ORIGINAL ARTICLE

Coverage evaluation of primary immunization and the associated determinants in an urban slum of Rewa

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Citation

Trivedi R, Singh S, Adhikari P, Jatav DP. Coverage evaluation of primary immunization and the associated determinants in an urban slum of Rewa. Ind J Comm Health. 2014;26(1):37-40.

Source of Funding : Nil, **Conflict of Interest:** None Declared

Abstract

Back ground: - Immunization coverage has been found to be low in many coverage evaluation studies done in India, especially among the marginalized community. **Aim:**-To find the primary immunization coverage among the 12-23 months children and the determinants for the present status of immunization in an urban slum in Rewa city. **Method** - The study included 210 children in the age group of 12-23 months in an identified slum. The tools used were the WHO immunization evaluation coverage survey format and a pretested semi-structured schedule. Immunization card data and recall of mother or the primary caregiver was considered for assessing immunization status. **Result:** - Of all the children covered, 72.4 % were fully immunized and 21.9 % were partially immunized and 5.7% were not immunized. The commonest reason for incomplete immunization / partial immunization was found to be Lack of knowledge of immunization schedule to the parents 93.5%.Mother's literacy and birth order of child were found to be more importantly associated with the status of child's immunization. **Conclusion:**-Our observations reemphasized the need for adequate and proper counseling of parents on their children's immunization.

Key Words

Urban slum; primary immunization; coverage evaluation

Introduction

Children of a nation are the greatest assets by virtue of their number, need of love and extra care to their vulnerability. In any community of developing countries in mother and children constitute approximately 71.14% of the total population. In India, Woman of child-bearing age (15-44 years) constitutes 22.2% and children's less than 15 year of age constitutes 35.3% of total population.(1) In Madhya-Pradesh children's less than 5 years of age is about 12% and children between 1-2 years of age constitute 3% of the total population.

Prevention is better than cure is known to many but Prevention is cheaper than cure and prevents lifelong complication is hardly understood. Specific protection is one of the primary levels of prevention and immunization against specific disease is the best possible way to achieve it. In view of routine immunization the provision of a primary series of vaccine in the first year of life is the cornerstone of other primary health care efforts. The fact that immunization gives each child a minimum of four contacts with the national health system before the age of one year is tremendous opportunity that is often underutilized. While the impact of immunization on childhood morbidity and mortality has been great, its full potential has yet to be reached. (2)

A recent estimate suggests that approximately 34 million children are not completely immunized with almost 98 % of them residing in developing countries. (3) In Rewa district immunization coverage according toDLSH-3 is about 86.2 % for BCG, 44.8% for DPT 3dose, 53.2% for polio 3doses, 64.6%for measles and to approximate 79. % for tetanus toxoid for pregnant women. Children who received at least one dose of Vitamin-A about-40.7%. Children (12- 23 months) who received full immunization about 39.7%-DLHS-3. (4)

The current scenario depicts that immunization coverage has been steadily increasing but the average level remains far less than the desired. Still only 44 % of the infants in India are fully immunized (NFHS-III) which is much less than the desired goal of achieving 85% coverage.(4) Though there is increased accessibility of health care services in both urban and

rural areas, still the utilization of health care services is low by the different segments of the society. (4) 27.8 % of the Indian urban poor live in slums and they are at the highest risk of disease transmission (Census 2001) Maternal and child health indicators among slum-dwellers show that their health is 2-3 times worse than people living in better urban areas. (6)

The reported coverage does not provide the true picture. The slum population comprises of a marginalized group within an overall urban set up, deprived of many social and health benefits. Children's of the urban poor suffer accentuated vulnerability to illnesses as outbreaks of vaccine preventable diseases are more common in urban slums owing to high population density and continuous influx of new pool of infective agents with immigrating population. (7) According to a study done among the children in an urban slum, the evaluated coverage of fully immunized children was found to be only 60%. (7)

Aims & Objectives

So this study was formulated with the objective of assessing the immunization coverage in the slums of Rewa city in Madhya Pradesh.

Material and Methods

It is a Community-based, observational, cross-sectional study of one year duration between October-2012 to September-2013 carried out in the field practice area of the 'Urban Health and Training Centre' of the department of community medicine, Shyam Shah Medical College in urban slum dwellers of Municipal Corporation Rewa. 30 cluster technique approved by WHO & UNICEF & Govt. of India (11) was used to assess the immunization coverage of given study area. House-to-house visits and face-to face interviews were conducted in each of these clusters until 7 children between 12-23 months old were found. Information on immunization coverage was derived from vaccination cards, if available, and from the mother's memory/history given by mother if she was not able to show a card. WHO immunization evaluation coverage survey format and another pre tested semi structured schedule proforma was used to collect the information

The data were analyzed using statistical calculator and MS Excel software. The results were expressed in percentage &proportions, and Chi square test was used as the test of significance at a confidence level of 95%.

The following criteria were used for completeness of immunization. Full immunization- a child who had received three doses of DPT and OPV each and one dose of BCG and Measles each. Partial immunization– a child who has missed any one or more of the above doses. No immunization– a child who did not receive even a single dose of any vaccine.

