

Original research article

To estimate the immunization status of children from 0 to 7 years of age

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Abstract

Aim and Objectives: To ascertain the level of immunization among children aged 0 to 7 years from OPD and those admitted to hospitals with regard to the primary immunizations (BCG, OPV/DPT 1, 2, and 3), the first booster dose of OPV, DPT, as well as the primary doses of Hepatitis B vaccine and coverage of Vitamin A with Measles vaccine. To investigate the variables that affect immunization status. To be aware of the 2 year follow up on the causes of partial and non-immunization. To determine the percentage of vaccine-preventable illnesses in the study group's young subjects.

Methods: At the Deccan college of medical sciences & Asra hospital, Hyderabad, information was gathered from the parents of 200 children aged 0 to 7 years who were seen in the outpatient department and those who were admitted. There are patients of every religion. From August 2021 to August 2022, a hospital-based study was conducted.

Results: Only 57.6% of children were fully immunized during this study, 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.

Conclusion: The immunization status of children aged 0 to 7 from OPD and those admitted to the hospital associated with the College of Medical Sciences was examined in this hospital-based observational study. The following findings are what we've arrived at. 200 cases in total; 57.6% were fully immunized, 38% were partially immunized, and 3.5% were not. Lack of knowledge about the recommended immunization schedule, a lack of motivation, and parental ignorance were the most frequent factors in our study that led to failure to immunize. 64% of parents cited two or more factors.

Keywords: Immunization, motivation, OPV, DPT.

Introduction

The Indian population has risen to 133.92 crores ^[1], causing significant shifts in the balance of young and old, rich and poor, urban and rural. Millions of couples' decisions now and in the future will shape this country's future.

India is the second most populous nation in the world, with 75% of its people hailing from rural areas with low socioeconomic status and illiteracy. 12–15% of the population here is under the age of five. Diseases are becoming more prevalent as a result of the large population, and the majority of them are preventable. The Indian government has made immunization against six deadly diseases mandatory for all children in light of this.

The Expanded Programme on Immunization (EPI), which was formally introduced in May 1974 by the World Health Organization, states that by the year 2000, all children worldwide should be protected from the six vaccine-preventable diseases of diphtheria, whooping cough, tetanus, polio, tuberculosis, and measles ^[2]. EPI was first made available in India in January 1978. There were no immunization provisions made under any government program prior to 1978. The WHO's success in eradicating smallpox brought attention to the importance of immunizations, and as a result, the government and other related organizations included immunizations as a priority under MCH services in the V Five Year Plan (1975–1988).

By aiming to reduce the infant mortality rate (IMR) from 127 to 60 (3), the VI five year plan (1980–1985) strengthened the immunization cause.

In the interim, a statement sponsored by the NICEF, as part of the United Nations' 40th anniversary in

October 1985, launched a program called Universal Child Immunization, which sought to give the global program of EPI more momentum.

The Universal Immunization Program (UIP) was established in India and dedicated to the late Smt. Indira Gandhi on November 19, 1985. The National Health Policy sought to achieve complete immunization coverage for all eligible individuals by 1990^[4].

The reduction of the IMR from 146 to 80, which was primarily achieved through vaccinations, was one of the accomplishments of the VII Five Year Plan.

From 1992 to 1993, the UIP was strengthened and expanded into the CSSM Project, which combined the UIP with increased/intensified MCH initiatives in high IMR states and districts across the nation. It entails maintaining the high immunization coverage level under UIP as well as numerous other initiatives, such as ORT.

The UIP, which was introduced in 1985 and provided universal coverage of infants and pregnant women throughout India with immunization against 6 identified vaccine preventable killer diseases^[5], added vitality to the VIII plan (1992–1997).

Materials and Methods

Parents of 200 children aged 0 to 7 years old who were admitted to the Deccan college of medical sciences & Asra hospital, Hyderabad, and those who attended the OPD were surveyed. The patients come from all different religious backgrounds. From August 2021 to August 2022, a hospital-based study will be conducted.

Method of collection of data

The objectives were met using a pretested proforma that was structured and pretested (see annexure). To determine their child's immunization status and the social factors affecting immunization coverage, an oral questionnaire method was modified for parents of children in the age range of 0 to 7 years. A master chart with the collected data was created for basic analysis.

Sampling method

According to hospital statistics from 2021 and 2022, the average annual number of admissions for children in the study age group (0–7 years) was found to be 1000. Based on this information, it was anticipated that 1000 children would be admitted during the current study period.

