

Immunization status in North-East state of India

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Introduction

- Immunization is one of the most cost effective intervention to prevent a series of major illness.
- Every country has its own program of immunization as a part of overall health strategy.
- The expanded program immunization (EPI) was launched by the World Health Organization (WHO) and UNICEF in the late 1970's following the eradication of smallpox.

Continued...

- In India, childhood immunization has been an important part of maternal and child health services since 1940s.
- BCG immunization started in 1948.
- Between 1969 and 1985, EPI was adopted and vaccines for DPT, Measles, and other childhood illness were added.
- In 1985-86, Government of India launched Universal Immunization Program (UIP) with a target to attain at least 85 per cent vaccination of all infants by 1990 against the six vaccine preventable diseases.

Need for the Study

- Universal immunization coverage and socio-economic and demographic factors are great challenges for India's public health agenda.
- North East is one of the underdeveloped region in India having poor socio-economic and health Indicators like high morbidity and mortality.
- According to Coverage evaluation survey 2009, the child immunization level in N-E states are lagging behind and lowest in Nagaland.
- Therefore, the study focuses on immunization status and factor associated with the full immunization coverage.

Objective

- To find out full immunization coverage in northeast state of India.
- To analyze socioeconomic differential and factors associated with full immunization coverage in north eastern state .

Data and method

Data source.....

Secondary source of data

Presented study uses the data from NHFS-4 which was conducted during 2015-16

This survey used multi-stage probability proportionate\ sampling procedure to collect data

Sample...

Study sample include the respondent from the child of age between 12 to 23 months from all the North-East State including 213 from Arunachal Pradesh, 6193 from Assam, 486 from Manipur, 752 from Meghalaya, 213 from Mizoram, 336 from Nagaland, 561 from Sikkim, 582 from Tripura

Data and method

Variables and Analysis

- ❖ **Dependent variable** : full immunization coverage of children of age group between 12 mont-23 month
- ❖ **Independent Variable** : socio-economic and Demographic variable like age of mother's , education level of mother ,Place of residence, birth order of child, Wealth index of house hold, caste and religion
- ❖ Frequency table was made to find the Immunization coverage percentage of the vaccine Measles, BCG, DPT, OPV and to know the no, partial, full immunization percentage status and to know the Socio Demographic Status of these state.
- ❖ Bivariate analysis was carried out to assess socio-economic differentials, which were used predictors

- ❖ significant association of different socio-economic factor with full immunization coverage was analyzed using binary logistic regression method.

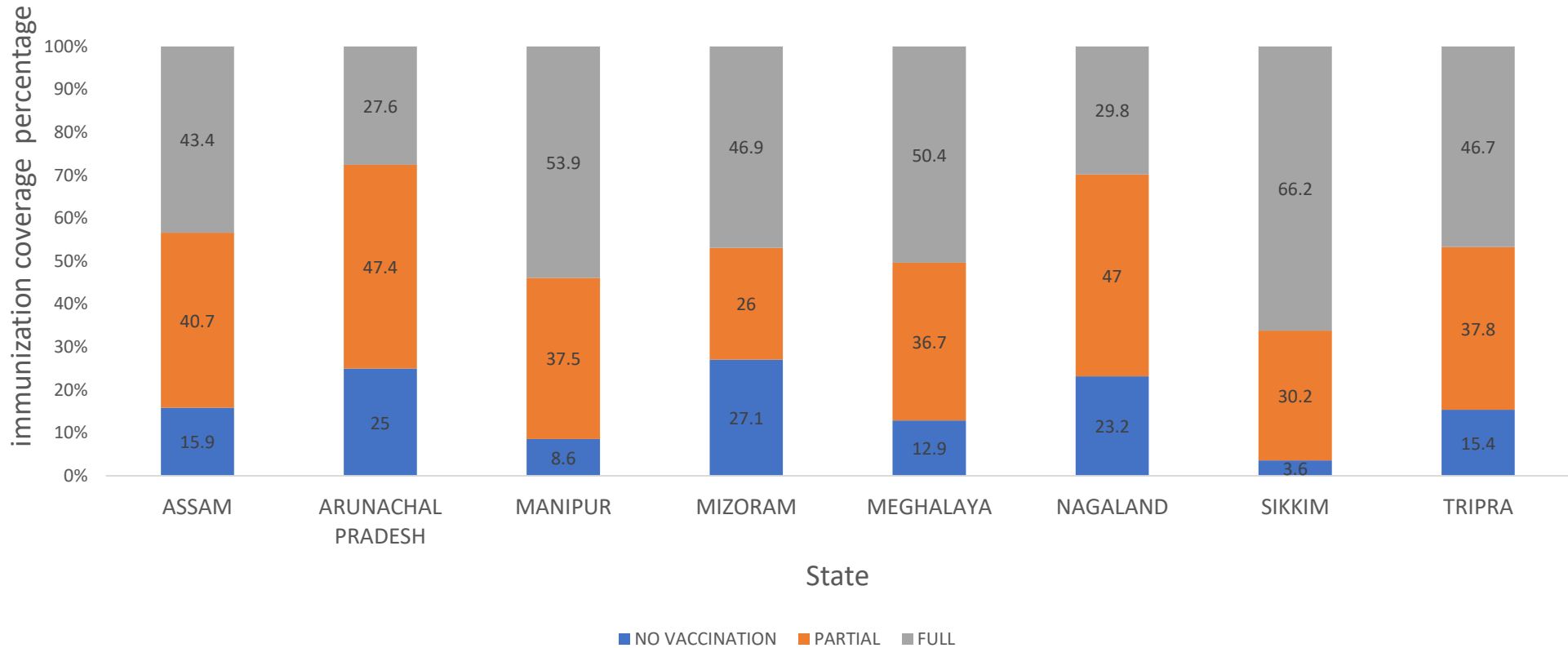
Result.....

