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Research Article

Immunization Status of Under Two Years Children in Rural Bareilly

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Abstract: To outline the immunization status of rural children, a cross-sectional study was undertaken in the immunization unit of rural health training centre, Dhaura, Department of community medicine, SRMS Institute of Medical Sciences, Bareilly among children (n = 331) in the age group of 0-24 months belonging to rural areas of the district Bareilly, UP. Parents of 331 children were interviewed using a preformed schedule. Children were labeled as 'completely immunized', or 'incompletely immunized' according to working definitions. Percentages and chi-square test analysis was done for statistical analysis. There were 81 children (24.5%) who were 'completely' immunized and 250 (75.5%) were 'incompletely' immunized. The prevalence of immunization status among male children was more than the female children. On comparing the immunization status of 0-12 months old male (147) and female (143) children with the immunization status of 12-24 months male children (31) and female children (10), it was found that the former group had better immunization status than the latter group, and it was statistically significant. (Chi square=8.97, df=1, p=0.002). The most common reasons for incomplete-immunization (n = 250) were may be lack of knowledge regarding vaccines and schedule, fear of 'injection' busy in profession and low socio economic status. The various factors may be influence the immunization status of rural children needs to be addressed in order to achieve millennium development goal of reducing under-five child mortality.
Keywords: Complete and incomplete immunization, Prevalence and Chi square test, Bareilly

INTRODUCTION

Immunization is one of the most cost effective public health interventions since it provides direct and effective protection against preventable morbidity and mortality. It has been a major contributor in the decline of under-5 mortality rate from ~ 233 to ~63 (per 1000) in last five decades in India [1]. However, vaccine preventable diseases (VPDs) are still responsible for over 5 lakh deaths annually in India. This underlines the need for further improvement. India, along with many developing countries, is lagging behind in sufficient coverage of routine immunization (RI). According to World Health Organization (WHO)/UNICEF estimates, DTP3 coverage in the South-East Asia and Africa regions of WHO for 2010 remained relatively low at 77% [2]. In India, the coverage was even lower at 61%3. Thus, the SEA Regional Director declared 2012 as the Year for intensifying RI in the Region [2]. This was endorsed by Government of India (GoI) and 2012 was declared as the Year of Intensification of RI in India also [3].

Further, a national socio-demographic goal was set up in National Population Policy (NPP) 2000 to achieve universal immunization of children against all vaccine-preventable diseases by 2010 [4], decrease in the incidence of malaria in most parts of the in the last few years, urbanization is growing in India. Most of this growth is due to migration, industrialization and natural growth (through birth). With the rapid growth of big cities, an impending threat of outbreak of vaccine-preventable diseases always exists due to the high population density, continuous influx of a new pool of infective agents with the immigrating population and poor coverage with primary immunization in the urban slums. In order to control and eliminate the vaccine preventable diseases it is important to know the vaccination coverage and reasons for non-vaccination.

WHO and United Nations Children's Fund (UNICEF) developed the Global Immunization Vision and Strategy (GIVS), with the aim of reducing vaccine-preventable disease related morbidity and mortality by improving national immunization programs [5]. However, according to the Global Routine Vaccination Coverage (GAVI)–2010, about 19.3 million children were not fully vaccinated and remained at risk for diphtheria, tetanus, and pertussis and other vaccine-

preventable causes of morbidity and mortality, and about 50% of these children are from India, Nigeria, and Congo [6]. Even though the immunization services in India are being offered free of cost in public health facilities, about 45% of Indian children are deprived of the recommended vaccinations [7].

Hence the present study was undertaken with aim of finding out vaccination coverage. Coverage data are traditionally considered as the best indicators of an immunization program's performance because they reflect the management of, access to, and utilization of services. There are few population based studies on the factors associated with immunization coverage in industrial area from our country. The current study was undertaken with objective of seeking association of gender factor and vaccination status of children. This study helps to understand the needs/problems to better manage the program at the local level.

Aims and Objectives

- To assess the immunization status in under two years children
- To study the association of gender factor among study subjects

MATERIALS & METHODOLOGY

A hospital based cross sectional study was carried out in the year 2013(Jan-Dec) in the field practice area of rural health training centre (RHTC), Dhaura, Department. of Community Medicine, SRMS Institute of Medical Sciences, Bareilly. The sample size of 331 under two children attending outpatient department (OPD) at the RHTC Dhaura, Bareilly was examined by the team comprising of doctor, nursing sister and interns. The primary respondent was the mother of the child; and in case of her absence, the father acted as the next respondent. Vaccination was done on Wednesday of every week. Informed verbal consent was taken from the interviewed subjects. The information was collected on pre designed and pre tested proforma. Data thus generated was entered and analyzed using Epi Info 3.4.1 software package. Percentage and Chi-square test was applied and following observations were made

Criteria for age and diagnosis

Exact age of the child was established from birth certificate/ school identification card, immunization card or recall method (to the nearest month using calendar of local events). The method used for the determination of the vaccination status was 'the vaccination card or the recall'. The child was considered as 'Completely vaccinated' if he/ she had received all vaccines required for its age, as per national immunization schedule (excluding BCG, Polio 0 and hepatitis B 0 dose) by his/her first birthday. Those who had missed any one vaccine out of the six primary vaccines were described as 'Incompletely vaccinated'.

Inclusion criteria

Under two year's children attending outpatient department (OPD).

Exclusion criteria

Children not residing in Dhaura, Bareilly in the last six months, children who were seriously ill, too agitated & unwilling for immunization were excluded from the study.

