



FACTORS INFLUENCING CHILDHOOD IMMUNISATION AMONGST RURAL CHILDREN

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Abstract

People did use to cooperate earlier. They were afraid of getting their children vaccinated. When we used to go out for pulse polio coverage, people used to hide their children in the almirahs, cupboards and manger. But slowly we tried to counsel them, explained them the necessity and benefits of it and finally after sometime we were able to get them to immunise their children. Despite the Indian government's Universal Immunization Program (UIP), the progress of full immunization coverage is plodding. The cost of delivering routine immunization varies widely across facilities within country and across country. However, the cost an individual bears on child immunization has not been focussed. The children of East Godavari district in the Andhra Pradesh of India have consistently evidenced low rates for routine childhood immunizations. This study has been conducted to evaluate the factors affecting the immunization coverage in the first year of life of the children. Immunization has been described as the first line of defense against disease, and one of the most effective health advantages available to children. While administrative reports suggested improved full immunization coverage after the first two phases of MI, the recently concluded National Family Health Survey (NFHS-4, 2015–16) reports increased immunization coverage for all Indian states except Haryana, Himachal Pradesh, Uttarakhand, Maharashtra, and Tamil Nadu which warrants further investigation. As per the recent estimates from National Family Health Survey-2015-16 (NFHS 4), only 62 % of the children are fully immunized in India.

Keywords : Immunisation, Women, Children, NFHS, WHO, Vaccination, Disease,

Introduction

Universal immunisation of children against the six vaccine-preventable diseases (namely, tuberculosis, diphtheria, whooping cough, tetanus, polio, and measles) is crucial to reducing infant and child mortality. According to the guidelines developed by the World Health Organization, children are considered fully vaccinated when they have received a vaccination against tuberculosis

(BCG), three doses of the diphtheria, whooping cough (pertussis), and tetanus (DPT) vaccine; three doses of the poliomyelitis (polio) vaccine; and one dose of the measles vaccine by the age of 12 months. BCG should be given at birth or at first clinical contact, DPT and polio require three vaccinations at approximately 4, 8, and 12 weeks of age, and measles should be given at or soon after reaching 9 months of age. Immunisation is the most important way of protecting individuals and the community from

vaccine preventable infectious diseases. Immunisation is a proven tool for controlling and eliminating life-threatening infectious diseases and is estimated to avert between 2 and 3 million deaths each year in world. It is one of the most cost-effective health investments, with proven strategies that make it accessible to even the most hard-to-reach and vulnerable populations. It has clearly defined target groups; it can be delivered effectively through outreach activities; and vaccination does not require any major lifestyle change.

According to the immunisation schedule outlined by Government of India and the World Health Organization (WHO), all primary vaccinations, including measles, should be administered by the time a child is 12 months old. Only 36 percent of children age 12-23 months were fully vaccinated by age 12 months. The percentages of children who received BCG, each dose of DPT, and each dose of polio by age 12 months are only slightly lower than the percentages who received these vaccines at any time before the survey (i.e., at any age up to their current age). The gap is wider, however, for the measles vaccination, which is supposed to be given when the child is nine months old. Fifty-nine percent of children age 12-23 months received a measles vaccine at some time before their current age, while only 48 percent received it before 12 months of age. Eighteen percent of children who were vaccinated against measles received the vaccination after their first birthday. Before vaccines, the only way people became immune to a certain disease was by actually getting the disease and surviving it. Immunisations are definitely less risky and an easier way to become immune to a particular disease. They are important for both adults and children in that they can protect us from many diseases. Through the use of immunisations, some infections and diseases have almost completely been eradicated throughout India. One such disease for example, is polio. Thanks to dedicated health care professionals and the parents of children who vaccinated on schedule, polio has been eliminated in the country. Polio is still found in other parts of the world and certain people could still be at risk of getting it. This includes those people who have never

had the vaccine, those who didn't receive all doses of the vaccine, or those traveling to areas of the world where polio is still prevalent.

