: Under five children & their mothers

Sample size and sampling technique: 50 children and their mothers were selected from Yenkapally and Peddamangalaram villages by household survey for the study by convenient sampling technique.

Data collection: Informed verbal consent was taken from the mothers prior to the start of the study. A pre designed, pre tested questionnaire was used to get the relevant information by adopting interview technique. Questionnaire pertained to socio demographic information, immunization status and knowledge regarding newer vaccines.

Immunization status was determined by history obtained from mothers, and confirmed, wherever possible by verifying the immunization cards. Complete immunization was defined as receipt of BCG vaccine and OPV soon after birth, and three subsequent doses of DPT and OPV for the 1st age group; all these vaccines and one dose of measles vaccine for the 2nd age group; all the foregoing vaccines and the booster dose of DPT and OPV in the 2nd year for children for the 3rd age group; and all the foregoing vaccines plus the booster dose of DT and OPV between 5 and 6 years for the 4th age group. No vaccination/Un immunized' defined as failure of an infant 12-23 months old to receive even a single dose of the vaccines listed above. Partial/incomplete vaccination/immunization was defined as receipt of

vaccine doses between 'no vaccination' and 'complete vaccination'.

Statistical analysis: Data entry was done using Microsoft Excel 2010 and analysis using EPI INFO version 7. Data was summarized in percentages and proportions.

RESULTS

A total of 50 children were assessed for immunization status and their mothers were interviewed for knowledge regarding newer vaccines.

The mean age of the children was 3.7±2.5 years and the mean age of mothers was 23.7±4.5 years. Majority of the mothers were studied up to secondary school and were home makers by occupation.

Table 1: Immunization status of the children.

Immunization status	Number (%)
Completely immunized	37 (74%)
Partially immunized	13 (26%)
Un immunized	--

Out of the 50 children, three fourths (74%) were completely immunized and 26% were partially immunized. Among those who were partially immunized, majority of them missed the booster doses especially after the age of 2 years (Table 1).

Table 2: Awareness regarding newer vaccines among mothers.

Awareness regarding newer vaccines and changes in immunization schedule	Number (Percentage)
Pentavalent vaccine	16 (32%)
Rota virus vaccine	1 (02%)
Inactivated polio vaccine (IPV)	12 (24%)
2 nd dose of measles	--
9 doses of Vitamin A prophylaxis	04 (08%)

About one third of mothers were aware about pentavalent vaccination but majority of them did not had knowledge regarding the total doses required, age at which vaccine to be given & diseases protected by it. Extreme low level of awareness (2%) was seen regarding rota virus vaccine. About one fourth were aware about IPV and majority of them had the knowledge that it's against polio virus.

Surprisingly none of the mothers were aware about the need for 2nd dose of measles vaccine and only 8% had knowledge that 9 doses of vitamin A are required every six months interval (Table 2).

Source of information

Among the mothers who were aware about newer vaccines, the major source of information was mass media (43%) followed by health workers (27%) and doctors (19%) (Figure 1).

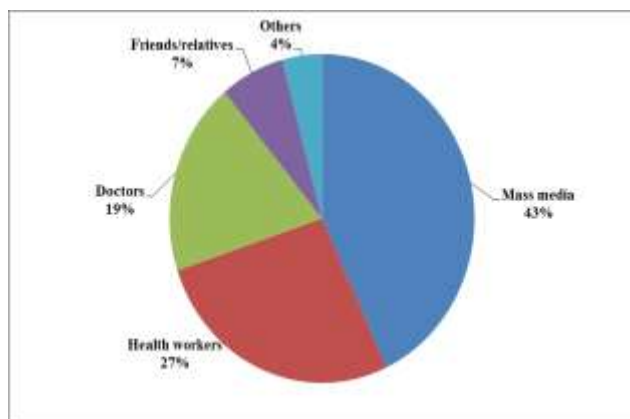


Figure 1: Source of information regarding newer vaccines.

DISCUSSION

Whenever newer vaccines or changes in the immunization schedule are being introduced in the health system, it requires immense social mobilization and advocacy for its effective implementation.

Immunization status

About three fourths (74%) were completely immunized and 26% were partially immunized. Among those who were partially immunized, majority of them missed the booster doses. It is of extreme importance that a child is completely immunized because of resurgence of certain infections like diphtheria.

These findings were in concordance with National family health survey (NFHS 4) 2015-16 report, where percentage of children aged 12-23 months fully immunized was 68.1% in Telangana State and in Rangareddy District.² Lodha N et al found that percentage of fully immunized children was 65%.⁶

In contrast, District Level Household and Facility Survey (DLHS 4) 2012-13 report from Telangana showed the percentage of children full vaccinated to be 47.5%.³ Arshiya M et al study found that only around 31 percent of children were found to be fully immunized while around 24 percent were partially and 45 percent were not immunized at all.⁷ And in Agrawal SC et al observed that over all, number of children with complete, partial and no immunization were 41.4%, 44.8% and 13.8% respectively.⁸

However this study corroborates a positive note of increasing trends in coverage of the children and attainment of complete immunization status.

Knowledge regarding newer vaccines

In the present study, about one third of mothers were aware about pentavalent vaccination, about one fourth were aware about IPV and extreme low level of awareness (2%) was seen regarding rota virus vaccine. Surprisingly none of the mothers were aware about the need for 2nd dose of measles vaccine and only 8% had knowledge that 9 doses of vitamin A are required every six months interval.

In concordance to the findings of this study, Selvaraj K et al observed that knowledge of vaccines under national immunization schedule among mothers between 27% and 95%.⁹ Only one-third of the mothers were aware about pentavalent vaccine.

Mereena and Sujatha R have found that 89% of mothers knew about the second dose of measles vaccine but they were unaware of Hib vaccine and rotavirus vaccine.¹⁰ S.Selvakumari study found that knowledge regarding optional vaccines among mothers was significantly improved after education.¹¹

Limitations

Small sample size and convenient sampling limits the generalizability of the findings.

CONCLUSION

Present study found that one fourth of children were partially immunized with majority missing the booster doses and a very low level of awareness was seen among mothers regarding various newer vaccines and changes which were made in the national immunization schedule. For any national health programme or public health activity to be successful, community participation and inter sectoral co-ordination is vital. Since the mothers are the primary care givers, they need to be educated about the newer vaccines and the changes made in immunization schedule, through health workers or intense IEC campaigning by using mass media.

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Ethical approval: Not required

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