

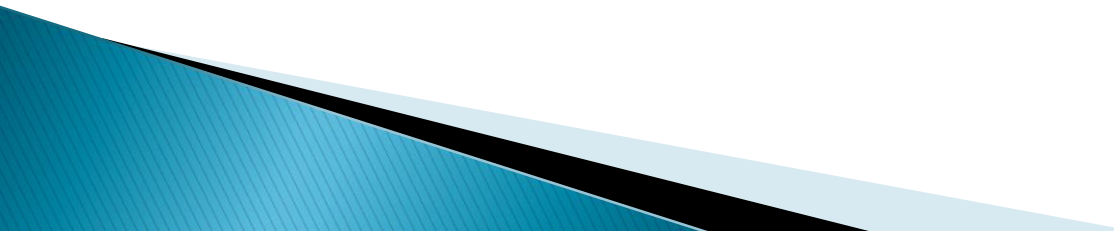
A Study on Vaccination Timeliness in children aged 12 to 24 months under Universal Immunization Programme in Porbandar district, Gujarat

Under the guidance of-
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INTRODUCTION

- ▶ Childhood immunization is one of the most cost-effective activities in health care.
 - ▶ The government's Universal Immunization Programme has helped reduce the mortality figure by focusing on immunization coverage.
 - ▶ Despite being the high immunization coverage two thirds of children in India do not receive their vaccinations on time, prolonging their susceptibility to diseases and contributing to untimely deaths. But a missing link seems to be in ensuring that the vaccination is administered on time.
 - ▶ Timely vaccination is defined as administration of vaccine doses at the recommended time or by the maximum recommended age.
 - ▶ It is classified as early, on-time, delayed, or never, based on the recommended vaccination schedule.
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- ▶ Vaccination after 32 days from national schedule was considered “delayed”.
 - ▶ Conversely, vaccines given too early or with a shortened interval between doses may also result in a suboptimal immune response, leading to a false sense of protection.
 - ▶ Timely vaccination is essential to develop adequate immunity and minimizing susceptibility to these diseases.
 - ▶ The timeliness of vaccinations should be an important public health goal, and yet this information is often lacking as coverage is the usual metric used.
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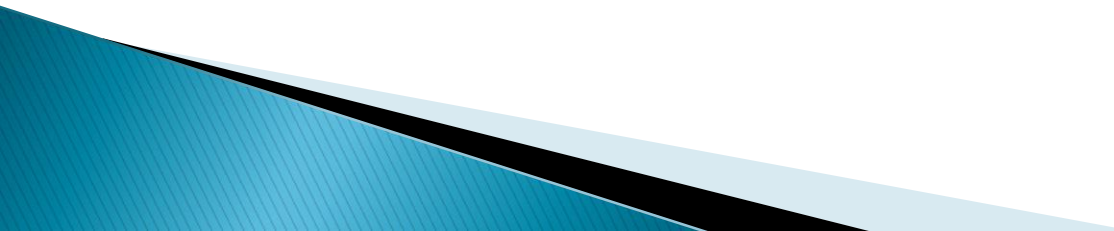
VACCINE	Vaccination Schedule			
	Expected Date	Early	Delay	Never
BCG	At birth(upto1 year if not given)		>32 days from birth	Not at all
OPV 0	At birth(upto 15 days if not given earlier)		>15 days	Not at all
HEP-B	At birth(within 24 hrs)		>24 hrs	Not at all
PENTA-1	6 th week	<6 weeks	>6 th week (plus additional margin of 32 days)*	Not at all
OPV-1	6 th week	<6 weeks	>6 weeks (plus additional margin of 32 days)*	Not at all
PENTA-2	10 th week	<10 weeks	>10weeks(plus additional margin of 32 days)*	Not at all
OPV-2	10 th week	<10 weeks	>10 weeks (plus additional margin of 32 days)*	Not at all
PENTA-3	14 th week	<14 weeks	>14 weeks (plus additional margin of 32 days)*	Not at all
OPV-3	14 th week	<14 weeks	>14 weeks (plus additional margin of 32 days)*	Not at all
MEASLES	9 months	<9 months	>9 months (plus additional margin of 32 days)*	Not at all

**Representing
expected
schedule of full
immunization
under
Universal
Immunization
Programme.**

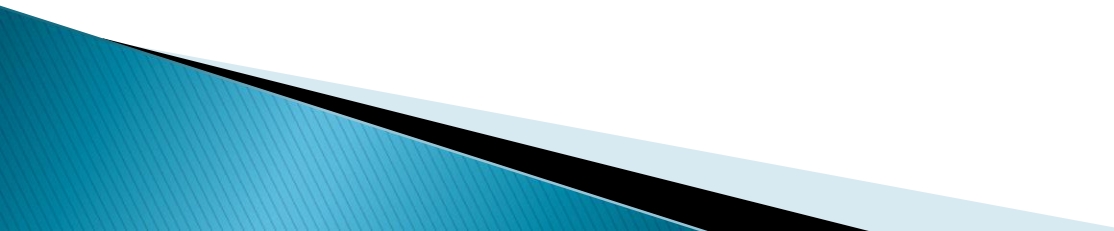
RATIONALE

- ▶ Porbandar has a full Immunization coverage rate of 68.8 % as per NFHS-4 and 95 % as per e-mamta status. Despite being high immunization coverage rate the timeliness of vaccination is very low in India. Immunization coverage is essential for the quality of services but timeliness factor can add on the better quality of services. As vaccination coverage rates among children is used as a basic indicator of vaccination program performance there is less focus on timeliness of vaccination while also there are limited data available on vaccination timeliness. So a study has been designed to assess the vaccination timeliness in children aged 12 to 24 months under UIP in Porbandar district Gujarat.