Difference in the immunization coverage among Northeast State and India

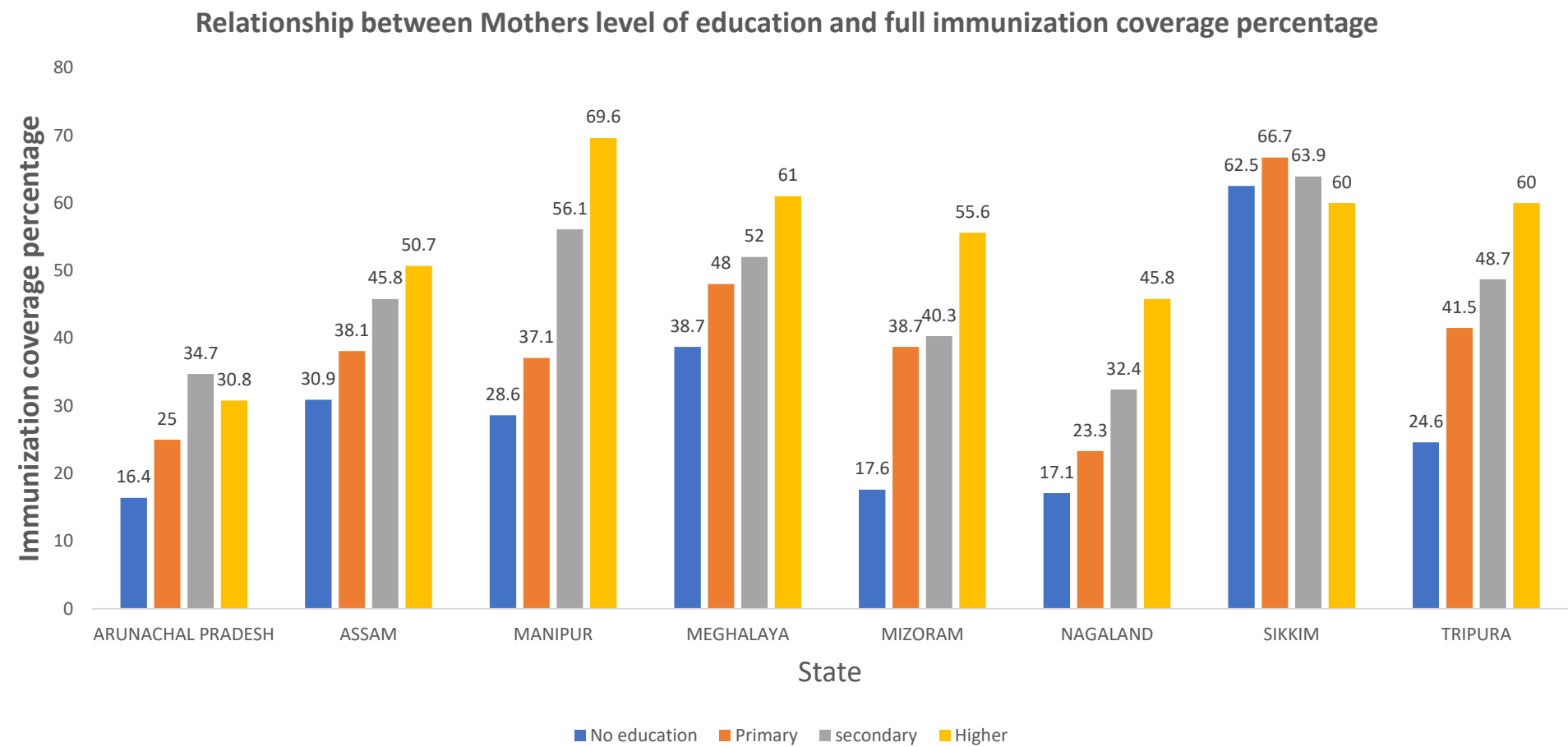
VACCINE	Assam	Arunachal	Manipur	Mizoram	Meghalaya	Nagaland	Sikkim	Tripura	India
MEASELES	63.8	47.1	63.7	55.6	61.9	43.7	78.3	60.9	70.4
BCG	80.6	66.4	87.4	70.7	84.5	66	96	79.1	89.7
DPT1	78.6	63.8	85.3	68.9	79	63.1	93.7	79.1	85
DPT2	73.5	56	79.3	65.5	74	56.6	91.8	74	79.5
DPT3	63.9	45.1	70.1	59.9	66.8	47.2	86.3	67	71.4
OPV1	78.2	69.1	88.2	70	87.2	71.5	93.3	80.8	85.8
OPV2	71.2	60.7	82.4	66.6	75.9	64.7	89.3	73.4	79.5
OPV3	55.7	46.6	71.2	57.7	63.3	51.4	79.3	62.3	64.2

