A Cross Sectional Study of Immunization Coverage among the Children of Labourers at Civil Hospital, Ahmedabad

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Abstract:

Introduction : The Government of India launched Universal Immunization Program (UIP) on 10^{th} November 1985 with the main objective of covering at least 85% of all infants against the six preventable disease that is crucial in reducing infant and child mortality, which is considered to be a good indicator of the health coverage of the population. In the past few decades immunization coverage rates have improved sufficiently in developed countries whereas most of the developing countries are still struggling with faltering rates. Construction workers are more vulnerable to health and social issues so are their children. **Objectives**: 1) To know immunization coverage of under five children in construction labour population at civil hospital campus, Ahmedabad. 2) To study various factors associated with the immunization coverage of those children. Methods: A cross sectional study was conducted at construction site of civil hospital campus during July-Sept 2018. Information of 76 children was collected by personal interviews of mother with help of a pre-designed and pre-tested structured Questionnaire. Results : Overall 43.42% children were completely immunized, 53.94% were artially vaccinated, 2.63% were unvaccinated. Factors associated with poor immunization were home delivery, illiteracy of mother& higher birth order but statistically found not significant. **Conclusion:** Unfortunately the immunization coverage was found to be very low. There is an urgent need for regular health education sessions and should be the target of RCH programme with special focus on immunization related activities.

Key Words : Immunization, Labour population, Under five children.

Introduction:

WHO declared universal health coverage for everyone and everywhere. Immunization is one of the most important and cost-effective public health intervention. We still have 25% mortality of under-5 due to same . We anticipate and argue that within the urban areas disparities and inequities persist in immunization coverage and that the socioeconomically disadvantaged, particularly those who reside in construction areas are more vulnerable and may contribute to the lower uptake of immunization. In Sept 2015 we adopted Sustainable Development Goals (SDG) for healthy, wealthy and strong nation and immunization has a crucial role in achieving 14 out of 17 SDGs. We can achieve it better way if we consider all children especially in high risk pockets like construction site and labor residentially

Method:

A Community based cross sectional study was conducted during July to September 2018 at Four Construction sites of Civil Hospital campus, Ahmedabad. All Under-5 children of construction site colonies were included. Total 76 Under-5 children of laborers were included in study. The Data Collection was carried out by interview of mothers with the help of self designed and pre-tested Structured questionnaire. The questionnaire included sociodemographic variables, immunization status of the children, reasons for incomplete immunization. As no mother had Mamta Card, information regarding vaccine was collected by "Recall Method". Verbal consent was taken from mothers and who non-willing to participate were excluded. Statistical analysis was done by using chi square test. P Value < 0.05 is considered as level of significance.

Result:

Table 1: Socio-Demographic characteristics of children

| Variables | Category | Frequency |
|-------------------|------------------|-------------|
| | Male | 36 (47.40%) |
| Gender | Female | 40 (52.60%) |
| Age(in Months) | <18 months | 26(34.21%) |
| | \geq 18 months | 50(65.79%) |
| Native state | Chhattisgarh | 35(46.05%) |
| | Madhyapradesh | 25 (32.90%) |
| | Bihar | 10 (13.16%) |
| | Uttarpradesh | 6 (7.89%) |
| Education of | Illiterate | 46(60.53%) |
| mother | Literate | 30(39.47%) |
| Education of | Illiterate | 38(50%) |
| Father | Father Literate | |
| place of delivery | Home | 21 (27.60%) |
| place of delivery | Institutional | 55 (72.40%) |
| birth order | 1 st | 28(36.84%) |
| | $\geq 2^{nd}$ | 48(63.16%) |

Out of total 76 study population, 36 children were male and 40 were female. 26 participants were <18months of age. None of them were from Gujarat, mostly they were from Chhattisgarh 35(46.05%). [Table 1]

Table 2 shows children who had literate parents and 1st birth order were more immunized compare to other. Children whose mother delivered their child before the legal age of marriage were less immunized.

As per Table 3, only 2 children missed their Birth dose. From the eligible children for Measles 33(50%)

missed it. none of eligible child were vaccinated with MR vaccine during MR campaign.

Table 4 shows, from total 76 children, 33 were immunized age appropriately. Among Children having age 12 month -23 month, out of 15 only 6 were fully immunized and 2 children were completely unvaccinated.

Majority of parents were not aware of site (90.7%) and schedule (95.3%) of vaccination. Only 4 of the mother did not get their kids to get vaccinated due to fear of side effects. [Table 5]

| Variable | Category | Completely Vaccinated | Un/Partially Vaccinated | TOTAL | Statistical Analysis |
|------------------------|-----------------|--------------------------|----------------------------|-------------|-------------------------|
| | Male | 13 (36.10%) | 23(63.90%) | 36(47.40%) | χ²=1.48 |
| Gender of Child | Female | 20(50%) | 20(50%) | 40(52.60%) | p=0.22 |
| Education of | Illiterate | 17(37%) | 29(63%) | 46(60.50%) | χ²=1.98 |
| Mother | Literate | 16(53%) | 14(47%) | 30(39.50%) | p=0.15 |
| Education of | Illiterate | 14(36.80%) | 24(63.20%) | 38(50%) | χ =1.33 |
| Father | Literate | 19(50%) | 19(50%) | 38(50%) | p=0.24 |
| Age of 1 st | <18Year | 1(16.70%) | 5(83.30%) | 6(7.90%) | χ²=1.90 |
| Pregnancy | ≥18Year | 32(45.70%) | 38(54.30%) | 70(92.10%) | p=0.17 |
| Place of | Home | 12(57.10%) | 9(42.90%) | 21(27.60%) | χ ² =2.22 |
| Delivery | Institutional | 21(38.20%) | 34(61.80%) | 55(72.40%) | p=0.13 |
| Dirth Order | 1 st | 15(53.60%) | 13(46.40%) | 28(36.80%) | χ ²=1.85 |
| Birth Urder | $\geq 2^{nd}$ | 18(37.50%) | 30(62.50%) | 48(63.20%) | p=0.17 |