RESEARCH QUESTION

- ▶ Are the children aged 12 to 24 months received three dose of Pentavalent and oral polio vaccine, one dose of BCG, Hepatitis-B and measles vaccine on time as scheduled in Porbandar district, Gujarat?
 - ▶ Is there any association between parity and timeliness of the vaccine?
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OBJECTIVE

- ▶ To assess the timeliness of three dose of Pentavalent and oral polio vaccine, one dose of BCG, Hepatitis-B and measles vaccine in Porbandar district, Gujarat.
 - ▶ To assess the relationship between parity and the timeliness of the vaccines.
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METHODOLOGY

▶ **Study setting:** Porbandar, Gujarat

▶ **Methods and sample size:**

Cross sectional retrospective study.

Total sample size of 210 children were included.

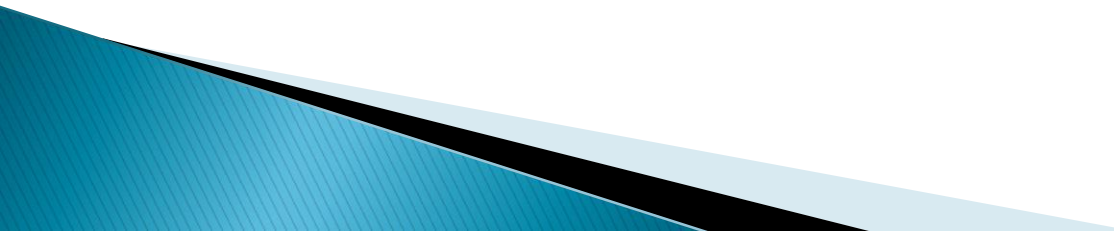
▶ **Sampling Procedure:**

Cluster technique for assessment of timeliness was chosen.

Within the 30 cluster, 7 eligible children were taken. Within the cluster the first house is selected randomly, and then we moved in one random direction till the required number of eligible children was covered.

▶ **Data Collection:**

Structured questionnaire and also examined the immunization card and recorded the immunization status.



▶ **Exclusion Criteria:**

- i. Children who were younger than 12 months and older than 24 months were not taken into study.
- ii. Also the children who don't have Mamta/ Immunization card and those who emigrated were not taken into consideration.

▶ **Inclusion Criteria:**

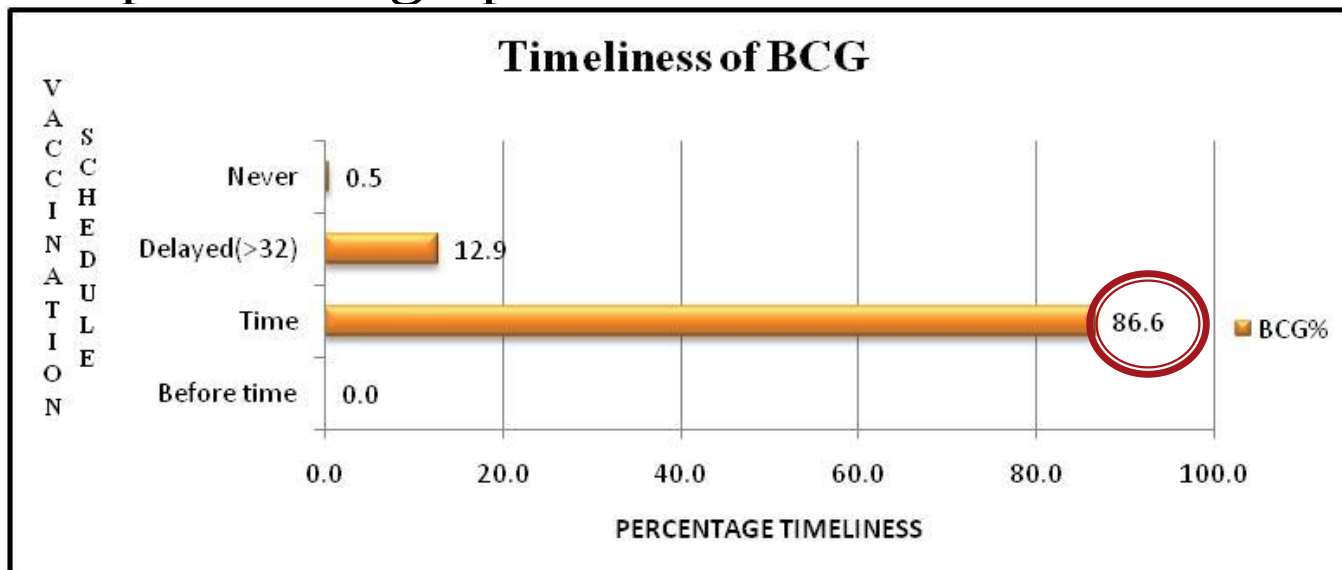
- i. Children aged between 12-24 months were taken into consideration.
- ii. The children of families who were migrated from other district having Mamta/Immunization card were taken into study.
- iii. The house having more than 1 eligible beneficiary(age between 12-24 months& having mamta/ immunization card) were also taken into consideration for study.