No-Partial-full Vaccination in north east state

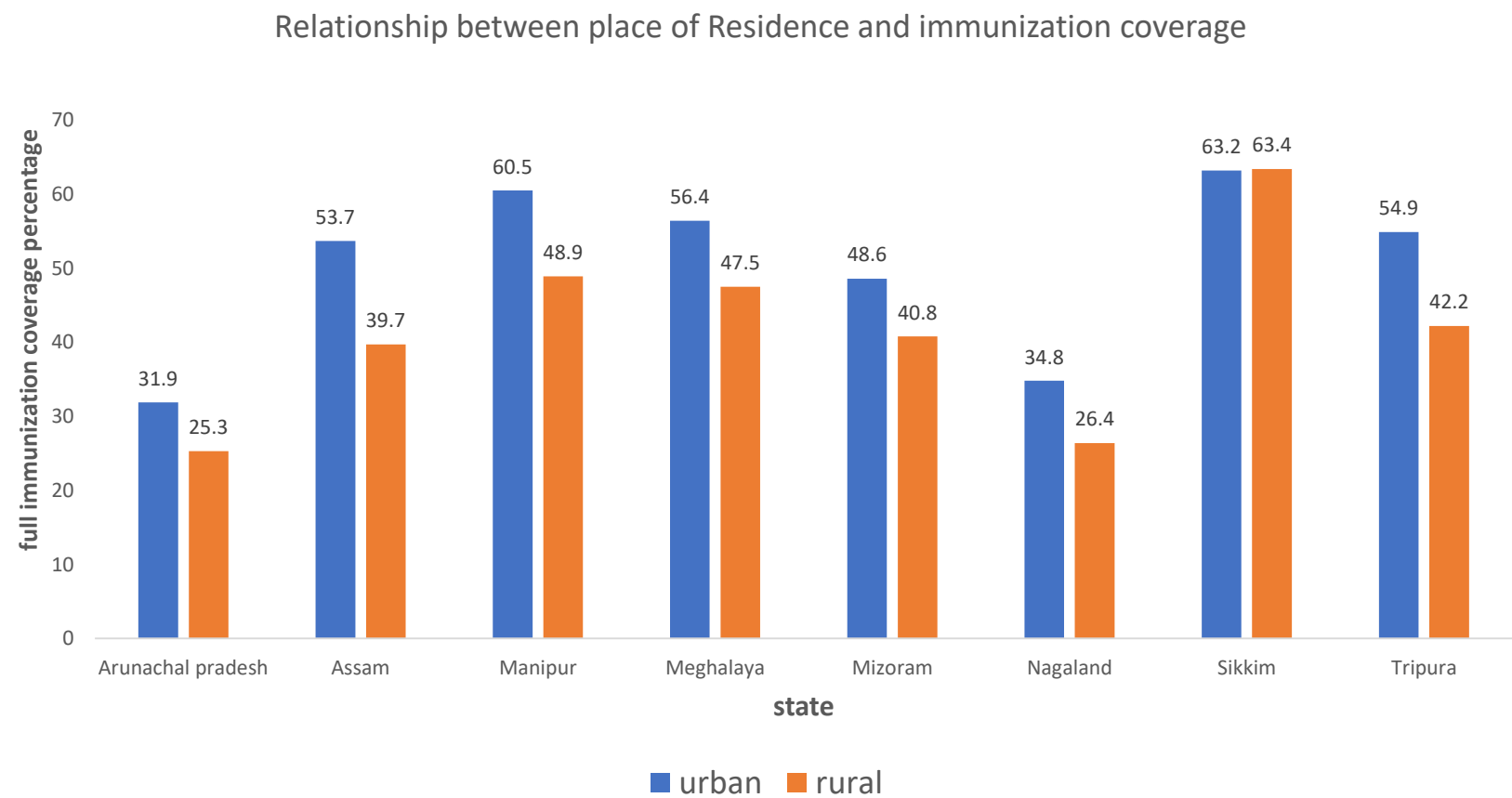
Immunization status among North-East state



