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Community Medicine

A CROSS SECTIONAL STUDY TO ASSESS THE IMMUNIZATION COVERAGE OF UNDER 5 CHILDREN IN A TERTIARY CARE HOSPITAL OF A METROPOLITAN CITY

Dr Janardhan Bandi	Associate professor dept of community medicine Seth GS medical college Mumbai Maharashtra, India
Dr Tejaswi Pothipogu	Resident doctor Community Medicine Seth GS medical college Mumbai Maharashtra, India
Dr Shailaja Dhanage*	Resident doctor Community Medicine Seth GS medical college Mumbai Maharashtra, India*Corresponding Author

ABSTRACT **Background-** Despite child immunization being the most effective way to improve the under-five mortality, complete immunization remains a challenge in India. We have evaluated the under-five immunization status among the children attending the immunization clinic in a tertiary care hospital. **Methodology-** This is a cross sectional study conducted among 158 mothers of infants less than six months attending an immunization clinic of a tertiary care centre. Preformed pre-tested semi structured questionnaire were used to get relevant information from mothers who were recruited using universal sampling method. Data entry and analysis were done using SPSS version 20.0. **Results-** In the study only 54(30%) of respondent are fully immunized, 72 (48%) were partially immunized,12 (20.33 %) were unimmunized. The association between the Immunization status with gender of children, Maternal age, Mothers education, and Birth order of child was found statistically significant. **Conclusion-** Immunization is the most effective indicator of child mortality. The study found that the mother's education, family size are determinants of under-five immunization coverage are statistically significant. There is need to sustain the promote education and awareness of immunization.

KEYWORDS : Under 5, Immunization, Coverage.

INTRODUCTION

- WHO defines immunization as, "the process whereby a person is made immune or resistant to an infectious disease, typically by the administration of a vaccine".
- Although, in India, more than 26 million births take place every year, which is the largest number in the world.
- Every year 9 million immunization sessions are organized for these infants and 30 million sessions focus on pregnant women.
- India has 7.4 million unimmunized children which is the highest worldwide.[2]
- However, almost 5 lakhs deaths occur in India annually due to VPD.
- IMR in India is 30 per 1,000 live births in 2019. In Maharashtra it is 17
- The leading causes of infant mortality are diarrhoea, measles, pneumonia, malnutrition etc.
- Immunization prevents illness, disability and death from vaccine-preventable diseases (VPDs) including diphtheria, measles, pertussis, pneumonia, polio, rotavirus diarrhoea, rubella and tetanus.
- Vaccines are safe, simple and one of the most cost effective ways to save and improve the lives of children worldwide

METHODS

This is a cross sectional study conducted among 158 mothers of infants less than six months attending an immunization clinic of a tertiary care centre. Preformed pre-tested semi structured questionnaire were used to get relevant information from mothers who were recruited using universal sampling method. Data entry and analysis were done using SPSS version 20.0.

- Immunization status of children was assessed according to Universal Immunization Program (UIP) by receiving information from mother either orally and/ or by immunization card Present study immunization status was classified in following three categories

Fully immunized: children who had received BCG and complete doses of hepatitis B, diphtheria, tetanus, pertussis (DPT), OPV, IPV, rotavirus and measles vaccine applicable for that age as per National Immunization Schedule.

Partially immunized: those who had received one or more doses of these vaccines, but not all doses.

Unimmunized: those who had not received single dose of any vaccine

RESULTS

- **Age wise distribution of mothers-** The majority of mothers were between 21-30 years old, accounting for 36.7%, followed by 31-40 years old with 29.7%, 18.9% were younger than 20 years old, and over 40 years old accounted for the remaining percentage

- **Distribution of mothers according to education**

34.47% of mothers had primary education, 16.54% were illiterate, 29.70% had secondary education, 12.06% had higher secondary education, and 7.59% had higher education.

- **Distribution based on Birth order of child**

The first birth order accounted for the highest percentage of children (36.03%), followed by the second birth order (33.5%), third birth order (21.5%), and more than third birth order (8.86%).