▶ **Statistical Analysis:**

The analysis was done using excel and proportions of delayed immunization were computed.

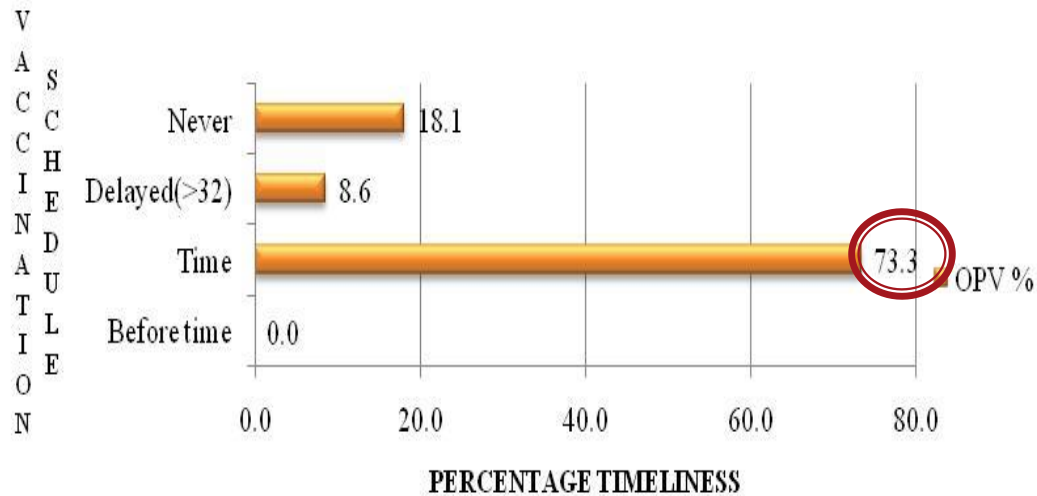
RESULT

- ▶ The study included vaccination data on 210 children who were 12 to 24 months of age of Porbandar district, Gujarat and the timely administration of vaccines were depicted in graphs below:



Graph represents that the timely administration of BCG occurred in 86.6% of children whereas 12.9% of children received vaccine lately and 0.5% of children were not vaccinated with BCG vaccine.