Referral Services

Those who were very sick requiring emergency treatment were referred to emergency unit of SRMS IMS Bareilly.

RESULTS

In the study population, maximum numbers of children 234 (70.7%) were in the age group of 0-6 months followed by 56 (16.9%) in age group of 6-12 months. There were 178(53.8%) males and 153(46.2%) females (Table-1).

Table 1: Age and sex wise distribution of study subjects (n=331)

Age in months	Sex		Total (%)
	Male (%)	Female (%)	
0-6 months	116(65.2)	118(77.1)	234(70.7)
6-12 months	31(17.4)	25(16.3)	56(16.9)
12-24 months	31(17.4)	10(6.5)	41(12.4)
Total	178(53.8)	153(46.2)	331(100.0)

Table no.2 shows that the prevalence of complete immunization among male children (13.9%) was found more than the female children (10.6%). Here coverage of complete immunization decreases as the age of the child increases. On compairing the immunization status of 0-12 month's old male (147) and female (143) children with the immunization status of 12-24 months male children (31) and female children (10), it was found that the former group has better immunization status than the latter group. The difference was statistically significant. (Chi square=8.97, df=1, p=0.002)

Table 2: Gender wise immunization status among study subjects (n=331)

Age in months	Immunization					
	Male			Female		
	Complete (%)	Incomplete	Total (%)	Complete (%)	Incomplete (%)	Total (%)
0-6 months	20(43.5)	96(72.7)	116(65.2)	20(57.1)	98(83.1)	118(77.1)
6-12 months	19(41.3)	12(9.1)	31(17.4)	12(34.3)	13(11.0)	25(16.3)
12-24 months	7(15.2)	24(18.2)	31(17.4)	3(8.6)	7(5.9)	10(6.5)
Total (331)	46(13.9)	132(39.9)	178(53.8)	35(10.6)	118(35.6)	153(46.2)

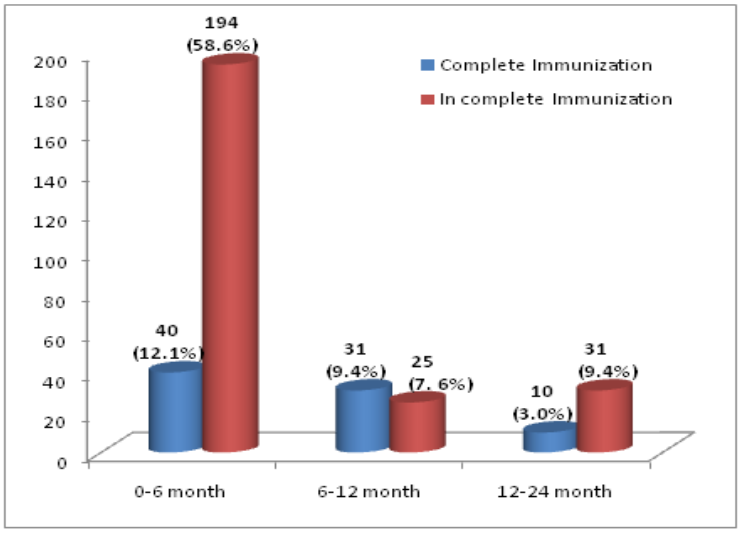

Fig. 1: Prevalence of complete immunization and incomplete immunization

This figure shows that the prevalence of complete immunization and incomplete immunization was found more among 0-6 year age group children. The prevalence of complete immunization (9.4%) was found more than the incomplete immunization (7.6%) in the age group of 6-12 month only, while in other age groups, the prevalence of incomplete immunization was found more than the complete immunization.

DISCUSSION

The present study was conducted among children under-two years of age to make a quick assessment of routine immunization coverage in Bareilly, UP. Immunization day (Wednesday) was utilized for carrying out a quick assessment as it is cost-effective and no extra manpower or inputs were needed. In the present study, the number of fully immunized children (24.5%) was found lower in comparison to incomplete immunization (75.5%).

NFHS-2 has reported that the percentage of children who were fully immunized ranges from 11.0% in Bihar to 89.0% in Tamil Nadu with a national average of 42.0% [8]. The prevalence of full immunization status of this study was found more than the full immunization status of Bihar but lower than the national average.

The results of the present study was very-very low in comparison to that of Sokhey et al study, where fully immunized children <1 year of age were observed to be 81% in Kurukshetra district of Haryana, 66.0% in Mumbai (MH) and 80.0% in Chennai (TN) [9]. In another study by Ray, fully immunized children were observed to be 82.5% in Paschim Medinipur district followed by 71.5% in Kolkata, 65.3% in Malda and 61.8% in 24 Paraganas south districts of west Bengal and Assam [10]. The very low immunization coverage in the present study may be because of low literacy rate, low socio economic status, low awareness level and majority of Muslim population.

CONCLUSION AND RECOMMENDATIONS

It may be concluded that immunization days were used to quickly assess the immunization coverage among children. The findings suggest that the immunization status of rural Bareilly has improved but there is a room for improvement. The main thrust at this stage should be to revitalize IEC activities so as to increase community awareness about UIP. Training and reorientation of health workers, supervision of the ongoing UIP, along with timely feedback should be considered as the key component to further improve and sustain routine immunization coverage in order to reach the unreached. Address the issue of poor utilization of immunization services, obstacles and lack of awareness or motivation, through professionally–designed behavior change communication interventions.

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