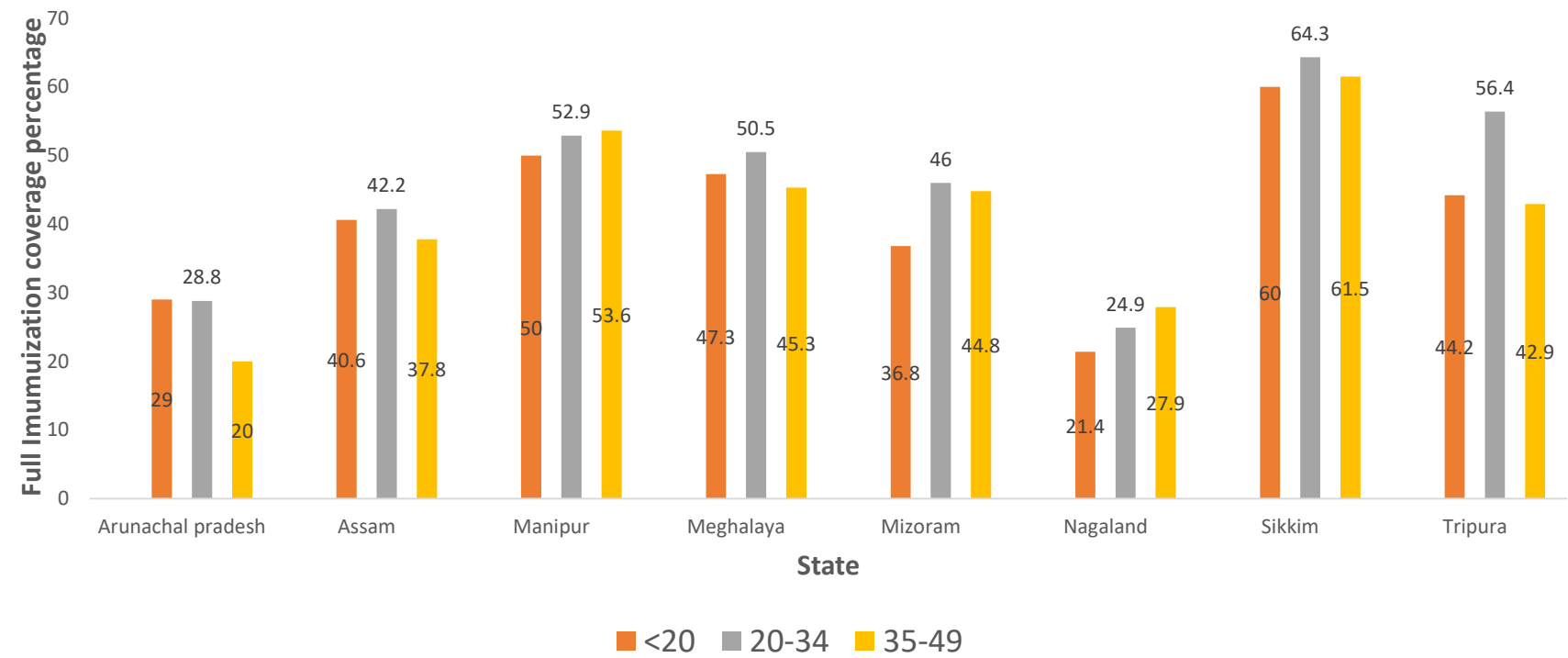
Relationship between socio-economic and demographic status and Full immunization coverage



