A STUDY ON EVALUATION OF PRIMARY IMMUNIZATION COVERAGE IN THE SLUMS OF KANPUR NAGAR

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ABSTRACT :

In 2008, WHO estimated that 1.5 million of deaths among children under 5 years were due to diseases that could have been prevented by routine vaccination. This represents 17% of global total mortality in children under 5 years of age. Present study was conducted to coverthe immunization of children aged 12-23 months in the slums of Kanpur Nagar .

Key words: Primary immunization, drop out, WHO, vaccination, slums.

INTRODUCTION

In 2008, WHO estimated that 1.5 million of deaths among children under 5 years were due to diseases that could have been prevented by routine vaccination. This represents 17% of global total mortality in children under 5 years of age. Thus immunization can significantly contribute to achieve the United Nations Millennium Development Goal-4 (MDG-4), which aims to reduce under-five mortality by two thirds by 2015. Although immunization coverage has increased substantially in recent years, large numbers of slum dwelling children remain incompletely immunized. In India ,of the eligible children not protected with full immunization coverage , approximately 9 million live in Uttar Pradesh, Rajasthan, Bihar and Madhya Pradesh. According to DLHS 07-08 , in Uttar Pradesh ,only 30.3% Children aged 12-23 months were fully immunized .Uttar Pradesh, the most populous Indian State ,with nearly 11 million urban poor, houses the largest number of urban poor in a single state. Not only does the state have a heavy burden of poverty, it also ranks low in terms of other social indicators among the states in the country. United Nation Development Programme's (UNDP) Urban Poverty Report, 2009 has pegged the number of slum dwellers in Uttar Pradesh at 44 lakh .

With this background this study was planned to find out the immunization coverage in the slums of Kanpur Nagar .

MATERIAL AND METHODS

The present cross sectional study was carried out in slums of Kanpur Nagar from October 2012-September 2013 using 30 cluster sampling technique proposed by WHO.The study sample includes 30 clusters from 380 identified slums of Kanpur Nagar district . Mothers of seven children aged 12-23 months were interviewed from each cluster on pre tested, predesigned questionnaire , thus giving us the sample size of 210. The coverage of BCG, OPV, DPT, Hepatitis B, Measles vaccines and 1st dose of vitamin A was taken under consideration .The results were categorized into three groups of Completely, Partially and Unimmunized children. The OPV given in Pulse Polio Immunization (PPI) was not considered for classification.

Child is considered fully immunized if it receives BCG (1), DPT (3), OPV (3), and measles (1); partially immunized if some doses given but immunization not complete and unimmunized if received none of these vaccines. The collected data was analyzed using appropriate statistical tools like percentages, chi square test etc. and conclusions were drawn accordingly.

RESULTS

Out of 210 children, 51.43 %were males and 48.57 % were females. Majority of the study subjects were Hindus (86.70%) while 13.30% were Muslim. Maximum (48.57%) study subjects belonged to OBC category followed by 32.38% subjects to SC/ST category Majority (79%) study subjects belonged to social class IV followed by social class III (12.9%) and social class V (8.1%). No study subjects belonged to class I and II. (Table 1)

52.38% study subjects were fully immunized, 29.52% were partially immunized and 18.10% were not immunized .58.33% males were fully immunized as compared to 46.08% females however the difference was not statistically significant (^{2} =3.158, df =1, p>.05) (Table 2). Immunization card was available with 45.70% study subjects .

Immunization Coverage was highest for BCG vaccine (81.90%) followed by DPT/OPV 1 (81%), DPT/OPV3 (60%), Measles (52.90%) and lowest for hepatitis B3 (41.90%). Coverage for was Immunization Coverage of all the vaccine was higher for males as compared to females .Coverage of 1st dose of vitamin A was only 39%.(Table 3)

Drop out rate for BCG – Measles and DPT(I-III)/ OPV(I-III) was 35.46% and 25.88% respectively .The dropout rate was found more among females as compared to males for all the vaccines.(Table 4)

Table 1 : Socio Demographic profile of study subjects

Characteristics		Number	Percentage
Sex	**Male**	**108**	**51.43**
	Female	**102**	**48.57**
Religion	**Hindu**	**182**	**86.70**
	Muslims	**28**	**13.30**
Caste	**General**	**40**	**19.05**
	OBC	**102**	**48.57**
	SC/ST	**68**	**32.38**
Social class	**Class III**	**27**	**12.9**
	Class IV	**166**	**79**
	Class V	**17**	**8.1**

Table 2:Immunization status of study subjects

Immunization status	Male (%)	Female (%)	Total (%)
Fully immunized	63 (58.33%)	47 (46.08%)	110(52.38%)
Partially immunized	32 (29.63%)	30 (29.41%)	62 (29.52%)
Not immunized	13 (12.04%)	25 (24.51%)	38(18.10%)
Total	108 (100%)	102 (100%)	210 (100%)

Table 3:Coverage of different vaccines included in UIP

Drop out rate	Male (%)	Female (%)	Total (%)
DPT(I–III)	24.73	27.27	25.88
OPV (I –III)	24.73	27.27	25.88
BCG – Measles	34.37	36.84	35.46
DPTI – Measles	32.26	37.66	34.70

DISCUSSION-

In the present study 52.38% study subjects were fully immunized which is more than that of the U.P. status (23%) according to NFHS-3 . The proportion of fully immunized children found in the present study was low in comparison to similar studies done in Jamnagar (73%)(13) and Goa (85%)(5) .This could be due to interstate variation in infrastructure and implementation of health programmes. A World Bank report by Ramana et al (6) reported a complete immunization coverage of the slums of Bangalore, Delhi, Hyderabad and Kolkatta at 50%, 62%, 50% and 57% respectively. Higher full immunization coverage rates were also obtained by S Yadav et al (13), Varsha Chaudhary et al (2), A M kadri et al (8).The figures revealed by these studies were 73.3%, 61.9%, 62.7% respectively. Sharma et al (12) found 51.7% partially immunized and 23.1% non immunized children which was much higher than the present study where corresponding figures are 29.52% and 18.10% while Chopra H (4) et al had reported lower percentage (5.25 %) of partially immunized children when compared to our study. The drop out rate for OPV (I-III) & DPT (I-III) in our study was 25.88%. This is comparable with other studies carried out in Uttar Pradesh. The main reason for dropout of the children may be ignorance and illiteracy among parents which can be improved through effective communication efforts and other awareness campaigns. The overall drop out rate (i.e from BCG - measles) was 35 .46 % in the present study while Sharma et al (12) reported 60.2% drop out rate from BCG - Measles in their study in Surat , Gujarat. In our study 81.90% are immunized with BCG , 60% with OPV3 & DPT3 and 52.90% with Measles .These rates are higher than the study conducted by Timsi Jain et al(7), Sharma et al(12) & Praveer Saxena et al(11). The HepatitisB 3 coverage in the present study was 41.90% where as Sandeep Sachdeva et al (10) reported 44.60% coverage for the same in their study in Delhi. P Chhabra et al (3) in their study in Delhi also reported high level of BCG coverage (82.7%), higher level of OPV3, DPT3 (70.7% both) and 65.3% for measles. Higher coverage rates than our study are were also reported by V Bhatia et al(1),S Yadav et al (13), Rajaat Vohra et al (14) .

Conclusion and Recommendation : Increased IEC activities and BCC strategy should be used for scaling up of immunization coverage .BCC messages & tools based on characteristics of respective community viz. literacy , knowledge , myths , cultural and religious beliefs should be designed . The study reveals high drop out rate so emphasis should be given on completing the immunization schedule.

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