Review of Literature

Findings of the study reveal that more than education status of women, gender of the child or income of the family, it was perhaps the constant work of community health workers who made them aware about vaccine preventable diseases. Even though immunisation of children was supported by maximum households, yet independent decision making of the mothers was less. Even now at times they do not cooperate, but things have changed a lot. It is easy to convince them of the reality now. But when MR was introduced, we started facing the same problem of distrust. People believed that this vaccination was government's plan to reduce Muslim population and would make children infertile. Then I took my own child to the school and vaccinated him myself in front of the entire village. Since then people have started coming forward for it (Gurinder Kaur and Shaik Iftikhar Ahmed, 2023). During this study Only 57.6% of children were fully immunized, as we found. Under immunization appears to be largely attributed to ignorance and a lack of knowledge. The other statistically significant contributing factors for the low vaccination rate are the female gender, rural background, Hindu community membership, and being born at home. BCG vaccination coverage was higher (96.5%) than DPT's first booster dose (58%), which received the worst response. A vitamin A solution was given to only 67% of the kids, and 5.83% of the kids in the study had a disease that could have been prevented by a vaccine (Khaja Amer Khan and Syed Taha Mustafa, 2023).

One in five adolescents live in India as compared to most adolescents of any world region, and one in three children of the world's stunted children. Child undernutrition is related to adolescent pregnancy through less health service access, poor maternal nutritional status, poor complementary feeding practices, lower education and poor living conditions (Nguyen et al., 2019). The variance in the use of funds is a serious concern, specifically due to more than the national average stunting of children

under five years in 267 districts across 22 states. Many variations at the state level in malnutrition indicators, such as stunting, underweight, low birth weight, and anaemia, at national and global positions, although India has made improvements in reducing the burden of malnutrition from 1990 to 2017, as revealed in this study, it is likely to decrease short of achieving nutrition goals set by the NNM for 2022 and UNICEF and WHO and for 2030 (Bhan Nandita, 2019).

The study found that the high incidence of morbidity (30%) in the age group of 15-49 followed by 20 per cent in the age group of 5-14. Fever (33.5%), diarrhea (12.4%), cold and cough (7%) and anaemia (7%) are prominent ailments reported largely among the sample households in the rural areas of Srikakulam district of Andhra Pradesh. She concluded that female educational status decreases morbidity rates especially among children Kamalamma G, 1992. The data collected from Madhya Pradesh from NFHS. Their findings reveal that the standard of living index measured on an identical set of variables among the families where the husband or wife is sterilized in NFHS-1 and NFHS-2 indicates substantial improvements in the Standard of Living Index between 1992-93 and 1998-99 compared to those who have not undergone sterilization. This finding holds true even after controlling for the educational level of the women (Srinivasan K, B P Thiagarajan and V D Shastri, 2002). The determinants of the use of family planning, prenatal care, childhood immunisations and oral rehydration salts (ORS) were studied with survey data of 8000 women in Metro Cebu, the Philippines. Polytomous logistic regression methods were used. The level of maternal education was the most consistent and important determinant of use of these four health services in both urban and rural areas (Stan Becker, et.al., 1993).

Objectives

- To examine the vaccination and immunisation levels of all the doses given on time to the children in the study area
- To suggest policy interventions for improving child and women's health status in the study area

Methodology

East Godavari District has been chosen for intensive study purposively. East Godavari District has been divided into five revenue divisions viz., Rampachodavaram Amalapuram, Kakinada, Peddapuram and Rajahmundry. The study covered 80 eligible women respondents from each division with the help of the stratified random sampling technique. Thus 400 eligible women respondents have been covered for intensive Study. Information was collected through a pre-structured questionnaire from all the eligible women sample respondents in the study area.

Sex of the Child and Possession of Vaccination Card

Information was collected from all the sample women respondents on sex of the child from each of selected five divisions in East Godavari district of Andhra Pradesh. In Rampachodavaram division 4 babies and in Amalapuram division one baby were found to have still birth. The immunisation details of the sample women perceived in the study area and the distribution particulars of the immunisation are presented in the following tables. In this regard the details of the sex of the new born child of the respondents are presented in Table 1. According to the table is clear that Overall 51 per cent of the new born babies are girls and 49 per cent are boys. Especially in Rampachodavaram, Amalapuram and Peddapuram divisions more than half of the new born babies are girls, while in Kakinada and Rajahmundry divisions 56 and 55 per cent respectively are found to be male babies.