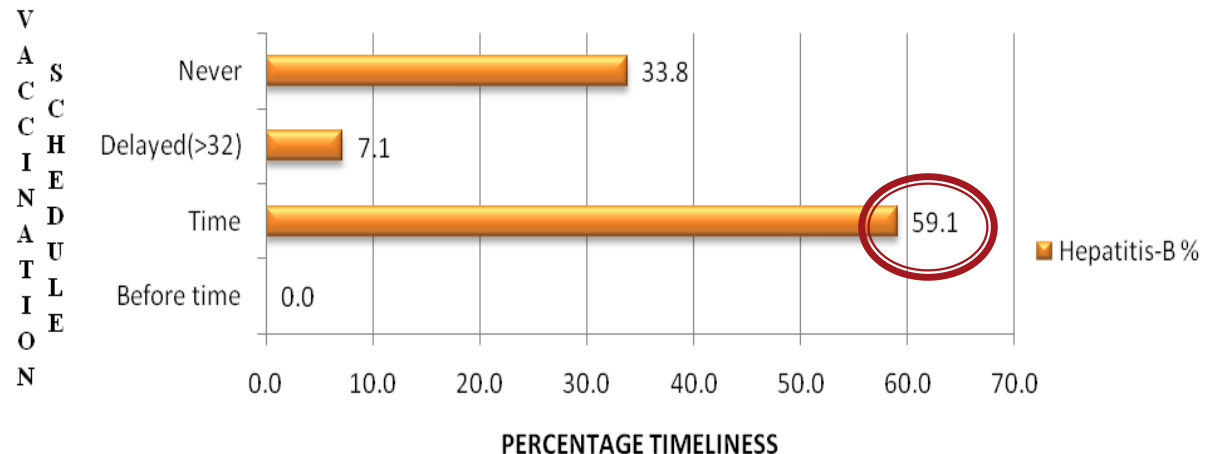
Timeliness of OPV-0

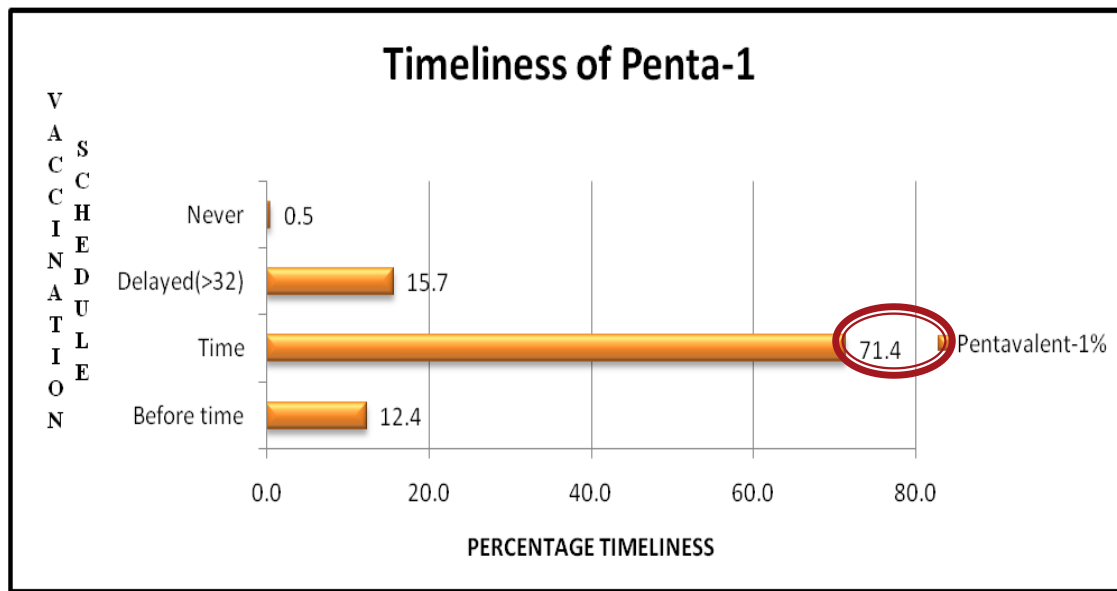


Graph represents that the timely administration of OPV-0 occurred in 73.3% of children whereas 8.6% of children received vaccine late and 18.1% of children were not vaccinated with OPV-0 vaccine.

Graph represents that the timely administration of Hepatitis-B occurred in 59.1% of children whereas 7.1% of children received vaccine late and 33.8% of children were not vaccinated with Hepatitis-B vaccine.

