IMMUNIZATION STATUS OF THE UNDER FIVES IN AN URBAN AREA OF MALAPPURAM DISTRICT

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ABSTRACT

Background: *Despite the steadily increasing immunization coverage, the levels remain far less than desired (national average coverage <50%). Coverage Evaluation Survey (2011) in Kerala, reports 81.5% were fully immunized. The coverage in Malappuram district (Health Management Information System data 2012-2013) was 81.8%. Majority of the Vaccine Preventable Diseases are being reported from Malappuram district as per State Prevention of Epidemic and Infectious Diseases Cell data.*

Objective: *to assess the immunization status of the underfive children in the urban field practice area of MES Medical College and to find out the reasons for partial or non-immunization.*

Methodology: *A cross sectional study conducted in the field practice area of Urban Health Training Centre and collected necessary details from houses with under five children.*

Results: *Out of the 735 under five children, 93.6% were immunized for age, 47 were partially immunized and none were unimmunized. All had taken atleast BCG. 9 out of the 47 studied had completed the immunization recommended for the age of 12 months. None of the 47 partially immunized underfives, had taken OPV booster 2, DPT booster 2, vitamin A boosters. Only one child had taken measles 2nd booster. The most common reason for partial immunization was stated to be fear of fever following vaccination (25%) followed by reluctance of the parents in nearly another quarter of them. Illness at the time of vaccination was reported by about 15%.*

Conclusion: *Immunization Coverage was found to be better than that reported for Malappuram district. The easy accessibility of services in Perinthalmanna may have a role to play in this.*

Key Words: *immunization status, immunized for age, reasons for partial immunization.*

INTRODUCTION

Vaccination is a fundamental service. Vaccines became accessible in developing countries since 1970's. India is a major producer and exporter of vaccines. The Challenge is "health for too many."[1] Expanded Programme on Immuniztion(EPI) was launched in India in 1978, targeting the entire child population (under 5yrs) and pregnant women. EPI included vaccines against TB, polio, diphtheria, pertusis, tetanus and typhoid (dropped in 1981) for the underfives and Tetanus Toxoid (added in 1983) for the pregnant[2]. But due to low coverage it was revised and renamed by Government of India as Universal Immunization Programme (UIP) in 1985, mainly focusing on infants and the pregnant with the objective of averting morbidity and mortality due to the six childhood vaccine-preventable diseases (VPDs). Primary series of vaccines against TB, polio, diphteria, pertusis, tetanus and measles (also included) were to be given in the 1st year of life. The aim was to achieve 100% coverage of pregnant women with 2 doses of tetanus toxoid (or a booster dose) and at least 85% coverage of infants with 3 doses each of DPT and OPV, one dose of BCG and one dose of measles by 1990[2,3]. Hepatitis B was added to the UIP schedule as a pilot project in 2002, and then expanded to all districts of 10 states, including Kerala in 2009. Pentavalent vaccine (DPT, Hepatitis B and Hib) replaced DPT in the first year of life in 2011. Second dose of measles was introduced at 18months along with the DPT and OPV first booster in 2012. So presently 8 vaccine preventable diseases are being targeted.

Immunization coverage has been steadily increasing but the average levels remain far less than desired. The national average coverage is less than 50%. Only 11 states have coverage more than 70%. Usually coverage assessed is less than that reported. As per National Family Health Survey 3 (NFHS-3)[3] during 2005-06, the UIP coverage in India was 44% (Urban 58%; Rural 39%) which is much less than the desired level of 85%. The immunization coverage in Kerala was found to be 75.3% in 2006 (NFHS -3) which rose to 81.5% fully immunized in 2011 as per the Coverage Evaluation Survey.

The *Kerala Fact Sheets, 2013 NRHM,* reveals percentage of children (aged 12-23 months) fully immunized as 79.6% in Kerala and 63.9% in Malappuram district. During 2007-08, 87.9 % children in Kerala were immunized against measles but it was only 75.7% in Malappuram district. Pulse polio coverage in 2013 Malappuram district was 94%.