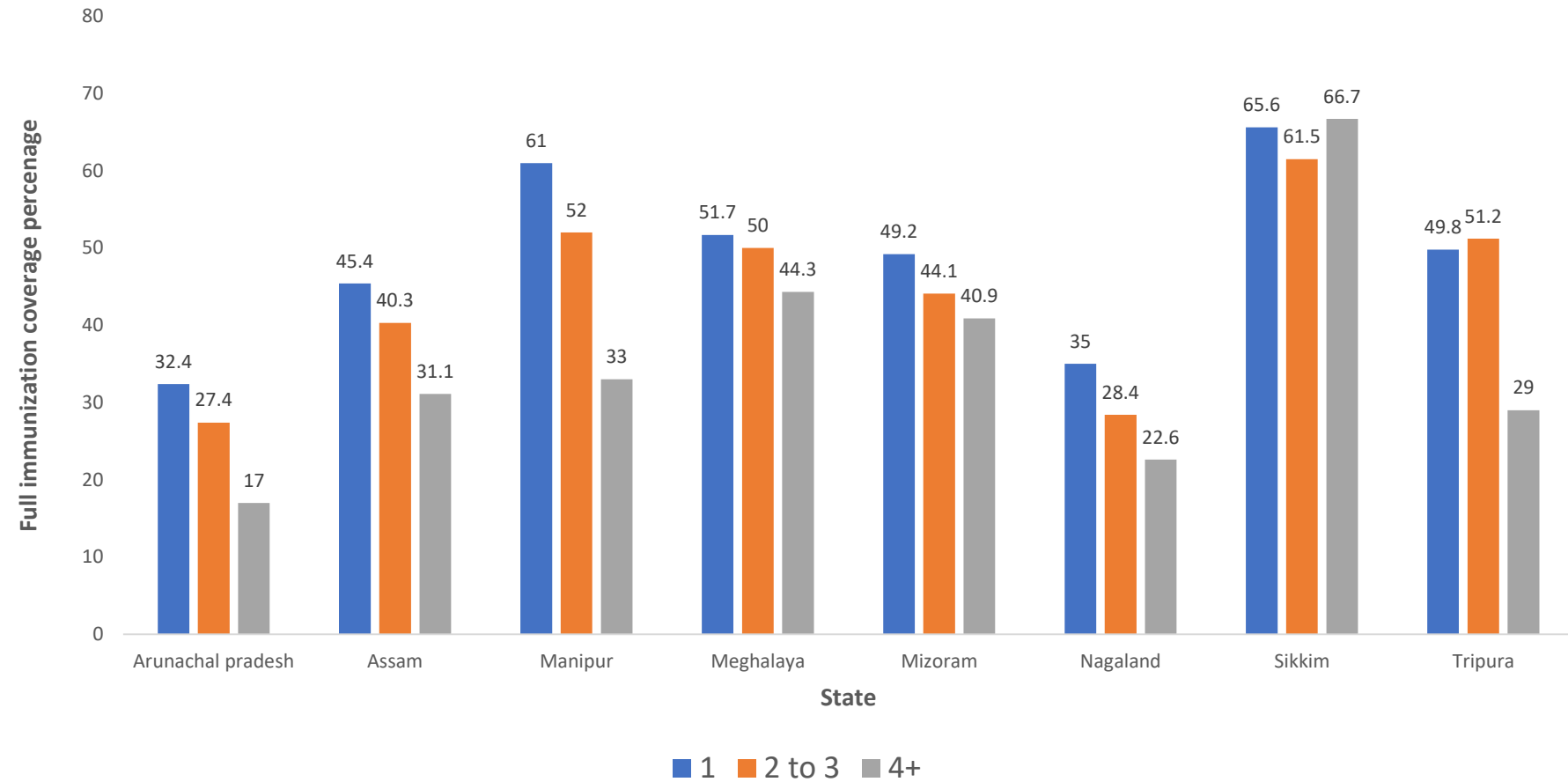
Relationship between socio-economic and demographic status and Full immunization coverage