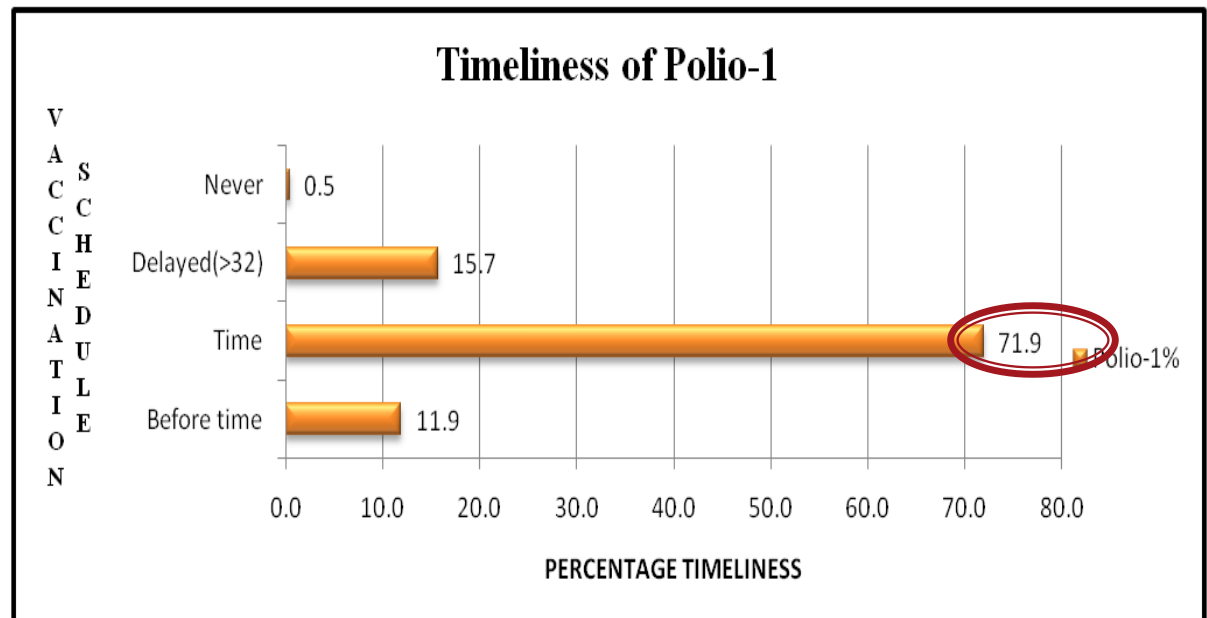
Timeliness of Hep-B

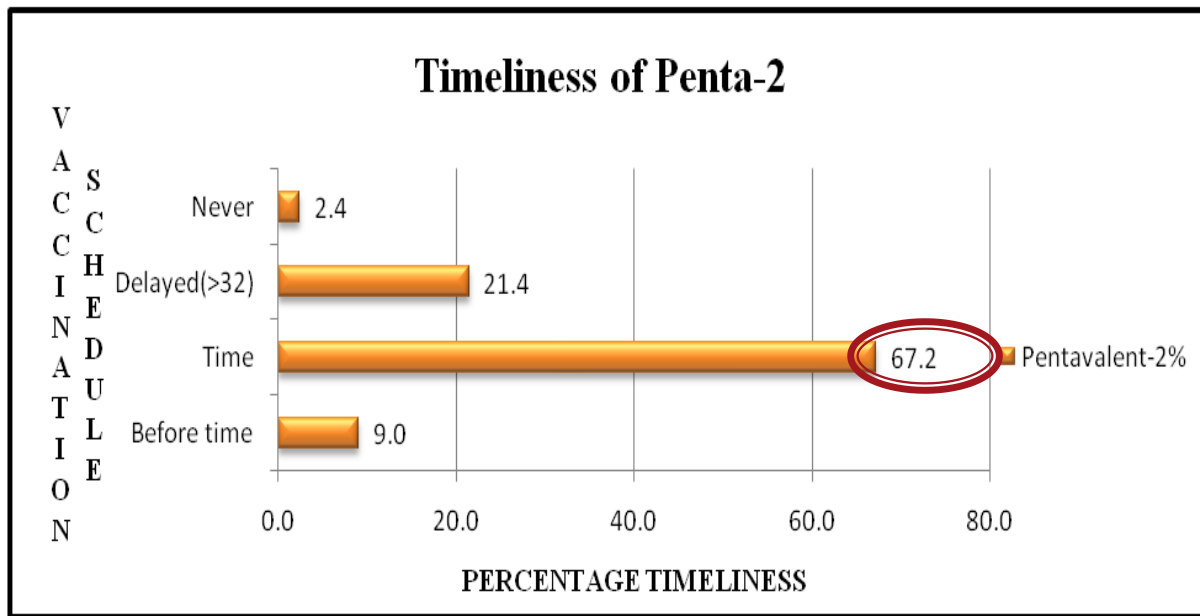




Graph represents that the timely administration of Penta-1 occurred in 71.4% of children whereas 15.7% of children received vaccine lately, 12.4% received before time and 0.5% of children were not vaccinated with Penta-1 vaccine.

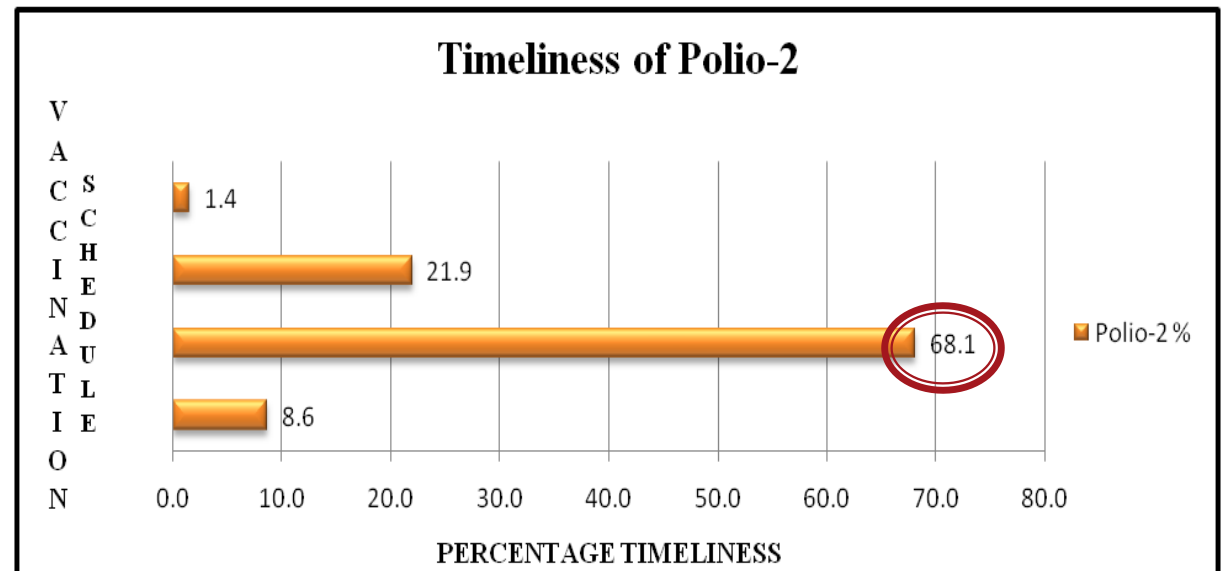
Graph represents that the timely administration of 1st dose of polio occurred in 71.9% of children whereas 15.7% of children received vaccine lately, 11.9% received before time and 0.5% of children were not vaccinated with 1 dose of polio vaccine.