Results

In the present study, data was collected from 950 families that covered 4896 family members (3904 members from 782 Hindu families &992 members from 168 Muslim families). Family size & sex ratio was 4.99 & 938/1000 male in hindu while 5.9 & 945/1000 male in Muslims.[Table- 1]Out of 210 children between the age group of 12-23 months Immunization card was available for 43.8% of children. Of all the children covered, 72.4 % were fully immunized and 21.9 % were partially immunized and 5.7% were not immunized. A statistical difference was found between boys and girls in both fully immunized and partially immunized groups [Table 2].The commonest reason for incomplete immunization / partial immunization was found to be Lack of knowledge of immunization schedule to the parents (93.5%). [Table 3] No significant difference was observed between immunization and the type of family, mother's literacy, religion, father's literacy, &mother's occupation. [Table 4].Significant difference was observed between immunization status & birth order of child at 10% level of significance.[Table-5]

Discussion

Few studies have been done to find the immunization coverage among children in slums. The proportion of fully immunized children found in the present study was quite low (41%) in comparison to similar studies done in south Delhi (69%), (8) Jamnagar (73%) [9], and Goa (85%). [10] Among the reasons for incomplete immunization, negligence on the part of the parents' was found to be common. This indicates a need for better counseling of parents about the importance of immunization and all related issues.

In the present study, it was seen that children whose mother is literate are more likely to be fully immunized although father's literacy has no significant effect. This reiterates the findings from many studies which found that if the mother is literate the children have better health parameters. This study also explore that birth order have significant association with immunization status, higher the birth order more chance of incomplete / partial vaccination, so there is also urgent need to propagate the message& importance of small family norm in under privileged communities like in slum areas more positively. In the present study, it was seen that children of joint family were more likely to be fully immunized this also proved our traditional norm of joint family or strength in unity.

Focused, cost-effective and measurable immunization interventions that take into account the context, needs and desires of the target community will dramatically improve the immunization health status of slum— dwelling children. In the words of Unger and Riley, "slums are complex, and our efforts must match this complexity" (Unger & Riley, 2007). Meaningful involvement of community members will give communities local ownership and help make the program more relevant and likely to succeed.

Conclusion & Recommendation

Immunization confers enormous health benefits on the individual; but also, overall, long— term population health and productivity will improve due to the decline in communicable disease. Vaccines have existed for decades, and yet vaccine— preventable diseases still kill hundreds of thousands of Children in developing countries every year. With the rich and growing body of evidence around successful program interventions, there is no reason why India cannot attain universal coverage in the Near future.

Equity in health access requires urgent attention to the improvement of both access and quality of care. There is an urgent need to strengthen the existing immunization program among the marginalized communities like those residing in urban slums. Special emphasis should be placed on proper and adequate counseling of parents regarding the various benefits of immunization &schedule of vaccination.

Authors Contribution

RT - logistic supply & study designing, SS - analysis & discussion, PA - methodology & review, DPJ - data collection.

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Tables

TABLE NO. 1 DEMOGRAPHIC PROFILE OF SURVEYED POPULATION

Religion	Surveyed Population								Family size	Sex Ratio/1000
	No of Family surveyed	%	Male	%	Female	%	Total	%		
Hindu	782	82.3	2014	51.5	1890	48.4	3904	100	4.99	938.43
Muslim	168	17.6	510	51.4	482	48.5	992	100	5.90	945.09
Other	000	00.0	00.0	00.0	000	00.0	000	000	0.00	000.0
Total	950	100	2524	51.5	2372	48.4	4896	100	5.15	939.78

TABLE NO. 2 IMMUNIZATION STATUS OF CHILDREN

	Male	Female	Total
Fully immunized	87 (79.8%)	65 (64.4%)	152 (72.4%)
Partial immunized	17 (15.6%)	29 (28.7%)	46 (21.9%)
Not immunized	05 (4.6%)	07 (6.9%)	12 (5.7%)
Total	109 (51.9%)	101 (48.1%)	210

Chi-square X2 = 6.352, P = 0.0417

TABLE NO. 3 REASONS FOR PARTIAL IMMUNIZATION OF THE CHILD. (N = 46)

Reason	Children no.
Child unwell, immunization postponed	7 (15.2%)
Lack of knowledge of immunization schedule	43 (93.5%)
Migration to native village	05 (10.9%)
Mother ill	24 (52.2%)
Due for 2nd/3rd dose, started late	26 (56.5%)
Financial Problem	04 (8.7%)
Negligence	16 (34.8%)
Health worker not available	12 (26%)
Site inaccessible	01 (2.2%)

TABLE NO. 4 FACTORS DETERMINING THE IMMUNIZATION STATUS OF CHILDREN

	Variable	Fully immunized	Partial immunized	Non immunized	P value
Type of family	Nuclear 142	98 (69%)	36 (25.3%)	08 (5.7%)	0.215
	Joint 68	54 (79.4%)	10 (14.7%)	04 (5.9%)	
Mothers literacy status	Illiterate 64	43 (67.2%)	16 (25%)	05 (7.8%)	0.483
	Literate 146	109 (74.7%)	30 (20.6%)	07 (4.7%)	
Fathers literacy status	Illiterate 31	22 (71%)	06 (19.3%)	03 (9.7%)	0.571
	Literate 179	130 (72.6%)	40 (22.4%)	09 (5.0%)	
Religion	Hindu 166	119 (71.7%)	37 (22.3%)	10 (6%)	0.887
	Muslim 44	33 (75%)	09 (22.5%)	02 (4.5%)	
Mothers occupation	House wife 172	128 (74.4%)	34 (19.8%)	10 (5.8%)	0.280
	Working 38	24 (63.2%)	12 (31.6%)	02 (5.3%)	

TABLE NO. 5 IMMUNIZATION STATUS ON THE BASIS OF BIRTH ORDER

Birth Order	No. of children						Total
	Fully	%	Partial	%	Un	%	
I	58	74.36	19	24.36	1	01.28	78
II	62	72.09	20	23.26	4	04.65	86
III	23	71.88	05	18.15	4	12.50	32
Iv	07	70.00	01	10.00	2	20.00	10
More than IV	02	50.00	01	25.00	1	25.00	4
Total	**152**	**72.38**	**46**	**21.90**	**12**	**05.71**	**210**

Chi-square X2 = 13.461, P = 0.096