Sampling was determined as follows-

$$\text{Sampling Interval} = \frac{\text{Population size (N)}}{\text{Sample size (n)}} = \frac{1000}{200} = 5$$

To choose 200 kids, a systematic random sampling method was used; every fifth child admitted in the 0 to 7-year-old age range was taken for analysis.

Inclusion criteria

- 200 kids between the ages of 0 and 7 from OPD and patients admitted to the hospital connected to Deccan college of medical sciences & Asra hospital, Hyderabad.

Exclusion Criteria

- Children older than 7 years.
- Kids with a neurological condition that is progressing.
- Unhealthy child's immune system.
- Young people who don't reside in Hyderabad.

Other criteria

AGE - Calendar based age was taken for study

BCG SCAR: In order to determine whether BCG was administered to parents who lacked an immunization card, we used the BCG scar.

We requested the month that the child received their DPT, measles, and hepatitis B vaccinations. The location of the injection also provided us with accurate information.

Additionally, the administration of vitamin A along with measles vaccination was requested.

Immunisation status

Fully immunized: A child who has completed all of the recommended primary doses of BCG, DPT/OPV, measles, and first booster doses of OPV/DPT on the immunization schedule.

Partially immunized: If the child has missed even one dose from the recommended immunization schedule.

Un immunized: If the kid hasn't even had one dose of any vaccine.

In addition

- It is evaluated whether vitamin A administration is covered by the measles vaccine.
- It is also determined whether a person has received the initial doses of the Hepatitis B vaccine.
- Analyzed children's vaccine-preventable disease proportions.

Results

Table 1: Age and sex distribution in study population

Age of the child in Years	Sex of the child					
	Male		Female			
	No	%	No	%	No	%
0 – 3	57	53.70	40	46.29	72	36
3 – 4	32	52	25	48	67	33.33
4 – 7	28	55.43	24	44.56	61	30.66
Total	107	53.67	93	46.33	200	100

According to Table 1, there were 93 girls and 107 boys among the kids in our study group. There were nearly equal numbers of kids in each age group according to age distribution.

Table 2: Domicile and housing

Domicile	Number	Percentage
Rural	83	41.67
Urban	117	58.33
Total	200	100

According to Table 2, a ratio of 5:7 was achieved between the 83 children from rural areas (41.67%) and the 117 children from urban areas (58.33%).

Table 3: Religion and immunization

Sl. No	Religion	Total	Percentage
1	Muslim	168	84.07
2	Hindu	23	11.7
3	Christian	9	4.33
		200	100.00

Table 3 shows the distribution of children based on religion. 168 children in our study were Muslims (84.67%), 23 Hindus (15%) and 26 Christians (4.33%).

Table 4: Immunization Status

Sl. No	Status of Immunization	Total	Percentage
1	Fully immunized	115	57.66
2	Partially immunized	78	38.83
3	Non-immunized	7	3.50
		200	100.00

200 children were examined; 115 had received all recommended vaccinations (57.66%), 78 had received some (38.83%) but not all recommended vaccinations (i.e., the child had received at least one dose of the UIP vaccine), and 7 had not received any vaccinations at all.

Table 5: Sex and immunization status

Sex	Fully immunized		Partially immunized		Non immunized		Total	
	No	%	No	%	No	%	No	%
Male	66	62.11	37	34.78	3	3	107	53.66
Female	49	52.51	40	43.17	4	4	93	46.33
Total	115	57.66	78	38.83	7	3.5	200	100

$\chi^2 = 5.62, P = 0.05$, Significant

According to our research, out of 200 kids, 115 had all their shots (57.66%), 78 had some but not all of them (38.33%), and 7 had none at all (3.5%). 49 of the 49 girls and 66 of the 66 boys were fully immunized (62.11% and 52.51%, respectively). This proves that men received more vaccinations than

women and is statistically significant.

Table 6: Individual vaccine and coverage

Type of vaccine	No. of children Vaccinated	Percentage
BCG	193	96.50
Dpt ₁ /opv ₁	184	92.16
Dpt ₂ .opv ₂	175	87.33
Dpt ₃ /opv ₃	161	80.33
Measles	142	71
Vitamin a	134	67.1
Dpt 1 st booster	116	58

DPT 1ST booster dose coverage was 58% while BCG coverage was 96.5%. Among the other vaccines, 184 were covered for DPT1 (92.16%), 175 for DPT2 (87.33%), 161 for DPT3, and 142 for measles (71%). This demonstrates that BCG in the neonatal period gradually decreases to the DPT 1ST booster dose at 1 and a half years. Measles had a 67.1% vitamin A coverage rate.

