A STUDY ON IMMUNISATION STATUS AMONG UNDER FIVE CHILDREN IN URBAN AREA OF KURNOOL, ANDHRA PRADESH

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ABSTRACT

BACKGROUND

Immunisation plays an important role in reducing child mortality and morbidity. Although availability and accessibility for immunisation are high in urban areas, utilisation of services was low. Considerable efforts are required to ensure adequate vaccine coverage to reduce morbidity and mortality among children. Hence, the present study was undertaken with the aim to assess the immunisation coverage and factors influencing among children between 13 months to 60 months of age enrolled in Anganwadi Centres in a field practice area of Kurnool Medical College, Kurnool.

MATERIALS AND METHODS

A cross-sectional study conducted in the field practice area of Urban Health Training Centre and collected necessary details from Anganwadi worker children between ages 13 months to 60 months from September 2016 to October 2016. Children were labelled as 'fully immunised, partially immunised and not immunised' according to working definitions. Percentages and chi-square test analysis was done for statistical analysis.

RESULTS

Out of the 202 under-five children, 70.79% were immunised for age, 29.21% were partially immunised and none were unimmunised. The most common reason for partial immunisation was stated to be ill health of the child at the time of vaccination 43.08% followed by fear of fever following vaccination (20.33%).

CONCLUSION

Regular health education sessions, and regular reminders and removal of misconceptions prevailing among people will solve the problems of partial immunisation.

KEYWORDS

Immunisation, Reasons for Partial Immunisation, Anganwadi Centre.

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BACKGROUND

Immunisation is a proven tool for controlling and eliminating life-threatening infectious diseases and is estimated to avert between 2 and 3 million deaths each year. It is one of the most cost-effective health investments with proven strategies that make it accessible to even the most hard-to-reach and vulnerable populations.[1] Globally, each year 130 million children are born, of which 91 million are in the developing countries. However, around 10 million children under the age of five years die every year and over 27 million infants in the world do not get full routine immunisation.[2] The Universal Immunisation Programme (UIP) was launched on Nov 19th 1985. Post-National Immunisation Programme era has witnessed a dramatic decrease in the incidence of the Vaccine Preventable Diseases (VPD's). Of the several VPD's, as of now only small pox has been eradicated, which was confirmed in May 1980.[3] Another major milestone in the field of preventive medicine is India certified as "polio free country" in 2014. The National Population Policy (NPP) 2000, aims at complete protection of all children against vaccine preventable diseases by 2010 and aim to immunise all children against six common childhood diseases (tuberculosis, tetanus, pertussis, diphtheria, measles and polio).[4] Immunisation against common childhood diseases has been an integral component of mother and child health services in India since the adoption of primary health care approach in 1978. Anganwadi centre is a part of Integrated Child Development Services (ICDS) Scheme initiated in 1975 is India's most ambitious multi-dimensional welfare programme to reach millions of children and mothers who are caught in the grip of malnutrition, diseases, illiteracy, ignorance and poverty.[5,6] The study was needed as the current scenario depicts that immunisation coverage has been steadily increasing, but the average level remains far less than the desired. Still only 62 percent of the infants in

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India are fully immunised (National Family Health Survey-IV), which is much less than the desired 85 percent coverage.[7] Though there is increased accessibility of health care services in urban areas, still the utilisation of health care services is low by the different segments of the society. The present study was undertaken in an attempt to assess immunisation status of children between 13 months to 60 months of age enrolled in Anganwadi centres in Budhawarpet area in Kurnool city.

The main objective of the study was to assess the Immunisation status of Anganwadi children in the urban field practice area of Kurnool Medical College, Kurnool, Andhra Pradesh.

MATERIALS AND METHODS

It was a cross-sectional community-based study and was carried out in Budhawarpet area, which comes under the field practice area of the 'Urban Health Training Centre' of the Department of Community Medicine, Kurnool Medical College, Kurnool, from September 2016 to October 2016 on children (both male and female) between 13 months to 60 months of age. There were 14 Anganwadi Centres in the study area with 1583 under-five children. Based on District Level Household Survey-4, District Fact sheet, Kurnool (2012-13) the three doses of DPT coverage was 72.6% taking into consideration calculated sample size by using formula 4 pq/L^2 with non-response rate of 20%. The total sample size was 183, to make it round-off we included total 202 children of age between 13 - 60 months.