Figure 1: A Distribution of children according to immunization status.

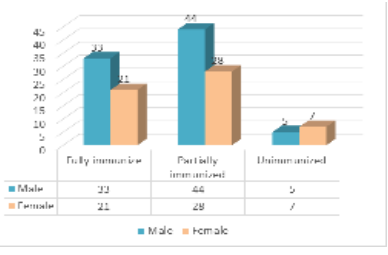

Figure 2: Maternal age with immunization status of children

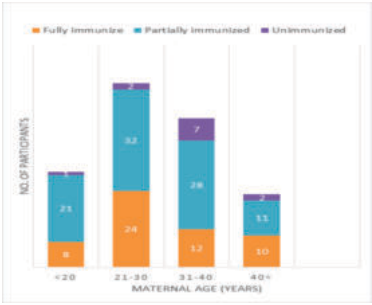

Figure 3: Maternal educational status with immunization status of children

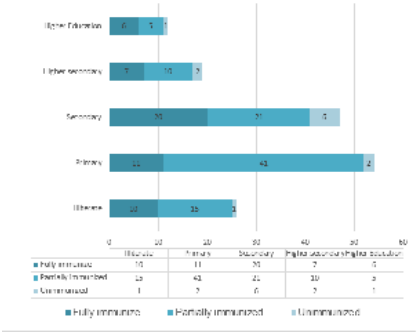

Figure 4: Birth order with immunization status of children

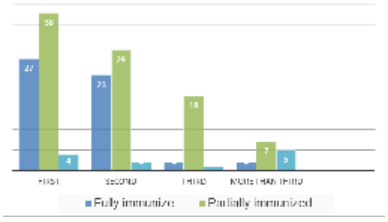

Table 1: Association between immunisation status and different factors

Variable	P Value	Chi square value
Immunisation status with Gender	0.46	1.546.
Maternal age	0.142627	9.5982
Education status of mother	0.054997	13.5257
Birth order of child	0.000077	28.4717

Table 2: Discussion

Name of the study	Findings of the study	Findings of present study
Angadi MM et al	34.84% were fully immunized, 97 (62.58%) were partially immunized and 4 (2.58%) were unimmunized	30% of respondent are fully immunized,48% were partially immunized,20.33 % were unimmunized
Gupta P et al	percentage of non-immunized children were more among female children (20%).	Findings are similar to the study; percentage of non immunized female is more.
Marks et al, from Nigeria	educational status of mothers had a strong association with a high vaccine uptake	Education of mother has found strong association with immunisation status of children
Munthali AC et al	72% of 1st born, 64% of 2nd/3rd born, 63% 4th/5th born and 58% of 6+ order was fully immunized	Birth order of child has strong association with immunisation. 50% 1st born ,42% 2nd born 3rd and more than third 3.6% each.

SUMMARY AND CONCLUSION

- Immunisation of male child was more as compare to female but was no statistical significance in them.
- Majority i.e., 45.5 % child were partially immunised.
- Maternal education and the birth order of child was found to be very strongly associated.
- In terms of education, illiterate mothers have the lowest number of fully immunized children (10), while secondary educated mothers have the highest number of partially immunized children (21), the highest percentage of mothers (36.7%) belonged to the age group of 21 to 30 years and about one-third (34.47%) of mothers were primary educated.
- The first-born children have the highest number of fully immunized children (27), while the third-born children have the highest number of partially immunized children (18)
- The highest percentage of mothers (36.7%) belonged to the age group of 21 to 30 years.
- In conclusion, the data highlights the need for targeted immunization campaigns to reach out to mothers who are less educated and live in rural areas.
- It also emphasizes the importance of promoting immunization for all children, regardless of their mothers' occupation, education, residence, or birth order.
- Increase awareness among mothers about the importance of immunization: This could be done through community health programs or outreach efforts.

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DECLARATIONS

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Conflict of interest: none
Ethical approval: done

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