Table 7: Hepatitis B vaccination coverage

	No. of children vaccinated	percentage
HBV1	69	34.50
HBV2	57	28.33
HBV3	49	24.50

Immunization coverage of Hepatitis vaccine was low ranging from 34.5% for 1st dose to 24.5% for HBV 3RD dose.

Table 8: Immunization and domicile

Type of domicile	Fully immunized		Partially immunized		Un immunized		Total
	No	%	No	%	No	%	
Rural	37	45.20	43	51.60	3	3.2	83
Urban	78	66.57	35	29.71	4	3.71	117
Total	115		78		7		200

$\chi^2 = 29.58$ $p < 0.001$ Highly significant

Table 8 shows 78 children (66.57%) were from urban area and 37 children (45.20%) from rural area were fully immunized. Similarly 35 children (29.71%) from urban area and 43 children (51.60%) from rural area were partially immunized. This was found to be statistically highly significant. This shows that immunization coverage is better in the urban areas than in the rural areas.

Table 9: Immunization status and religion

Religion	Fully immunized		Partially immunized		Unimmunized		Total
	No	%	No	%	No	%	
Muslim	97	57.87	66	39.17	5	2.96	508
Hindu	11	46.96	11	45.45	2	7.57	66
Christian	7	80.76	1	15.38	2	3.84	26
Total	115		78		7		200

$\chi^2 = 11.69$ $P = 0.02$ Significant

Table 9 clearly demonstrates that among the fully immunized children, Muslims made up 97 (57.87%), Hindus 11, and Christians 7. Hindus had the highest percentage of those who were only partially immunized, at 45.45%, followed by Muslims at 39.17% and Christians at 15.38%. Muslims had a higher percentage of immunized children (7.57%) than Hindus (2.96%) and Christians (3.84%). The statistical significance of this was discovered. Muslims had the lowest rate of immunization coverage, followed by Hindus.

Table 10: Immunization status and place of delivery

Place of delivery	Fully immunised		Partially immunized		Un immunized		Total
	No	%	No	%	No	%	
Hospital	130	64.77	51	32.07	5	3.14	477
Home	12	30.08	27	65.04	2	4.87	123
Total	115		78		7		200

$\chi^2 = 48.72$ $p < 0.001$ Highly Significant

Table 10 clearly shows that children born in the hospital have greater chance of being fully immunized (64.77%) than those born at home (30.08%).

Table 11: Immunization status and immunization cards

Immunization Card	Fully immunized		Partially immunized		Total	
	No	%	No	%	No	%
Yes	68	54.30	58	45.69	126	66.14
No	47	70.40	20	29.59	67	34.88
Total	115		78		193	

$\chi^2 = 14.07$ $p < 0.001$ Highly Significant

Table 11 Shows the number of children who had immunization cards. Out of 193 children who had received all or some immunization, 126 (66.14%) had immunization cards and 67 (34.88%) didn't have any card.

Table 12: Reasons for partial immunization

Number of reasons	Number of cases	
	No	%
One reason	16	19
Two reasons	20	23
> 2 reasons	49	58
Total	85	100

Reasons asked in our study were:

1. Lack of knowledge of immunization schedule - 152(45.8%)
 2. Lack of motivation – 140(36.5%)
 3. Ignorance of parents – 109 (31.9%)
 4. Belief that immunization may be harmful- 64(25.3%)
 5. Lack of health facility near by- 44(17.32%)
 6. Unwell child – 31(12.26%)
 7. Busy parents- 30(5.43%)
 8. Time inconvenience-27(10.75%)
- Non availability of health worker. – 14 (5.43%) Commonest reasons were Ignorance of parents.
 - Lack of knowledge of immunization schedule.
 - Lack of motivation.

Table 13: Proportion of vaccine preventable disease

Disease	Number of patients	Immunization status (for respective vaccine)	
		Immunized	Un immunized
Measles	12	2	10
TB	12	9	3
Tetanus	3	0	3
Pertussis	6	1	5
Hepatitis b	2	0	2

According to the above table, 5.83% of the children who were studied had diseases that could have been prevented by vaccination. Children who received the recommended vaccines were protected against two cases of measles, nine cases of tuberculosis, and one case of pertussis, while other kids did not receive any vaccinations. This demonstrates that the Tetanus Toxoid and Hepatitis B vaccines are more effective than other vaccines.