Sampling Procedure

A list of Anganwadi centres in Budhawarpet was obtained from ICDS office, which consists of 14 Anganwadi centres. Out of 14 Anganwadi centres to get a sample size of 202, 15 to 16 children were considered in each Anganwadi centre. The study was carried out by randomly selecting one household in each Anganwadi centre by lottery method and the subsequent household was selected by consecutive sampling method. From a random direction in each centre, study was started by asking the family if there was a child between 13 - 60 months in the house. Every child between 13 - 60 months was included in the study till the sample size was complete in each centre. After taking consent, the mother or the primary care giver was interviewed using a semi-structured questionnaire in their local language at their homes. Immunisation status of the child was assessed by checking the immunisation card and BCG scar and in cases where the immunisation card was not available data given by the mother was relied upon. Help of local Anganwadi workers were taken for the confirmation of vaccination while visiting those areas covered by ICDS.

A child receiving 1 dose of Bacillus Calmette - Guérin (BCG), 3 doses of Oral Polio Vaccines (OPV), 3 doses of Diphtheria, Pertussis and Tetanus (DPT), 3 doses of Hepatitis B (Hep B) and one dose of Measles was considered as fully immunised and missing any one of the above vaccination was considered as partially immunised. A child who has not received any of the above vaccination was considered as Unimmunised.

Inclusion Criteria

Children in the age group of 13 months to 60 months (both male and female) were enrolled in Anganwadi centres.

Exclusion Criteria

Children less than 12 completed months and Children more than 60 completed months; whose mothers not willing to participate and not given consent in the study.

The collected data were analysed using Excel 2007 and EpiInfo 7. The results were expressed in proportions and Chi-square test was used as the test of significance at a confidence level of 95%.

RESULTS

This study included 202 children between the age group 13 months - 60 months. Majority of the children (39.11%) belong to 49m to 60m age group followed by 25 - 36m 23.76%, 37 - 48m 18.81% and 13 - 24m 18.82%.

In this study, equal proportion (50:50) of male and female children were included (Table 1).

Age Group	Male		Female		Total	
(Months)	Numbers	Percentage	Numbers	Percentage	Numbers	Percentage
13 – 24 m	26	12.87%	11	5.45%	37	18.32%
25 – 36 m	26	12.87%	22	10.89%	48	23.76%
37 – 48 m	12	5.94%	26	12.87%	38	18.81%
49 – 60 m	37	18.32%	42	20.79%	79	39.11%
Total	**101**	**50%**	**101**	**50%**	**202**	**100%**

Table 1. Distribution according to Age and Gender

The results showed that 70.79% of children were fully immunised with BCG, DPT3, OPV3, Hep-B 3 and measles; 29.21% were partially immunised. There are no unimmunised children (Table 2).

Age Group	Fully Immunised		Partially Immunised		Total	
(Months)	Numbers	Percentage	Numbers	Percentage	Numbers	Percentage
13 – 24 m	19	51.35%	18	48.65%	37	100%
25 – 36 m	26	54.17%	22	45.83%	48	100%
37 – 48 m	30	78.95%	8	21.05%	38	100%
49 – 60 m	68	86.07%	11	13.92%	79	100%
Total	**143**	**70.79%**	**59**	**29.21%**	**202**	**100%**

Table 2. Distributions according to Immunisation Status

Majority (57.92%) of mothers of the children under the study were illiterate (Table 3) and 42.18% were literate. Full Immunisation was more among children of illiterate mothers than literates and was statistically significant.

Mother's Education	Fully Immunised		Partially Immunised		Total	
	Numbers	Percentage	Numbers	Percentage	Numbers	Percentage
Illiterate	91	45.05%	26	12.87%	117	57.92%
Literate	52	25.74%	33	16.34%	85	42.08%
Total	**143**	**70.79%**	**59**	**29.21%**	**202**	**100%**

Table 3. Distribution based on Education of Mother and Immunisation Status

Chi-square= 6.56, Degrees of freedom= 1, Probability < 0.05.

54.95% of mothers of the children under the study were not working and 45.05% were working (Table 4). Partial Immunisation was more among children of working mothers than not working and was significant statistically.

Mother's Occupation	Fully Immunised		Partially Immunised		Total	
	Numbers	Percentage	Numbers	Percentage	Numbers	Percentage
Not working	100	49.50%	11	5.45%	111	54.95%
Working	43	21.29%	48	23.76%	91	45.05%
Total	**143**	**70.79%**	**59**	**29.21%**	**202**	**100%**

Table 4. Distributions based on Occupation of Mother and Immunisation Status

Chi-square= 44.4, Degrees of freedom= 1, Probability < 0.05.