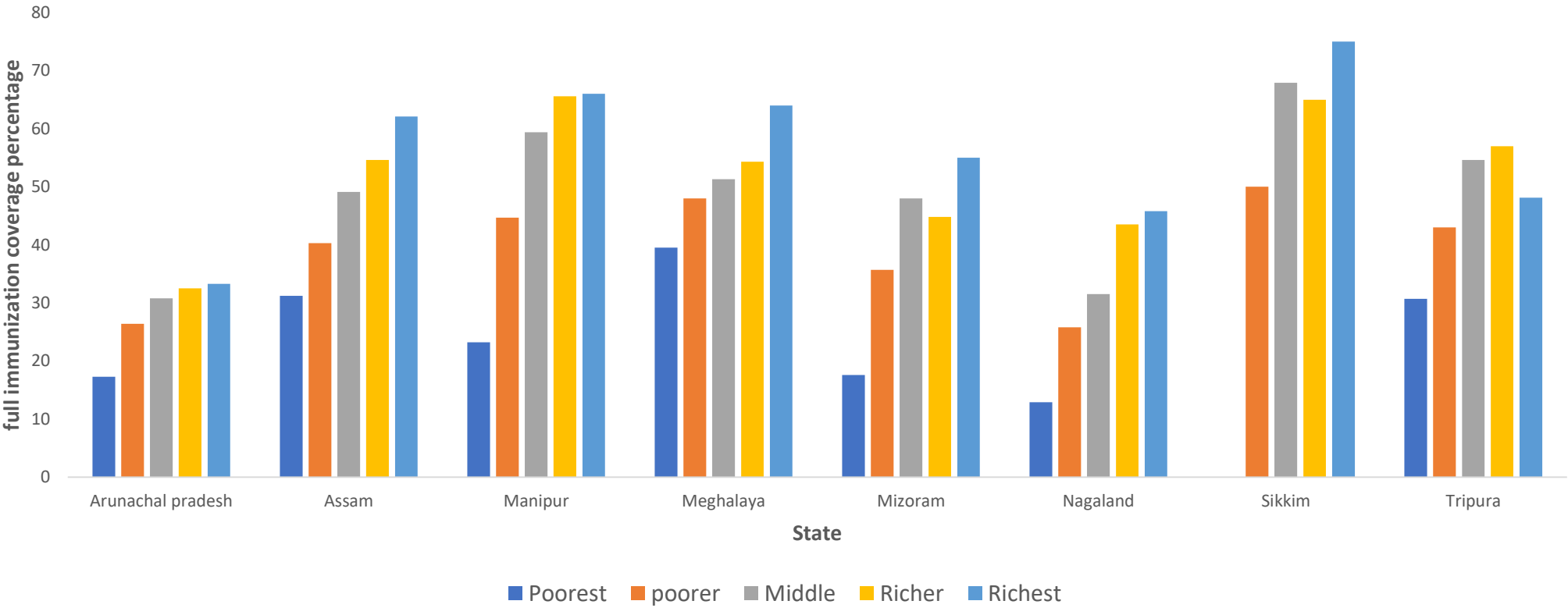
Relationship between Mother’s age at child birth and immunization coverage