Table 14: Drop out rates based on follow up

Immunization status	Total number of children	Number of children vaccinated	Percentage of drop outs
Birth-bcg	200	193	3.5
Bcg-dpt1	179	171	4.4
Dpt1-dpt2	153	145	5.2
Dpt2-dpt3	124	114	8.01
Dpt3-measles	82	72	11.6
Measles-dpt 1 st booster	142	116	18.3
Bcg-dpt3	190	158	16.7
Bcg-measles	192	141	26.4
Bcg- dpt 1 st booster	185	111	39.8
Dpt1-dpt 1 st booster	175	110	37
Birth-dpt 1 st booster	200	116	42

Dropout rates are displayed in Table 14. Drop out rates were 3.5% for Birth to BCG, 4.4% for BCG to DPT1, 5.2% for DPT1-DPT2, 8% for DPT2-DPT3, 11.6% for DPT3 Measles, and 18.3% for Measles - DPT 1ST booster dose. 42% of people who start DPT on the first dose fail. As a result, we observe a steady increase in vaccination dropout rates in the future. DPT experienced a 37% overall dropout rate. In order to emphasize the significance of follow-up visits for subsequent vaccinations, it is crucial to do so heavily.

Discussion

Immunization is still an important and powerful tool in the fight against communicable diseases, particularly in preventing childhood diseases, which are a major cause of morbidity and mortality in young preschool children.

At least 90% of infants should receive the primary immunization series, according to the expanded program on immunization (EPI). However, inadequate levels of childhood disease immunization continue to be a serious public health issue in areas of the world with limited resources.

Determining the expected reduction in morbidity and mortality from diseases that are vaccine preventable requires accurate measurement of vaccination coverage. It is one method of assessing how well a program is running.

Sex of the child

The imbalanced number of women to men in developing nations is one aspect that is particularly concerning. Women generally outnumber men in North America and Europe with an average ratio of 1.05. This is despite the fact that males outnumber females at birth (and even more so at conception). In India, however, the ratio of women to men is significantly lower (0.93). The male child is valued more highly in our society. In terms of social status, access to education, as well as nutrition and health, girls are one of the most marginalized and underprivileged groups. It's possible that this sex bias in nutrition and healthcare has increased the mortality rate for female children.

Males (62.1%) and females (52.1%) in our study were found to have higher immunization rates. Which is similar to research by J. Yadav *et al.*, which found that males had higher coverage rates (63.7%) than females (57.1%)^[6], and research by Malini Kar *et al.*, which found that 70.7% of males have received all of their recommended vaccinations, as opposed to 29.3% of females. Men (39%) had higher immunization rates than women (30%), according to a study by S. Nirupam *et al.*

Place of birth

Most deliveries in our nation are made to homes. Home birthing mothers might not generally use health services. Informing parents about the necessity of immunization before giving birth in a hospital is another important task for hospital staff. Co-patients will provide "motivation from co-patients" for better immunization for mothers who give birth in a hospital. The risk of a child not finishing their vaccination schedule is 2.27 times higher for babies delivered at home than in a hospital.

The current study confirms previous research by Chhabra *et al.*^[9], which found that 58.2% of hospital-born children and 34.6% of home-born children were fully immunized. It also shows that children born in hospitals are better immunized (67.7%) than those born at home (30%). Children born in hospitals are twice as likely to receive a full course of immunization than those born at home, according to the two studies mentioned above.

Religion

India is a country that values unity in diversity and is home to many different religions, each with respectable cultures and traditions of their own. Some of the harmful religious practices reduce

immunization coverage.

Our research demonstrates that Christians (80.76%) have higher immunization coverage than Muslims (57.87%) and Hindus (46.96%). Similar to a study by Yadav *et al.* from 1999, which revealed that 100% of Christians, 61.5% of Hindus, and 50.5% of Muslims are fully immunized, another study by the same authors in the BIMARU states from 2000 revealed that 48.8% of Hindus, 38.7% of Muslims, and 73.7% of Christians are fully immunized [10]. This resulted from Christians' higher socioeconomic status and increased literacy. Hindus (69.9%) are better immunized than non-Hindus [7], according to a study by Malini Kar *et al.* Through a thorough analysis of the psycho-social needs and subsequent corrective measures, the intervention programs must be specifically tailored for the Muslim community.