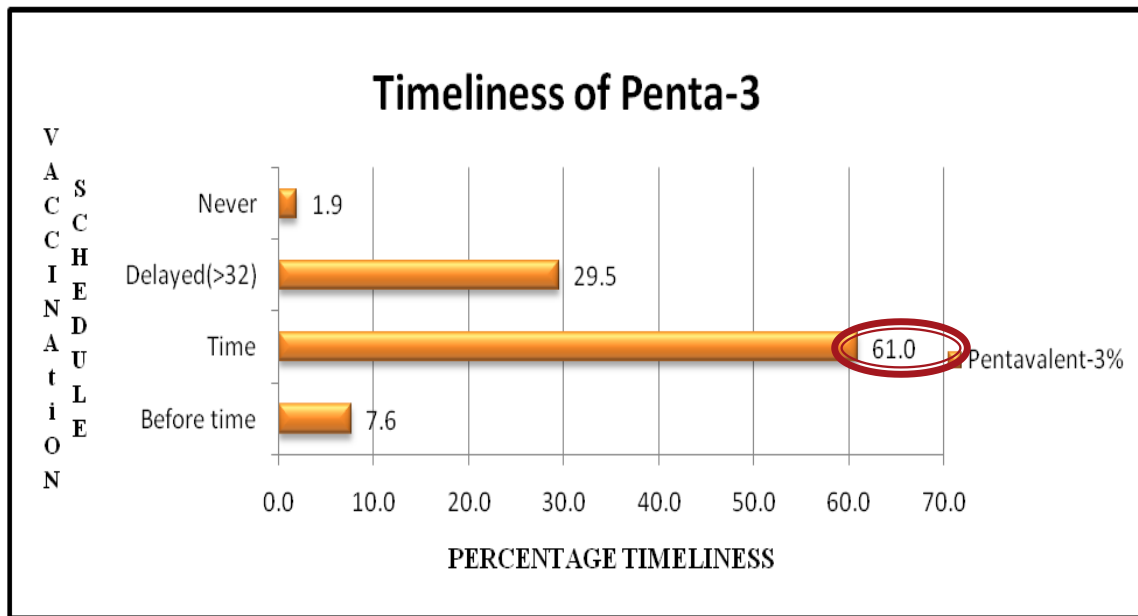




Graph represents that the timely administration of Penta-2 occurred in 67.2 % of children whereas 21.4% of children received vaccine lately, 9.0% received before time and 2.4% of children were not vaccinated with Penta-2 vaccine.

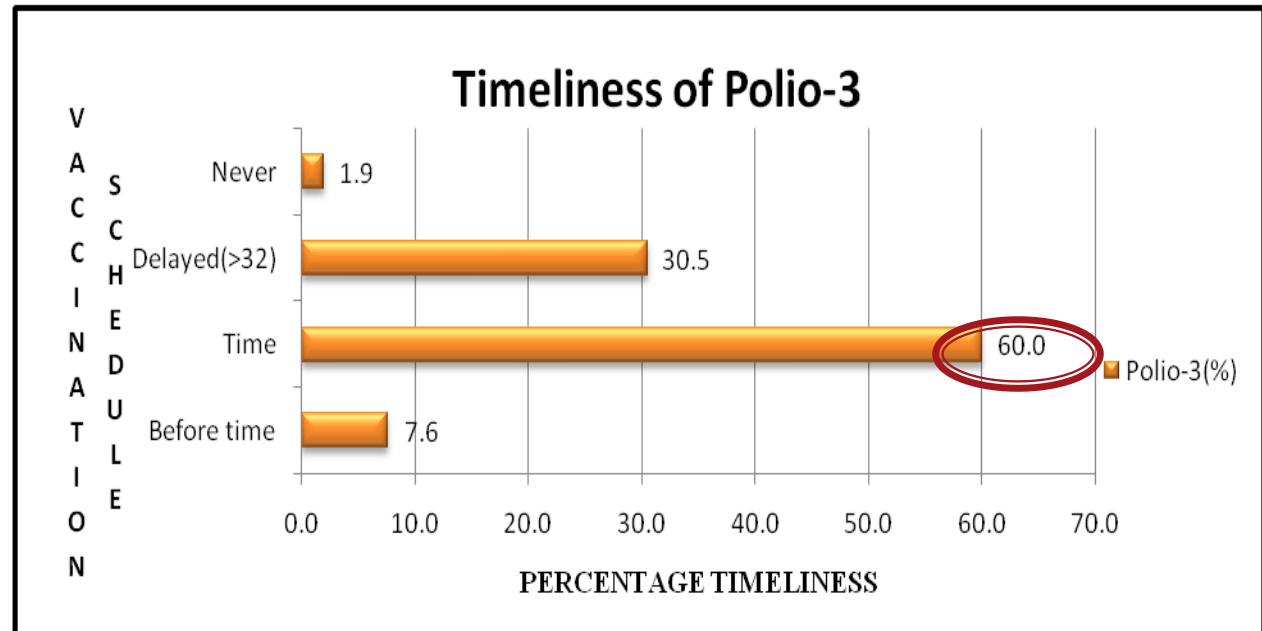
Graph represents that the timely administration of Polio-2 occurred in 68.1% of children whereas 21.9% of children received vaccine lately, 8.6% received before time and 104% of children were not vaccinated with Polio-2 vaccine.