According to the Concurrent Evaluation of National Rural Health Mission (CENRHM-2009) nearly 99 per cent of the children born during the survey period in the state have received at least one kind of immunisation and only about one per cent of them were not immunised at all. It is observed from the survey that more than 80 per cent of the cases are having the immunisation cards of the child, while about 17 per cent of the cases, child received vaccination; however, mother did not have the

immunisation card. It may be observed that more than 53 per cent of the respondents did not have vaccination cards, while 25 per cent of the women having vaccination cards but did not see them while 21.5 per cent of women only seen their vaccination cards. It is quite disgusting to note that about 88.8 per cent of the respondents in Peddapuram and 81.6 per cent in Rampachodavaram divisions are not having

any vaccination card. Similarly 61.2 per cent of women in Rajahmundry and 32.2 per cent in Amalapuram also are not having cards. The situation in this regard is far better in Kakinada division only. Therefore, it is necessary to gear up the district health administration to issue the cards in all the divisions except in Kakinada.

Table 1
Sex of the Child

Response	Rampachodavaram (80)	Amalapuram (80)	Kakinada (80)	Peddapuram (80)	Rajahmundry (80)	Total (400)
Sex of the child						
Boys	37 (48.7)	32 (40.5)	45 (56.2)	36 (45.0)	44 (55.0)	194 (49.1)
Girls	39 (51.3)	47 (59.5)	35 (43.8)	44 (55.0)	36 (45.0)	201 (50.9)
Possession of Vaccination Card						
Yes Seen	6 (7.9)	22 (27.8)	44 (55.0)	3 (3.8)	10 (12.5)	85 (21.5)
Yes Not Seen	8 (10.5)	30 (38.0)	34 (42.5)	6 (7.5)	21 (26.2)	99 (25.1)
No Card	62 (81.6)	27 (34.2)	2 (2.5)	71 (88.8)	49 (61.2)	211 (53.4)

Source: As ex ante

Type of Vaccinations

Immunisation is a simple and effective way of protecting children from serious diseases. It not only helps to protect individuals, but also protects the broader community by minimizing the spread of diseases. Vaccines work by triggering the immune system to fight against certain diseases. There are various vaccinations presently available to immunise the children immediately after their birth. Some of these vaccines are Bacille Calmette Guerin (BCG), Polio-0, Diphtheria-Pertussis-Tetanus (DPT)-1, 2, and 3, Polio-1, 2, and 3, Measles, Vitamin-A, etc. The immunisation details of vaccination given to the new born babies in the study area

are presented in Table-2. Most of the newly born babies have been given BCG and Polio-0 vaccination in the study area. Regarding DPT-1, and Polio-1, 93 per cent of the children are covered each while the doses like 2 and 3 have not been equally vaccinated. Measles and Vitamin-A vaccines are given only to 58 and 55 per cent of children respectively. Division-wise data show that there are wide variations in different vaccinations in the study area. The Peddapuram division ranking the best while Rampachodavaram division ranking relatively less in the coverage of vaccination.

Table 2
Distribution of Sample Respondents by Type of Vaccination

Vaccination	Rampachodavaram (76)	Amalapuram (79)	Kakinada (80)	Peddapuram (80)	Rajahmundry (80)	Total (395)
BCG	74 (97.4)	78 (98.7)	80 (100.0)	80 (100.0)	79 (98.8)	391 (99.0)
POLIO-0	74 (97.4)	78 (98.7)	80 (100.0)	80 (100.0)	79 (98.8)	391 (99.0)
DPT-1	65 (85.5)	70 (88.6)	76 (95.0)	78 (97.5)	77 (96.2)	366 (92.7)
DPT-2	63 (82.9)	66 (83.5)	73 (91.2)	73 (91.2)	72 (90.0)	347 (87.8)
DPT-3	46 (60.5)	58 (73.4)	65 (81.2)	66 (82.5)	62 (77.5)	297 (75.2)
POLIO-1	65 (85.5)	70 (88.6)	76 (95.0)	78 (97.5)	77 (96.2)	366 (92.7)
POLIO-2	63 (82.9)	66 (83.5)	73 (91.2)	73 (91.2)	72 (90.0)	347 (87.8)
POLIO-3	46 (60.5)	58 (73.5)	65 (81.2)	66 (82.5)	62 (77.5)	297 (75.2)
MEASLES	44 (57.9)	37 (46.8)	46 (57.5)	54 (67.5)	49 (61.2)	230 (58.2)
VITAMIN-A	42 (55.3)	34 (43.0)	39 (48.8)	54 (67.5)	48 (60.0)	218 (55.2)