The coverage in Malappuram district as per Health Management Information System data (2012-2013) is 81.8 % which is almost nearing the desired level of 85%. But if we look into the State Prevention of Epidemic and Infectious Diseases Cell data, majority of Vaccine Preventable Diseases are being reported from this district.12 cases of Tetanus (2 deaths); 579 cases of Measles (1 death); 11 cases

of Diphtheria (1 death) and 9 cases of Pertusis were reported from the district during 2013.

Perinthalmanna taluk situated in Malappuram district caters to a population of 49264 spread over 34 wards, out of these 4134 are under five. The health workers in the Government Taluk Hospital, Perinthalmanna conducted a wide spread Pro-Immunization Campaign in all the 34 wards under Perinthalmanna taluk during the first two weeks of November 2013.

This study was conducted to assess the immunization status of the under five children in the urban field practice area of MES Medical College and to find out the various reasons for partial or non-immunization. Results will be used for further improvement of the immunization coverage through more intensified community based approach. This survey will also help in motivating the unimmunized.

OBJECTIVE

1. To study the immunization status of the under five children in the field practice area of Urban Health Centre of MES Medical College, Perinthalmanna.
2. To identify those under five children who are lagging in immunization.
3. To study the reasons behind lag in immunization coverage.

MATERIALS AND METHODS:

- ***Study Setting*** - 6 wards namely 27,28,29.30,32,34 in Perinthalmanna taluk coming under the field practice area of UHTC, MES Medical College, Perinthalmanna.
- ***Study Population*** - 735 under five children
- ***Study Period*** - November to December,2013
- ***Study Design*** -Cross-sectional study
- ***Sample Size*** – all 735 under five children
- ***Data Collection***- The health workers in the Government Taluk Hospital, Perinthalmanna conducted a wide spread Pro-Immunization Campaign in all the 34 wards under Perinthalmanna taluk during the first two weeks of November 2013. Following this, house surgeons posted in the UHTC conducted a house to house survey in the 6 wards coming under its field practice area out of the 34 in Perinthalmanna taluk. House visits were done in those houses with under five children as per the underfive register at UHTC, to assess the immunization status of the under fives in the field practice area of UHTC. The details were collected following assurance that their personal details indicating their identity shall not be collected or revealed.

  After getting the consent, details of those under fives who are lagging behind in immunization were collected during the survey using a semi- structured questionnaire in the local language. Details regarding the vaccines under National Immunization Schedule taken and reasons for not completing the immunization schedule in case of partially / totally unimmunized cases were collected. Immunization status of the child was assessed by checking the immunization card and BCG scar and in cases where the immunization card was not available, data given by the mother was relied upon.

WORKING DEFINITION

The Following criteria were used to categorize child's immunization status-

Unimmunized: Any child who has not received any of the vaccines under the National Immunization Schedule till the date of survey.

Immunized for age: Any child who has been immunized with all vaccines recommended for his/her age as per the National Immunization Schedule.

Not Immunized for age: Any child who has missed at least one of the vaccines mentioned in the National Immunization Schedule recommended for that age, not necessarily all.

In cases where the child was found not to be immunized for age, reason for the same was enquired for.

RESULTS

Immunization status of the under fives in the urban field practice area

Out of the 735 under five children, 688 were fully immunized ie; 93.6%. The survey revealed that, 47 under five children were partially unimmunized and none were totally unimmunized. All had atleast taken BCG vaccination which is given at birth from the institution of delivery. The 47 under fives lagging in immunization in the urban field practice area of MES Medical College, Perinthalmanna during that study period ranged from 5 months to 60 months, with mean age of 36.81 months (+ 17.15). Table 1 depicts the age wise distribution of under fives lagging in immunization in the urban field practice area of MES Medical College.

Table No 1: Age wise distribution of under fives lagging in immunization

Age groups (age in completed months)	Number	Percentage
< 12 months	2	4.3
12 -23 months	12	25.5
24 -60 months	33	70.2
TOTAL	**47**	**100**

Half of those underfives lagging behind in immunization were males (51.1%) and remaining 48.9% females.

