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Assessment of Immunization Coverage of Pediatric Population in Telangana

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ABSTRACT

Background: The immunization coverage in India is far away from acceptable level with complete immunization coverage being only 62% at the national level. Targeting efforts towards poor performing areas and knowing the determinants of non-immunization and dropouts offers a quick solution.

Objectives: To assess the immunization coverage of antenatal women and children below 2 years of age and its associated factors in Mehboobnagar District of Telengana State.

Methods: Study A Cross Sectional study, where, a list of the immunization session sites were obtained and convenient sampling for immunization session site was done. Around 122 children between 0-23 months were screened for immunization by house to house survey method. Entire data was collected and analyzed by using SPSS software.

Results: Overall 83.60% of the children were fully immunized. Maximum Children (27.86%) belonged to 11-15 month of age. About 25% of the children belonged to polio high risk area. The predominant reasons for default of vaccination was 'sick of child ','caregiver being out of station, 'post vaccination minor illness and swelling', 'Poor awareness about date of immunization'.

Conclusion: Overall, coverage of immunization is not as per goal set under Mission Indradhanush.

Keywords: Immunization, High Risk Areas, Health Education, Survey.

INTRODUCTION

Immunization is the process by which a person is made immune/resistant to an infectious disease; typically by administration of a vaccine.[1]Infectious diseases are major cause of morbidity and mortality amongst the children. Immunization is the most cost effective method to prevent them.

According to recent estimates, approximately 34 million children are not completely immunized with almost 98 percent of them residing in developing countries.[2]The World Health Organization (WHO) officially launched a global immunization program known as 'Expanded Program of Immunization' (EPI) to protect all the children against six vaccine preventable diseases by the year 2000. EPI, launched in India in January 1978 was as Universal Immunization Program (UIP) since 1985. UIP has been able to avert many deaths because of the six childhood diseases.[3]Vaccination coverage in India is poor despite the longstanding commitment to universal coverage.[4]

In 2017,the increase in full immunization was 1% per year which increased to 6.7% per year through the first two phases of Mission Indradhanush .[5]As per 2018, 75 high focus districts, the mission focused on 4,00,000 high risk settlements identified as pockets with low coverage due to geographic, demographic, ethnic and other operational challenges. These include nomads and migrant labors working on roads, construction sites, riverbed min-

ing areas, brick kilns, and those living in remote and inaccessible geographical areas and urban slums, and the underserved
andhard to reach populations dwelling in forested and tribal areas. [6]

Mission Indradhanush has been implemented in low coverage pockets and has been expanded during (i) Intensified Mission Indradhanush (ii) Gram Swarajabhiyanand (iii) Expanded Gram Swarajabhiyaan.[7] This Mission is joint monitoring of activities by Government and supporting partners including WHO, UNDP, UNICEF, NE-RRC. [8]

In Telangana state, four districts are poorly performing with immunization coverage less than 50%. Government of India is trying hard to give high intensity focus in these places so that immunization coverage in these affected areas can be increased to goals set under mission Indradhanush. Very few studies have been conducted so far in these areas to find out immunization status of children less than two years of age. The present was undertaken to know the actual present status of immunization of these children and its related factors.

OBJECTIVES

Objectives of this study were to assess the immunization status of children up to 2 years of age in Mahabubnagar District of Telengana Sate and also to find out various factors affecting immunization of the target population.

MATERIAL AND METHODS

A Cross sectional study was conducted at Mahabubnagar District of Telengana State. For Administrative purpose, Mahabubnagar District was divided into four blocks namely 'Mahabubnagar North & South and Narayanpeth North & South'. These Blocks were further divided into 14 Planning Units at the level of PHCs and UHCs. Session sites were placed at different geographical areas under the catchment areas of PHCs and UHCs. A list of all immunization session sites was obtained with the help of administrative division of Mahabubnagar District. A total of 15 session sites were selected by convenience sampling method and all 122 children between the age of 0 to 23 months were screened by house to house survey method from the similar sites.[9] These children were the beneficiaries of targeted session sites. During survey, certain aspects regarding immunization were recorded like immunization status of child as per national immunization schedule, proper maintenance of the MCP card, whether a defaulter child is immunized under Mission Indradhanush etc.

Operational Definition[10,11]

Full immunization: Child, 1 to 2 years age, who received 3 doses of Pentavalent and OPV each, 1 dose of BCG and measles each.

Partial immunization: Child, who missed any one or more of above doses.

No immunization: Child who did not receive even a single dose of vaccine.

RESULTS

In present study, out of total 122 Children, 78 (63.93%) were male and 44 (36.06%) were female children. Thirty (24.59%) children belonged to 0-5months age group, 24(19.67%) belonged to 5-10 months of age and 34(27.86%) belonged to 11-15 months of age. Twenty six (21.63%) children were between 16-20 months and 8 (6.55%) were from 21-23 month Age. Ninety percent of the total population belonged to rural areas. Majority (65.57%) of the study population belonged to Hindu Community while 34.43% of children were Muslims. About 70% of the children delivered in government hospital and remaining delivered in private hospital, no home delivery was recorded. Percentage of boys delivered in government hospital was 45% as compared to 24% in girls. Immunization card was found amongst 100% of the Children.