Residence

India is a nation made up of villages. In terms of various characteristics like literacy, socioeconomic status, occupation, etc., people in rural and urban areas differ from one another.

Our research demonstrates that children in urban areas are more fully immunized (66.57%) than those in rural areas (45.2%), which is comparable to research by Dhadwal D *et al.* from Shimla that revealed 84.3% of urban and 57.5% of rural children were fully immunized [11].

Another study by Bashir Gaash in Kargil revealed that children in urban areas were more likely to be immunized (72%) than those in rural areas were (62%) [12]. According to Singh *et al.*'s study, urban children outnumber rural children in terms of having received more immunizations [13]. As a result, immunization rates are higher in urban than rural areas, likely as a result of better health care infrastructure, better health awareness, and a higher standard of living in urban areas.

Immunization status

There has been some improvement in the overall vaccination coverage levels in India, according to a recent evaluation survey [13]. Additionally, the second national family health survey (1998) found that the percentage of children who had received all recommended vaccinations had increased from 36% in the first survey (1992) to 42%. However, due to socioeconomic factors and the accessibility of medical facilities, these figures differ significantly across states, regions, and social strata.

Compared to the study conducted by Sokhey *et al.*, where 58.6% of children were fully immunized, 57.66% of children in our study are fully immunized [14]. Our study found higher immunization (57.66%) compared to the most recent coverage evaluation survey from 2000–01 (53%) This might be because the parents were educated and sought medical attention for minor ailments. When compared to the NFHS3 study, which found that vaccination coverage was 44% nationally and 45% in Gujarat, our study has higher immunization rates. This could occur as a result of the hospital's tertiary care status and the fact that its patients come from all areas of the Davangere district and represent a wide range of socioeconomic strata, eliminating any chance of selection bias.

Studies Total Immunization Coverage Present study 57.66% Singh, *et al.*, in 2000 (10)63.3%

Yadav <i>et al.</i> , in 2001(13)	47.8%
Malinikar <i>et al.</i> , in 2001(7)	69.1%
Dalal <i>et al.</i> , in 2001(15)	85.3%
Baashir <i>et al.</i> , in 2004 (12)	65.1%

Type of vaccine received

In our study, BCG coverage was 96.5%, DPT1/OPV1 coverage was 92.16 percent, DPT2/OPV2 coverage was 87.33%, DPT3/OPV3 coverage was 80.3%, and measles coverage was 69%. This study's findings were comparable to those of Sangeeta Trivedi, Chetan R., and Rajesh, who conducted a study with nearly identical findings. BCG 94%, DPT1/OPV 2 (91%), DPT2/OPV 2 (86.8%), DPT3/OPV (379%) and measles (69%). Other related studies:

Comparison of individual vaccine coverage

Type of Vaccine	Present Study	Chhabra, <i>et al.</i> (13)	Singh <i>et al.</i> (10)	Bhatia <i>et al.</i> (17)
BCG	96.5%	87.2%	68.6%	93.99%
DPT ₁ /OPV ₁	92.16%	81.5%	75.7%	93%
DPT ₂ /OPV ₂	87.33%	76.8%	73.2%	90.5%
DPT ₃ /OPV ₃	80.33%	70.7%	66.7%	85.9%
MEASLES	71%	65.3%	60.1%	76%

In comparison to the 15% found in UNICEF surveys, our study found 58% coverage for the first booster dose of DPT. While it was also ignored in better states like Maharashtra, Kerala, and Tamilnadu [17], only the GOA state had coverage above 50%. 41.4% of people received the same vaccine, according to a

study by Pragathi *et al.* ^[9].

Reasons for partial / non immunization

In our study, the top three reasons for partial or incomplete immunization were parental ignorance, a lack of knowledge, and a lack of motivation, in contrast to a study by Malini Kar *et al.*, in which the common causes were a sick child, a lack of knowledge of the immunization schedule, and emigration to the native village ^[7]. Singh *et al.* found that small, inaccessible villages, a lack of knowledge, and a lack of motivation were the main causes of low immunization coverage. In the study by Nirupam *et al.*, barriers, a lack of knowledge, and a lack of motivation were frequently cited as causes of non-immunization ^[8]. In the study by Bhatia *et al.* ^[17], the following factors were found to be responsible for low immunization coverage:

- Ensuring proper oversight and monitoring of routine immunization.
- People moving to new locations
- Poor health infrastructure and a lack of slum planning.