Figure 1: ward wise distribution of these underfives lagging in immunization

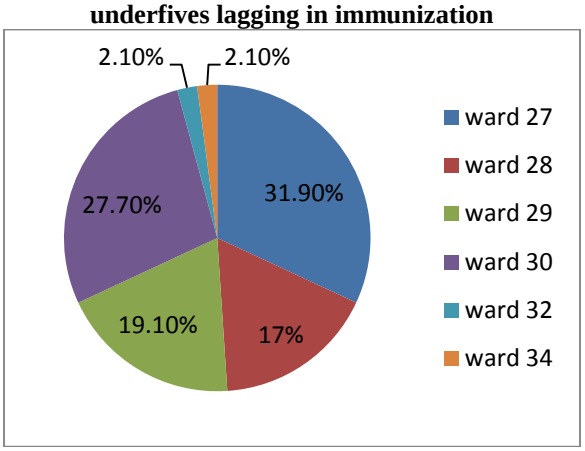
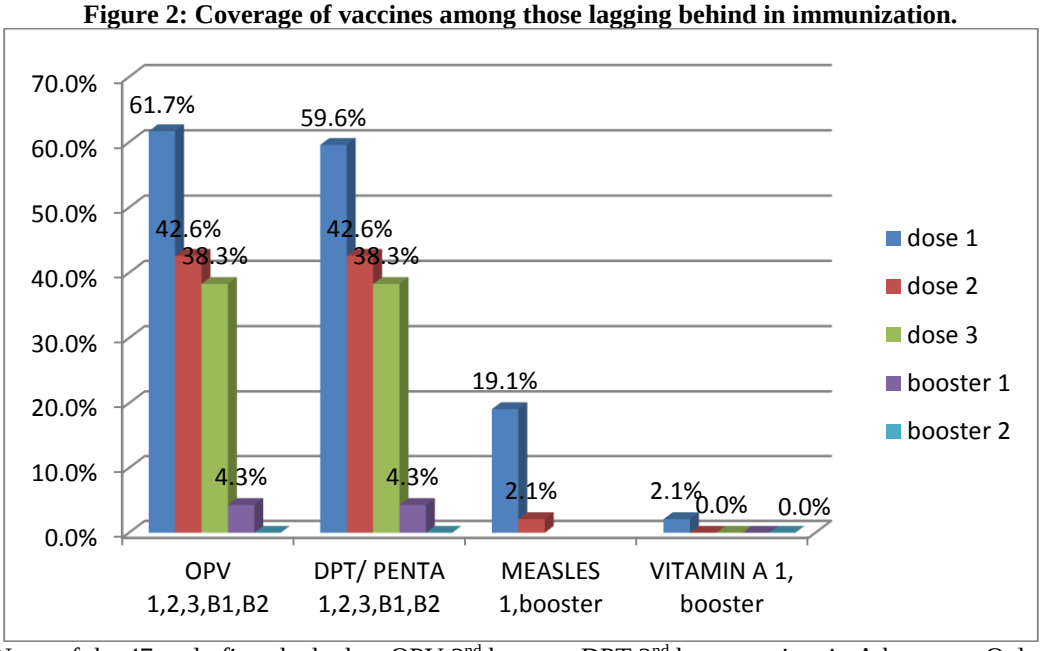


Figure 1 gives us the impression that ward 32 and 34 are well performing with just one child to target in each and we should think of strategies to complete the immunization of these 2 children

All the 47 underfives lagging behind in immunization had been given BCG vaccine. But only 74.5% reported having been given OPV 0 dose. Figure 2 depicts the coverage (shown along the y-axis) of the various vaccines recommended by the National Immunization Schedule (depicted along x-axis) among these 47 underfives lagging behind in immunization.

Figure 2: Coverage of vaccines among those lagging behind in immunization.