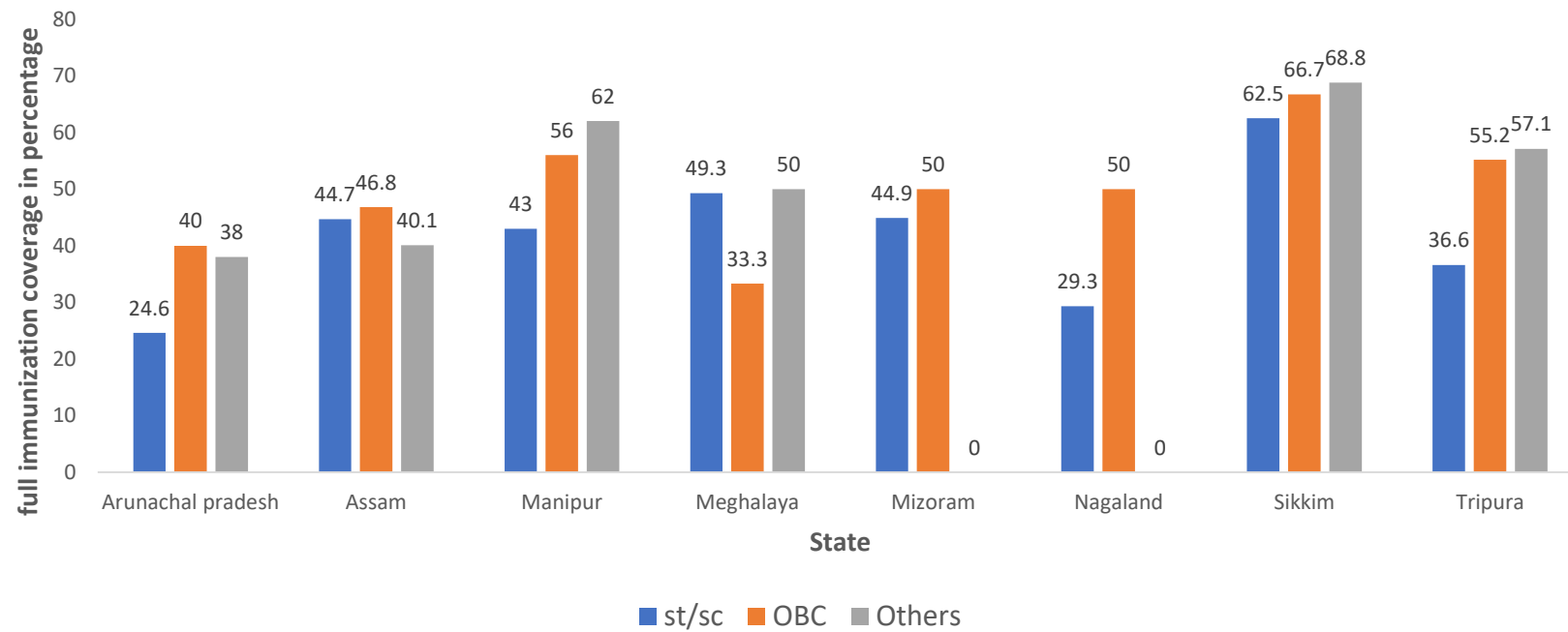
Relationship between birth order and immunization coverage