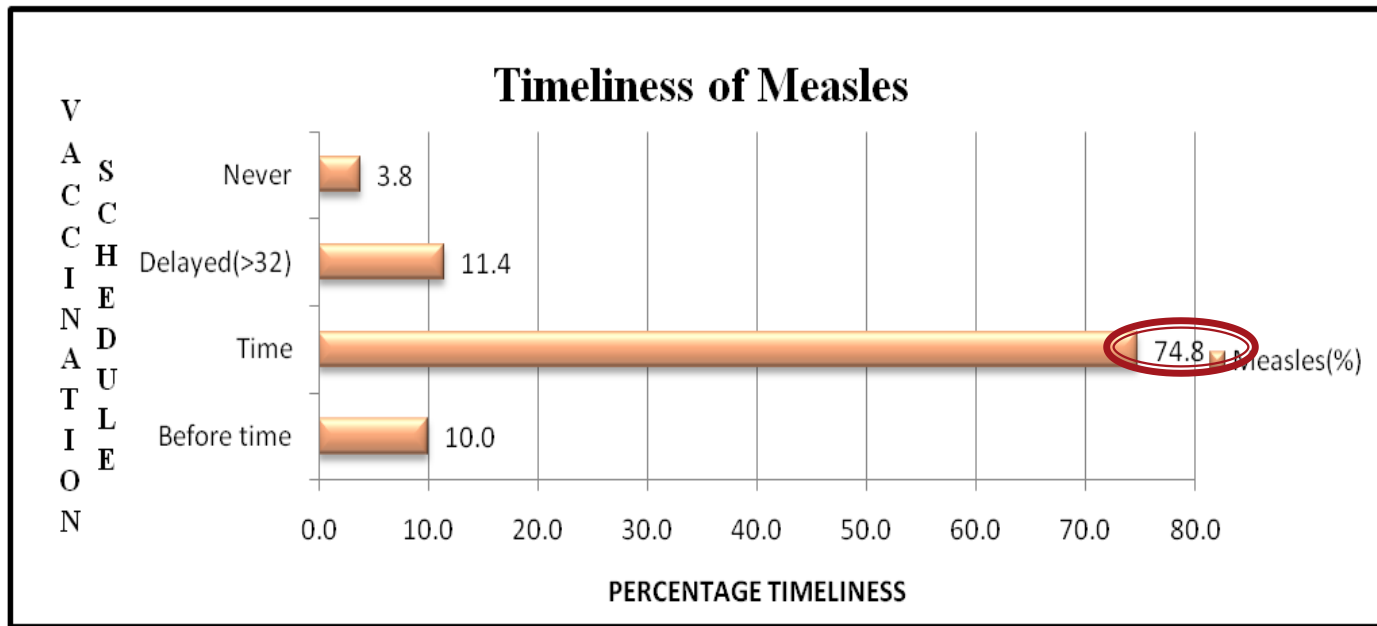




Graph represents that the timely administration of Penta-3 occurred in 61.0% of children whereas 29.5% of children received vaccine lately, 7.6% received before time and 1.9% of children were not vaccinated with Penta-3 vaccine.

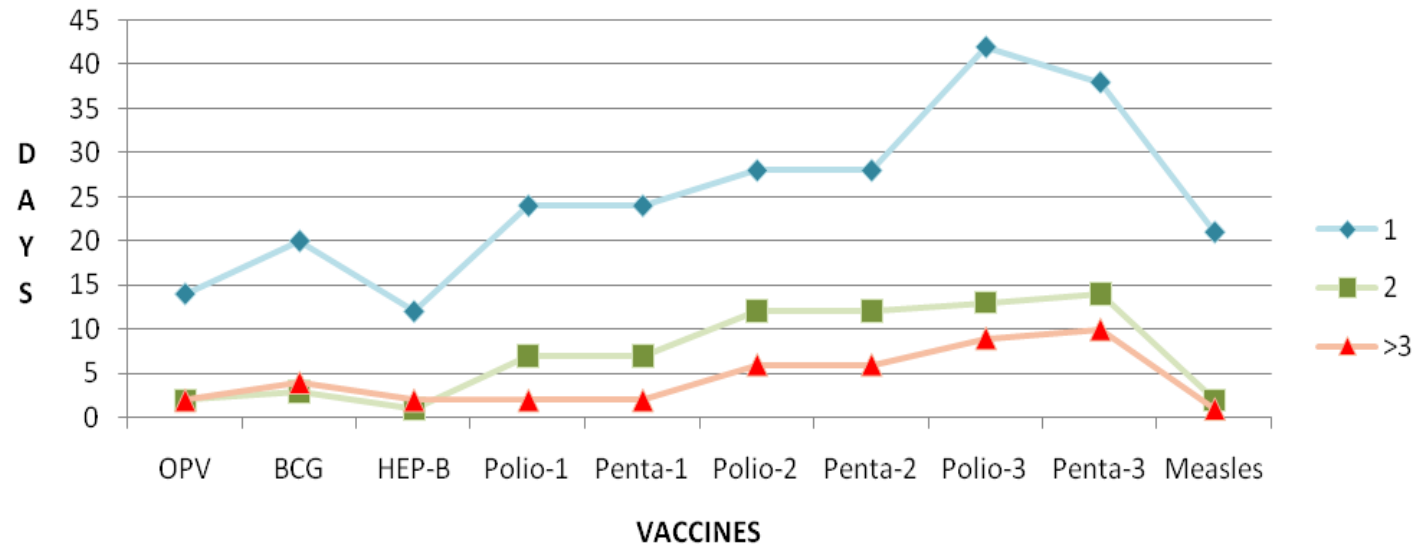
Graph represents that the timely administration of Polio-3 occurred in 60.0% of children whereas 30.5% of children received vaccine lately, 7.6% received before time and 1.9% of children were not vaccinated with Polio-3 vaccine.