Table 2: Various Socio-Demographic Factors Affecting Vaccine coverage

Table 3: Vaccination status as per Age

| Age at Vaccine missed | Eligible | Missed vaccine | Missed vaccine % |
|-----------------------|----------|----------------|------------------|
| At birth | 76 | 2 | 2.63 |
| 1.5 Months | 76 | 23 | 30.26 |
| 2.5 Months | 76 | 26 | 34.21 |
| 3.5 Months | 73 | 26 | 35.61 |
| 9 Months | 66 | 33 | 50.00 |
| 24 Months | 54 | 26 | 48.14 |
| MR campaign | 67 | 67 | 100.00 |

| Immunization status | Frequency | % |
|----------------------|--------------|-------|
| Completely immunized | 33 out of 76 | 43.42 |
| Fully immunized | 6 out of 15 | 40.00 |
| Partially immunized | 41 out of 76 | 53.94 |
| Unimmunized | 2 out of 76 | 2.63 |

Table 4: Vaccination Status

* Completely immunized: Child who has taken upto age vaccine dose

* Fully immunized: Children age 12-23 months (BCG, measles, 3 doses each of polio and DPT)

| Don't know where to go for vaccination | 39 (90.70%) |
|--|-------------|
| Not aware about the Schedule | 41 (95.30%) |
| Do not want to get Vaccinated | 4 (9.30%) |

 Table 5: Reasons for missed vaccine

Discussion:

Vaccination in construction site is an obligatory problem. Despite all effort taken by Government, still there remain some elements of incomplete immunization of the children.

Present study shows that vaccination coverage was higher in children having literate mother which is supported a study of Kapoor et al^[3] and a crosssectional study conducted by Siddiqui et al in urban Karachi^[4]. Study conducted in Sydney during 1999 reported that, parents not only valued the benefits of protecting their own individual child but mothers from a range of socioeconomic and educational backgrounds also understood and appreciated the social nature of the vaccination decision.^[5]

Authors did not find any gender difference in immunization coverage. This finding was consistent with the results of other studies on migrants (Barretto et al). Similarly our observations agree with Waldhoer et al & Antai for increasing mother's age increase the likelihood of a child being fully immunized.^[6] We believe that older mother's age is probably associated with greater maturity, awareness and social networking with older mothers, which results in better odds of a child being fully immunized. Ahmedabad had 36% MR campaign coverage against the state average of 63%. Civil campus comes under Girdhar Nagar ward that had 22% coverage but in This study population none of the eligible children were vaccinated with MR Vaccine.^[7]

As far as overall immunization status is concerned, we found in this study that 40% were fully immunized and 53.94% children were partially immunized. The findings indicate that still there were some children lost to follow up and missed some vaccines.

Study done in Jharkhand found that 78.5% children were fully immunized and 21.5% children were partially immunized. This is similar to the study done by Govani K J where 74% children were fully immunized and 26% children were partially immunized. In both the study, not even a single unimmunized child was found.^[8] Similar study by Mahyavanshi DK showed that nearly 70% of the subjects were fully immunized. About 4% of the subjects were completely unimmunized^[9] while in present study they were 2.63%.The percentage of complete immunization in our study was lower than the coverage rate reported in several studies in India,^[10] Karachi^[11] and Nigeria^[12, 13] (50%, 70%, 62%, 55%)

respectively. Immunization coverage in our study was found to be lower than NFHS-IV. Nearly 50.4% of the children were fully immunized in Gujarat,^[14] 62.00% in India.^[15] The lower than expected coverage observed in the current study reinforces the need for continuous motivation, regular supervision, monitoring and evaluation to detect any declines in vaccination.

In present study population 9.3% mother did not want their child to get vaccinated due to fear of getting side effects, similar reason was given by Rajaat vohra et al Lucknow with 21% of parents of not having faith in immunization.^[15]

Conclusion:

No Mamta card was found in study family. Immunization coverage was poor for children more than 1 year of age especially for MR Vaccine (coverage was 0%). Various factors like higher birth order, low age of 1st pregnancy, education of parents and place of delivery were affecting immunization. This highlights the need to develop outreach site specific healthcare services.

Recommendations:

Health workers should emphasis more on vaccination of high risk areas like construction site. Such sites should be the target of RMNCH+ A programme with special focus on immunization related activities. Awareness regarding vaccination and Monitoring of immunization programme by health authority should be done frequently at such sites. Vaccination sessions need to be frequently conducted as mobile camps according to the convenient time for laborers. Mobile health care clinics should be introduced at construction sites.

Declaration:

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Conflict of interest: Nil

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