



Immunization Status of Rural Children in Vadodara District (Gujarat)

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ABSTRACT

Introduction: Immunization is very important and cost effective measure in preventing many infectious diseases in children. Complete immunization coverage is still less than 60% in India. Incomplete or no immunization renders the child prone to various infections and undernutrition as well. In this study we aimed to know the immunization status of rural children of Vadodara district of Gujarat.

Material methods: this was a cross sectional study conducted from December 2010 till November 2011 in different Anganwadi centers of rural areas in Vadodara. Children's immunization and nutritional status were evaluated and statistically analysed.

Results: total 250 children were included and 91% of them were fully immunized as per national immunization program till age.

Conclusion : Although complete immunization rate is very good, some children are still not immunized at all. These unimmunized children are more at risk for severe undernutrition.

KEYWORDS : Immunization , vaccine , undernutrition

INTRODUCTION:

Immunization is the most cost-effective public health intervention to reduce morbidity and mortality due to vaccine preventable diseases. Following the success in the eradication of smallpox in the late seventies, the Expanded Program of Immunization was launched for the control of five vaccine preventable diseases viz., Diphtheria, Pertussis, Tetanus, poliomyelitis and Tuberculosis. In November 1985 the scope of the program was universalized (UIP) and measles vaccine was introduced in the program. It was targeted to cover all pregnant women with immunization against Tetanus and all infants with primary immunization. In 1992 this program became a part of the Child Survival and Safe Motherhood program (CSSM)(1). Following the International Conference for Population and Development (IPCD) held at Cairo, a paradigm shift was brought about and "Reproductive and Child Health Program" was launched in October 1997. Immunization is an important component of the RCH program. An evaluation by UNICEF (2001) showed that in India, 49% of children are fully immunized which is significantly low. The fall in immunization coverage has led to concerns of re-emergence of a few of these easily preventable killer diseases(2). In a study done to assess the immunization status among children in the age group of 12-23 months covering urban and rural areas in Chandigarh on National Immunization Day (PPI). Results showed that fully immunized children -72.23%, partially immunized-22.29% and unimmunized-4.64%. the overall coverage of various vaccines was BCG : 93.09%, DPT₁/ OPV₁ : 93.97%, DPT₂/ OPV₂ : 90.57%, DPT₃/ OPV₃ : 85-92% and Measles : 76%. No sex wise difference was noted(3). A study conducted to know the factors predicting the non-utilization of immunization services among children between 12-23months of age. Of the 200 children studied 56% were fully immunized. Only illiterate mothers and poor access to health facility were found to have an independent predictive power on the the non-utilization of immunization services(4).

In this study we aimed to assess the immunization status of children in Rural areas of Vadodara district of Gujarat.

MATERIAL AND METHODS:

This was a observational study, conducted in SBKS Medical college, Vadodara (Gujarat) during May 2009 to April 2012. All children (male & female) b/w age 6 month to 5 yrs were included and children with cerebral palsy, congenital malformations, HIV (if screened previously) chronic morbidity were excluded from the study. The main occupation was labour work and agriculture. Written informed consent was taken and proper counselling was done. After taking the permission from the ethical committee, I visited nearby rural areas on routine working days and mamta days for the study. Informed consent was obtained from parents or legal guardians on the patient's behalf in accordance with the national legislation and data was collected in

pre-designed proforma. The information regarding SE Status, family size, total no. of children , ANC, PNC , development of child, feeding practices , past history of any significant illness in last one month was taken. A meticulous enquiry was done on dietary habits and the daily dietary intake of each child was calculated by last 24 hours recall basis method. Anthropometric , general and systemic examination of children b/w age 6mth-5yrs was done for Vitamin A deficiency, Other micronutrients deficiency, Immunization status, Anemia , Mothers were educated about nutritious food , feeding Practices , ORS , immunization & hygiene by group teaching, charts, small talks and demonstration methods. F/u visit to access the impact of intervention was done.

Results and Discussion :

With regards to immunization, 229(91.6%) children completed the primary immunization. While 18 (7.2%) were partially immunized, and 3(1.2%) did not receive any immunization. 221(91.6%) children had received vit-A according to age (Table 1). our findings were similar to the results observed in a Multi-centric study in which 91.3% of children were fully immunized.7.4% were partially immunized and 1.3% children did not receive any vaccine among children surveyed in Karnataka. The vitamin A coverage in the above mentioned study was reported to be 59.00%(5). In Gujarat None immunization rate have consistently declined from 19% to 5% between NFHS I to NFHS III. Full immunization coverage rate in NFHS III is 45% which is similar to national average(6). According to Multi indicator cluster survey (2007) the rate of non immunized children has gone down to 2% and that of fully immunized children have reached to 82%(7). All vaccine coverage is 90% or more in Gujarat(8).

This was observed in our study that children who had completed their primary immunization were less prone for under nutrition. The prevalence in this category was under weight-42.43%, stunting-27.46% and wasting-11.30%. In children who had not completed their primary immunization the prevalence of underweight was 77.42%, stunting was 66.13% and wasting was 35.48%(table 2). In each condition p was <0.05. In a study done in Calcutta, West Bengal a significantly higher (p<0.05) prevalence of malnutrition was observed among partially immunized and non-immunized children (81.25% and 88.23% respectively) in comparison to fully immunized children (62.07%)(9).

Table No.1. Distribution of Children according to completion of primary Immunization (UIP); (n=250)

IMMUNIZATION STATUS	NO.	%
COMPLETE	229	91.6
PARTIAL	18	7.2

IMMUNIZATION STATUS	NO.	%
NOT TAKEN ANY	3	1.2
TOTAL	250	100

Table No.2. Nutritional status of children according to immunization status:

IMMUNIZATION STATUS (UIP)	CHILDREN OBSERVED NO.(%)	UNDER-WEIGHT NO. (%)	STUNTED NO. (%)	WASTED NO. (%)
COMPLETE	229 (91.6)	134 (58.5) (n=229)	42 (18.3) (n=229)	152 (66.3) (n=229)
PARTIAL	18 (7.2)	13 (72.2) (n=18)	6 (33.3) (n=18)	12 (66.6) (n=18)
NOT TAKEN ANY	3 (1.2)	3 (100) (n=3)	2 (66.6) (n=3)	3 (100) (n=3)
TOTAL	250 (100)	150 (60)	50 (20)	167 (66.8)

CONCLUSION :

Although primary Immunization was satisfactory in the study area and All doses of Vitamin 'A' according to age were received by 91.8% children, still hundred percent immunization remains to be achieved. As complete immunization has beneficial effect in protecting children from malnutrition, it is very important to provide immunization for all children.

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