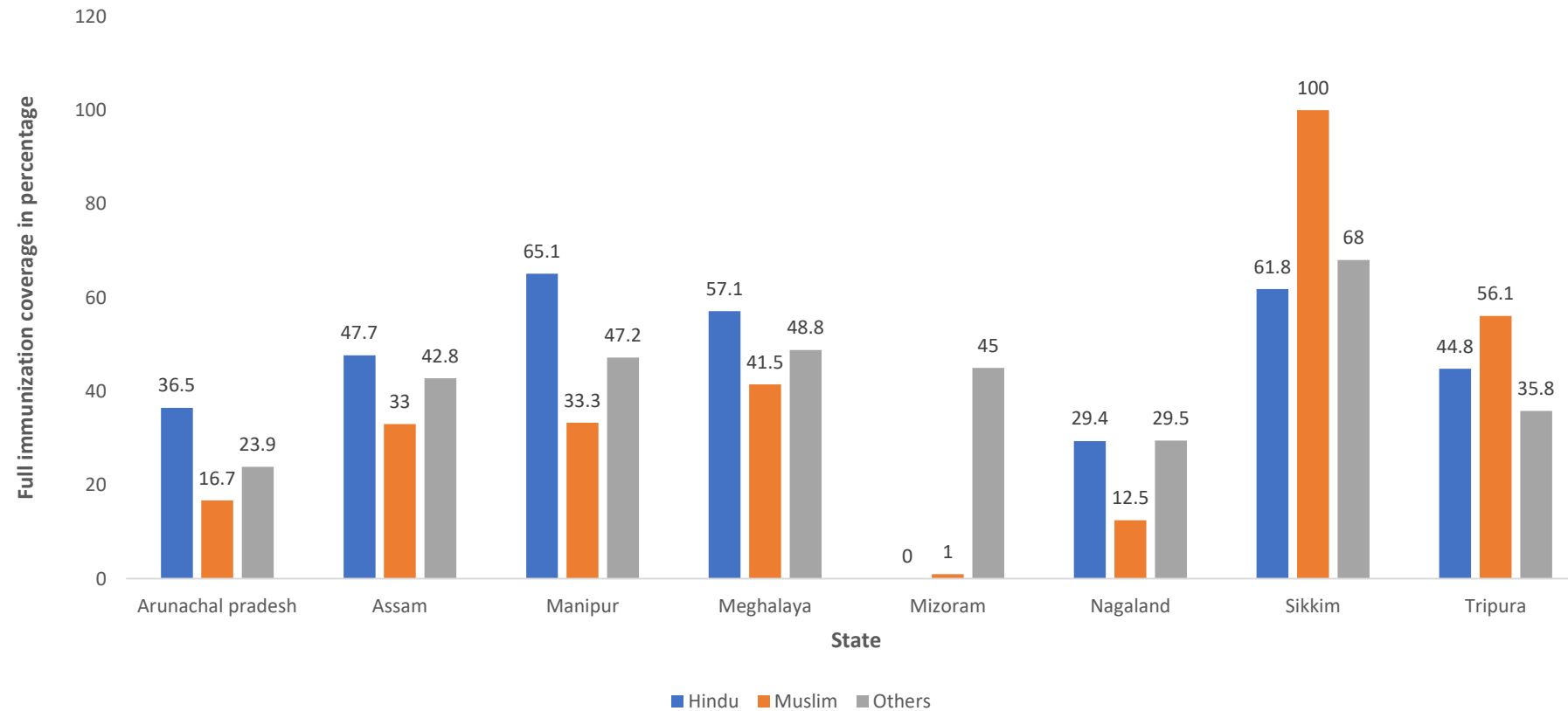
Relationship between wealth index and immunization coverage



Relationship between caste and immunization coverage



Relationship between religion and immunization coverage



Result from binomial logit regression predicted percentage full immunization percentage coverage by socio-economic &demographic status

socio-economic and demographic characteristic	odds ratio	significance
Mothers level of education		
No education	1.00	0.133
Primary	1.477	0.041
secondary	1.443	0.034
Higher	1.292	0.389
Place of residence		
urban		0.071
Mothers age at child birth		
<20	1	0.459
20-34	1.370	0.215
35-49	1.326	0.375
Birth order		
1	1	0.07
2 to 3	4.496	0.034
4+	3.032	0.082
Wealth index		
Poorest	1	0.18
poorer	5.496	0.019
Middle	11.07	0.001
Richer	9.7	0.002
Richest	4.8	0.028
Caste		
st/sc	3.7	0.001
OBC	13.4	0.052
Others		0
Religion		
Hindu	1	0
Muslim	28.0	0
Others	.226	0.635

Discussion and conclusion

- Immunization coverage in northeast state is still a challenge in as none of the state has match the immunization status when compared with overall India except Sikkim
- Arunachal Pradesh has only 27 .6% full immunization coverage while Sikkim has 66.7 % of immunization coverage
- There is a considerable changes in immunization status in relationship with socio-economic and demographic status.
- Immunization coverage increase with increase in mother level of education earlier study also revealed that only 52% of child get full immunized in northeast state and high proportion of children of illiterate mother were not fully immunized as compare to literate mother
- Study found birth order also significantly associated with immunization coverage , child whose birth order are first they have significantly more coverage status as compared to those whose birth order are second, third and fourth

Recommendation

- Nagaland has poor immunization coverage for all type of vaccine so, intervention to increase socio-economic and demographic status should be focused
- Arunachal Pradesh has highest prevalence of no immunization coverage so, intervention required to improve the immunization coverage
- While India has declared polio free country still northeast state are lacking in full immunization coverage for polio vaccine so special focus should be give to improve the immunization status of northeast state

THANK YOU