Source: As ex ante

Place of Vaccinations

Despite free vaccinations for children below 12 years of age under the Universal Immunisation Programme, one-third of global child deaths due to vaccine-preventable diseases occur in India. Information was collected from the sample respondents on the place of vaccinations in the study area and these details are shown in Table-3. About 98 per cent of the women respond that their children were vaccinated at government hospitals, while a negligible

per cent of children are not given vaccine due to lack of awareness and also due to the distance. Almost all the children in the study area have been given Hepatitis-B vaccine, except in Rampachodavaram division where a few children are not given this vaccine.

Table-3
Source of Executing Vaccinations

Response	Rampachodavaram (76)	Amalapuram (79)	Kakinada (80)	Peddapuram (80)	Rajahmundry (80)	Total (395)
Government	72 (94.7)	78 (98.7)	80 (100.0)	79 (98.8)	78 (97.5)	387 (98.0)
Private	-	-	-	1 (1.2)	1 (1.2)	2 (0.5)
Hepatitis-B	72 (94.7)	78 (98.7)	80 (100.0)	80 (100.0)	79 (98.8)	389 (98.5)
Not given vaccination	2 (2.5)	1 (1.2)	-	3 (3.8)	-	6 (1.5)

Source: As ex ante

Motivation of Vaccination

There are many public and private persons who motivate the mother to vaccinate her child. Among those the doctor, ANM, health worker, Anganwadi worker, ASHA, NGO/CBO, etc., are important persons who regularly watch and give time-to-time suggestions for the welfare of mother and child especially in rural areas. Information was collected from the women respondents about vaccination of the child and also who have motivated them for it in the study area. The details are shown in Table-4. Data shows the role played by doctors, ANMs, ASHA, Anganwadi Workers, health workers, NGOs and others in motivating the sample women to vaccinate their children. Most of the respondents sated that they are motivated by multiple agents while a few of them cited a single agent. It may be inferred from the data and information that ANMs, ASHA and Anganwadi workers played a very important role in that order in creating awareness and

motivating the women to vaccinate their children. Overall, as much as 97.5 per cent of women are motivated to vaccinate their children by ANMs followed by ASHA workers (78%) in the study area. While these two health agents only have motivated in Kakinada and Rajahmundry divisions, they played a major role in other divisions besides Anganwadi workers, doctors, health workers, NGOs and others. It may be suggested that the NGOs need to play greater role in the propagation of advantages of vaccination especially in the rural and tribal areas. . In view of the empirical analysis based on field data the hypothesis that ‘reproductive health of women and child care practices are far less in the tribal area compared to non-tribal area’ is accepted.

Table-4
Motivating Agent for Giving Vaccination to Children

Motivating Agent	Rampachodavaram (76)	Amalapuram (79)	Kakinada (80)	Peddapuram (80)	Rajahmundry (80)	Total (395)
Doctor	1 (1.3)	8 (10.1)	-	1 (1.2)	-	10 (2.5)
ANM	71 (93.4)	76 (96.2)	80 (100.0)	79 (98.8)	79 (98.8)	385 (97.5)
Health worker	8 (10.5)	1 (1.3)	-	-	-	9 (2.3)
Anganwadi Worker	25 (32.9)	7 (8.9)	-	2 (2.5)	-	34 (8.6)
ASHA	43 (56.6)	51 (64.5)	65 (81.2)	70 (87.5)	79 (98.8)	308 (78.0)
NGO/CBO	1 (1.3)	-	-	-	-	1 (0.3)
Others	1 (1.3)	-	-	-	-	1 (0.3)

Source: As ex ante

Conclusion

The majority of mothers was aware of vaccination of children, and usually the primary health centres and their health workers were the source of vaccination. Integrated Child Development Services (ICDS) program, the largest program of its generous in the world, was introduced by the Government of India in 1975 and generalized in 2008-09. It continues to be India's flagship program to diminish undernutrition, and this program's key activities under the POSHAN Abhiyaan are fastened. It provides nutrition, pre-school education, lactating mothers and pregnant women and primary healthcare to children under six ages.

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