With regard to type of vaccinations coverage was the highest for DPT-1 and OPV-1 (100%) and the lowest for measles vaccine (72.28%).

In the present study, immunisation cards were available with 92.08% of the mothers of children (Table 5). Immunisation coverage was better in case of children who had their immunisation cards available.

Immunisation Card	Fully Immunised		Partially Immunised		Total	
	Numbers	Percentage	Numbers	Percentage	Numbers	Percentage
Present	131	64.85%	55	27.23%	186	92.08%
Absent	12	5.94%	4	1.98%	16	7.92%
Total	**143**	**70.79%**	**59**	**29.21%**	**202**	**100%**

Table 5. Immunisation Card Status

A total of 59 children were found to be not immunised for their age. The reasons as stated by the care-givers are given in Table 6. The most common reason for partial immunisation in this study was stated as ill health of the child at the time of vaccination 43.08% followed by fear of fever following vaccination (20.33%). Out of station at the time of vaccination was reported as the reason by about 16.95%.

Reasons for Partial Immunisation	Numbers	Percentage
Ill health of the child at the time of vaccination	28	43.08%
Fear of fever following vaccination	12	20.33%
Out of station	10	16.95%
Total	**59**	**100%**

Table 6. Reasons for Partial/Non-Immunisation

DISCUSSION

This study was done to assess the immunisation status of Anganwadi children in urban area of Kurnool, AP. In this study, majority (39.11%) of the children belonged to 49 to 60 months' age group; 70.79% of children were fully immunised with BCG, DPT3, OPV3, Hep-B3 and measles; 29.21% were partially immunised. There are no non-immunised children. A study conducted in an urban slum of Delhi showed that 69.3% of the children were fully immunised, 15.7% of the children were partially immunised and 15.1% of the children were not immunised.[8] Another study in Madhya Pradesh showed that 60.8% of the children were fully immunised, 27.7% of the children were partially immunised and 11.5% of the children were not immunised.[9] An Indian study found that 63.3% of children were fully immunised, 27.1% of the children were partially immunised and 9.6% of the children were not immunised.[10] In this study, illiteracy status of mother was 57.92% with their children were fully immunised 45.05% and was significant. Different level of literacy amongst mothers in various studies and present study is because of different geographical locations. Biswas et al (1999)[11] also had a higher percentage of illiterate mothers, i.e. 63.49%. Yadav RJ and Singh P (1999)[12] in their study had a similar level of illiterate mothers, i.e. 56.40%. Kadam et al (2001)[13] had a lower percentage of mothers (48.51%) being illiterate. In the present study, partial immunisation was more among children of working mothers than non-working and was

significant statistically. The reason was timing of Immunisation and working hours are same. In Maheshwari M et al,[14] 77.1% vaccinated children's mothers were housewives. Almost similar observation was seen in a study by Hussain TM (1994),[15] who found 88% of mothers to be housewives. Deb SK (1998)[16] also found 48.27% of mothers being housewives. In the present study, immunisation cards were available with 92.08% of children. Immunisation coverage was better in case of children who had their immunisation cards available. This shows that mothers were well motivated and have understood the importance of maintaining such records with them for followup. Similar results were shown in the studies conducted by Tapare VS et al[17] and Kadri AM et al,[18] in which 81.25% and 88.4% of the mothers possessed the immunisation card with them, respectively. The most common reason for partial immunisation in this study was stated as ill health of the child at the time of vaccination 43.08% followed by fear of fever following vaccination (20.33%). Out of station at the time of vaccination was reported as the reason by about 16.95%. Punith K et al[19] also revealed that unaware of the need of immunisation followed by fear of side reaction was the major reason for discontinuation of immunisation. Non-availability of services was reported to be the single commonest reason for non-immunisation in some studies.[20,21]

CONCLUSION

In the present study, nearly one-third of the children were partially immunised and this was more among children of educated and working mothers. The major reason among them for partial immunisation is fear of fever following immunisation. This indicates the need for better counselling of mothers about the importance of immunisation and all related issues like Adverse Events Following Immunisation (AEFI).

Recommendations

There is a need to strengthen the existing immunisation program among those residing in urban areas. Special emphasis should be placed on proper and adequate counselling of parents regarding the various benefits of immunisation and sequence of events following immunisation.

Limitations

This study was done in UHTC area only. Therefore, the result of this study might not be generalised to describe for the other areas.

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