None of the 47 underfives had taken OPV 2nd booster, DPT 2nd booster, vitamin A boosters. Only one child had taken measles 2nd booster. None had received MMR. 9 out of the 47 underfives studied had completed the immunization recommended for the age of 12 months.

Reasons for partial immunization: A total of 47 children were found to be not immunized for their age. The reasons as stated by the care-givers are given in Table 2.

Table no 2: Reasons for partial immunization

Reasons for Partial Immunization	**No. (%)**
Ill health of the child at the time of vaccination	7 **(14.9%)**
Experience of AEFI in previous dose or fear	1 (2.1%)
Fear of fever following vaccination	12 **(25.5%)**
Pain following vaccination	4 (8.5%)
School attendance	7 (14.9%)
Forgetfulness of the parent	1 (2.1%)
Reluctance of parents	11 **(23.4%)**
Social reasons(Advised against by religious leaders)	4 (8.5%)
Total	**47 (100%)**

The most common reason for partial immunization in this study was stated as fear of fever following vaccination (25%) followed by reluctance of the parents in nearly another quarter of them. Illness at the time of vaccination was reported as the reason by about 15%.

DISCUSSION

93.6% were immunized for age in this study, which is more than the coverage in Kerala (81.5%) as per Coverage Evaluation Survey (2011) reports and coverage in Malappuram (81.8%) as per Health Management Information System (2012-2013). Urban-rural comparative study done in India shows that rural population is better covered. In another study in Kansas county[4] vaccination coverage is lower in urban areas. The survey revealed that, 47 under five children were lagging in immunization. Half of those lagging behind in immunization were males (51.1%) suggesting there is no gender bias in immunization.

All the 47 underfives lagging behind in immunization had been given BCG vaccine as this is given before discharge in all institutional deliveries and we have cent percent institutional deliveries here. But only 74.5% reported having been given OPV 0 dose. This may be an underreporting due to lack of awareness from the mother's side or they would not have noticed. None of the 47 underfives, had taken OPV 2nd booster, DPT 2nd booster, vitamin A boosters. Only one child had taken measles 2nd booster. None had received MMR, which could have substantiated for not taking Measles 2nd booster.

Figure 1 gives us the impression that ward 32 and 34 are well performing with just one child to target in each and we should think of strategies to complete the immunization of these 2 children. The most common reason for partial immunization in this study was stated as fear of fever following vaccination (25%) followed by reluctance of the parents in nearly another quarter of them. Illness at the time of vaccination was reported as the reason by about 15%. "Not aware of the needs of vaccination" was the main reason for children not being fully immunized in a study by Amit R Patel and Mary P Nowalk on Expanding immunization coverage in rural India [4]. A Nigerian study done by Itimi K et al [5] shows Lack of motivation, relocation (11.34%), adverse rumors about childhood immunization (17.23%) as the major reasons for incomplete immunization in the urban communities.

CONCLUSION

Immunization Coverage was found to be 93.6% which is better than that reported for Malappuram district. Perinthalmanna is known as the Hospital city of this district with about 20 hospitals in both private and public sector, including tertiary hospitals and a Medical College. The easy accessibility of services may have a role to play in this high immunization coverage. A quarter of the partially immunized was due to reluctance from the side of parents. Two wards, 32 and 34 were well performing with just one child to target in each and we should think of strategies to complete the immunization of these 2 children. With a little more effort in these wards, we can declare these two wards as fully immunized.

RECOMMENDATIONS

- A boost from the family physicians and pediatricians will improve the compliance of parents in utilization of the immunization services.
- Orientation for health care providers regarding the absolute contraindications for immunization.
- Submission of Immunization card should be made compulsory for school entry.
- Prevent or atleast act upon negative propaganda especially those by medical practitioners against vaccination.
- The knowledge/ awareness about importance of routine immunization is a factor for its success. Improve IEC by focusing on increasing awareness about the vaccine preventable diseases.
- Greater focus should be given for motivating the parents to get their children vaccinated with primary series of vaccine by 12 months.
- Assess the reasons for missing the birth-dose Hepatitis B and address the same.

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