Variations in literacy, the availability of health facilities, the involvement of more people in the pulse polio program, supervision, and the country's health monitoring system may all be contributing factors to the variation in unimmunization rates across different studies and geographical areas.

Vitamin A coverage with measles vaccination

Giving children high doses of vitamin A supplements every 4-6 months not only prevents blindness, but also has a significant number of negative effects on their health. Overall, supplementing with vitamin A reduces infant and child mortality in a manner that is comparable to, if not superior to, that of any given infant vaccine. Despite systematic efforts to ensure universal coverage, only 45% of Indian children between the ages of 6 and 59 months received at least one dose of vitamin A supplementation in 2003 ^[19], comparable to our study, where 67% of participants received vitamin A. This is most likely a result of increased public knowledge of the advantages of vitamin A in this area.

In the study of Singh *et al.*, at all India level Vitamin A coverage was 59%, while in the study by same author in Madhya Pradesh it was 55.2% ^[6, 13].

Hepatitis- B Vaccination Coverage

Even though in our area this vaccine is not given routinely on regular basis. Since our hospital has facility for the same hence included in our study. Hepatitis B vaccine for infants was introduced in 164 countries (entirely covers in 163 countries and partly in India) by the end of 2006. Global coverage is estimated at 60% and is as high as 89% in U.S.A. This contrasts with 28% in South-East Asia and 49% in the continent of Africa.

Our study showed 24.5% total coverage for all the 3 doses Hepatitis -B vaccine, which is comparable to study conducted by Pragathi *et al.*, in Delhi where it was 24% ^[9] and is higher than the coverage of East Delhi where it was only 14% ^[20].

Drop out rate

The rate difference between the initial reference vaccine (IRV) and the final reference vaccine (FRV) is what this term refers to.

Given by the formula:- $\text{IRV/FRV Dropout rate} = \frac{\text{IRV} - \text{FRV}}{\text{IRV}} \times 100$ (21)

It reflects the lacunae in the health system and opportunities missed.

Comparison of drop out rates

	Present study	Pragathi <i>et al</i> (9)	Gaash <i>et al</i> (12)	Vikas <i>et al</i> (22)
BCG-DPT ₁	4.4%	1.3%	11.5%	1.48%
DPT ₁ -DPT ₂	5.2%	5.8%	5.6%	1.2%
DPT ₂ -DPT ₃	8.01%	7.8%	1.1%	10.1%
DPT ₃ -MEASLES	11.6%	6.9%	21.7%	6.6%
BCG-MEASLES	26.4%	20.9%	20.94%	18.3%

In that the dropout rate rises with subsequent vaccination, our study is similar to the study by Pragathi *et al.* ^[9]. In general, the dropout rate (BCG- DPT 1ST booster) in our study was 42%, which was comparable to a study conducted in Delhi's urbanized villages where the rate was 49% ^[9]. This shows that the parents' excitement following the birth of their child has waned, which further suggests that the concerned health professionals have not been actively engaged in promoting health education.

Conclusion

Findings from this hospital-based observational study on the immunization status of kids between the ages of 0 and 7 from OPD and those admitted to the hospital connected to the College of Medical Sciences. The following findings are what we've arrived at. 200 cases in total; 57.6% were fully immunized, 38% were partially immunized, and 3.5% were not. In terms of immunization, men fared better than women. ($p=0.05$). Once, children from urban areas had higher vaccination rates than those from rural areas. ($p<0.01$). Muslims, then Christians, and Hindus had the lowest rates of immunization ($p=0.02$). Due to the mother's increased sensitivity to the importance of primary immunization in the hospital, children born in hospitals had better immunization status than babies born at home. ($p0.001$). Only 66.1% of the kids in the study had proof of their immunizations. Only 58% of people received the first booster dose of DPT, compared to 96.5% who received the BCG vaccine. All vaccines combined had a 42% overall dropout rate. With only 24.5% of children receiving all 3 doses for hepatitis B, there was less coverage. Only 67.1% of kids received vitamin A solution in addition to their measles vaccination. 5.83% of the kids who were studied had a condition that could have been avoided with a vaccine. Lack of knowledge about the recommended immunization schedule, a lack of motivation, and parental ignorance were the most frequent factors in our study that led to failure to immunize. 64% of parents cited two or more factors.

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