Table 1: Sociodemogarphic characteristics of study participants (n=122)

Parameter	Number (%)
Religion	
Hindu	80 (65.53)
Muslim	42 (34.47)
Gender	
Males	78 (63.93)
Females	44 (36.9)
Area	
Urban	12 (9.7)
Rural	110 (90.3)
Education of parents	
Literate	77 (63.11)
Illiterate	45 (36.88)

Table 2: Immunization Coverage of Study Population (n=122)

Vaccine	Beneficiaries vaccinated	
	Urban	Rural
BCG	120 (98.90)	115 (94.10)
Penta	121 (99.20)	118 (96.30)
Measles	120 (98.90)	115 (94.10)
OPV and DPT first booster	116 (95.20)	110 (89.90)

Figure in parenthesis indicate percentage

Table 3: Factors affecting Immunization of Study Population (n=122)

Factor	Frequency (%)
Sickness of child	02 (1.63)
Lack of availability of caregiver	05 (4.09)
Post vaccination minor illness	02 (1.63)
Poor knowledge of caregiver about immunization	15 (12.29)

Overall, in both the areas, the overage with Pentavalent vaccine was maximum (98.3%) followed by BCG which was 96.7%, Measles (96.7%) and that of first Booster was 93.4%.In present study, overall 83.60% of the children were fully immunized. Partially immunized children were 14.75% and only 1.61% of the children were unimmunized. 50% of the partially immunized children had not taken 1st Booster dose of DPT and OPV and also MR2 and JE2 to be taken at 16th month of life. Present study revealed Odds Ratio for both the groups 0.21 and 0.43 (Table 3). Odds ratio of 0.21 indicates that risk of outcome in the exposed group was reduced by almost 80% relative to unexposed group.

Table 4: Immunization Status of Study Population (n=122)

Characteristics	Frequency (*n*=122) (%)	No Immunization		Partial Immunization	
		Frequency (%)	OR (95% CI)	Frequency (%)	OR (95% CI)
Area					
Urban	12 (9.7)	01 (8.33)	Ref	04 (33.33)	Ref
Rural	110 (90.3)	02 (1.81)	0.21(0.13-0.26)	16 (14.54)	0.43 (0.36-0.49)
Gender					
Male	78 (63.93)	0		14 (17.94)	Ref
Female	44 (36.9)	03(6.81)	-	06 (13.63)	0.75 (0.69-0.81)

OR – Odds Ratio, CI – Confidence Interval

DISCUSSION

In the present study, 122 children participated in the study in between age group 0-23 months. Maximum number of children belonged to 11-15 months. As per the study conducted by Raghavendra Swamykoppad et.al [12], 12-36 months children were selected for the study purpose and maximum number of children belonged to 21-25thmonth of age. This difference might be due to that now government has targeted children <2yrs of age.

In present study, number of female children was less than males. Sex ratio in most of parts of India is found be favorable for males. Preference towards male child and ignorance for female child is not so uncommon in many areas of India. Health needs of female children including immunization services are often underestimated in many section of India particularly in remote and marginalized population.

In the present study, 90% of the population belonged to rural community. In our study majority of the population i.e 65% belonged to Hindu religion. A Study conducted by Shankar Prinja showed that 78% of the population belonged to Rural Community and also majority population being Hindu by religion i.e 56%. [13] The reason for higher rural population is because of the Agrarian culture of the Telangana state. About 70% of the children delivered in government hospital. As per the NFHS-4 data for Telangana state institutional delivery was marked upto 92%. The reason for lower institutional delivery in our study might be due to chance or because of survey of the core area of the district.[14]

As per our study immunization coverage with Pentavalent vaccine was maximum (98.3%) followed by BCG which was 96.7%, measles (96.7%) and that of first Booster was 93.4%. This indicates higher coverage as compared to National coverage2 [BCG (91%), Pentavalent (88%) and measles (66.5%)]. As per NFHS-4 immunization coverage was highest for BCG (97) followed by measles (91%) than followed by DPT3 (88%) and Polio 3 (77%) Over all coverage as an average for all vaccine was 68%. [14]

In our study, the common four reasons for default of vaccination was child was sick, caregiver being out of station, experienced minor illness and swelling, Not aware of the date of immunization. As per the study conducted by S.Yadav et.al the major reasons for default were ignorance, inconvenience, short supply of vaccines, schedule not as planned and problem of relation between health worker and Community. [15]As per the study conducted by rajatvohraet.al [16], the main reason for default were unawareness of need of immunization, no faith in immunization, child ill so not brought and place of immunization too far etc. These reasons were almost same as per our study.

In our study about 25% of the children belonged to Polio High Risk Area. These polio high risk areas where Hard to reach Area, Non Migratory settled High Risk Area and Slums with Migration. These people belong to Lambada communities who have migrated from different states. There are also many

brick lane sites which were surveyed during the study. Similar studies for coverage of such high risk areas are lacking.

In our study area, community health workers like ASHAs and Anganwadi workers play a vital role in providing health services including immunization. Their contribution in this field is well acclaimed. However, they often face many challenges in performing their job responsibilities like workload, poor political support, financial sources etc. There is need to strengthen their existing vaccination responsibilities in given area in order to reduce the number of unvaccinated children in study area.

CONCLUSION AND RECOMMENDATION

Overall, coverage of immunization (83.5%)is not as per goal set under Mission Indradhanush. Good coverage has been established for BCG, Pentavalent and measles due to conventional immunization at birth and comparatively better awareness among people. Commonly missed vaccine was the first booster which is mostly due to non-accessibility of the children habitat. Coverage of first booster vaccine can be improved by doing effective community mobilization by ASHAs (Accredited Social Health activist) and with the help of mobile phone based SMS reminders of due dates. ASHA's to be instructed for strengthening regular updating of MCP card's (Mother and Child Protection Card's). Also medical officer should ensure presence of all logistics at session sites beforehand. More emphasis should be given on health education during immunization sessions.

LIMITATION OF THE STUDY

All vaccination session sites could not be covered because of time constraints.

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