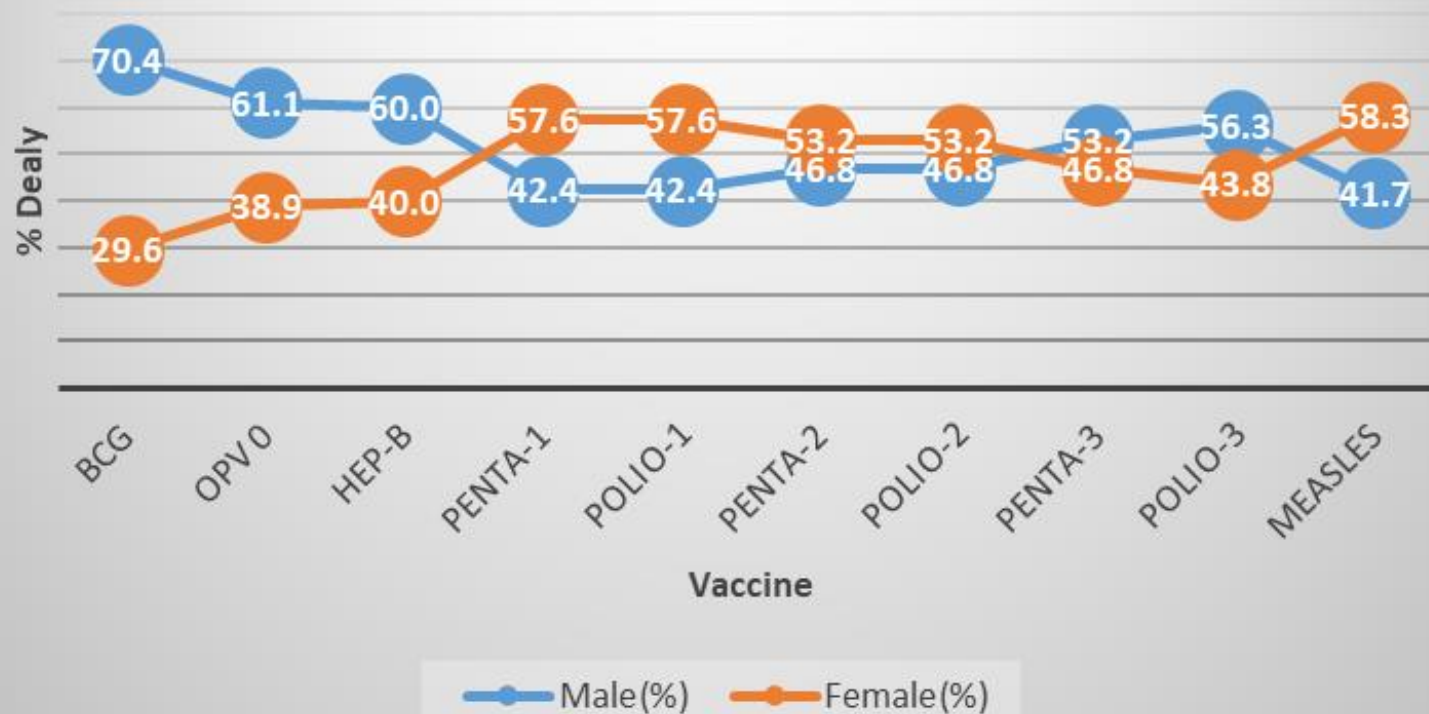
Graph represents that the timely administration of Measles occurred in 74.8% of children whereas 11.4% of children received vaccine lately, 10.0% received before time and 3.8% of children were not vaccinated with Measles vaccine.

Relation between Parity and Timeliness



Graph represents the untimely administration of vaccines. It shows that as the parity increases the delay in administration of vaccine decreases i.e. timeliness increases.

Gender Wise Timeliness



CONCLUSION

What have been revealed from the study concluded as follows:

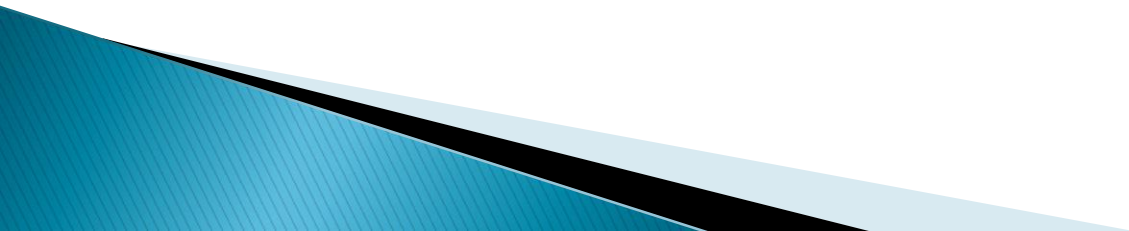
- ▶ Lack of timely administration of key childhood vaccines remains a major challenge in India and likely contributes to the significant burden of VPD. Though the delay is not so high in Porbandar district but a significant proportion of population lacks age- appropriate vaccination. It has also been revealed from the study that as the birth order increases the timeliness of vaccination increases.
- ▶ The timeliness of vaccination can influenced by different factors not being studied due to time constraint and language barrier.
- ▶ In states with high vaccination coverage, we need to focus on timeliness and surveillance for timely age-appropriate vaccination. This will further improve immunization delivery effectiveness and ensure low dropouts, as delayed first dose is associated with higher chances of dropout.

ACKNOWLEDGEMENT

- ▶ The success of any task requires blessings and efforts of numerous individuals and this project is no exception. Hereby, I take this opportunity to express my deep sense of gratitude to all those who have helped me directly or indirectly in completion of my dissertation.
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 - ▶ A special thanks to my colleagues, for providing immense support and motivation throughout the entire period.
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THANK YOU