

New-born Child Credentials- 2020

Variables			
Categorical variables		Numeric variables	
Nominal variables	Ordinal variables	Continuous variables	Discrete variables
birth_month*(12)	mother_education	birth_time	Cigarettes
birth_place * (7)	father_education	mother_age	Plurality (eg: number of birth in year= sum of plurality)
marital_status *2		father_age	
pre_preg_diabetes *2		mother_height	
gest_diabetes *2		mother_bmi	
pre_preg_hypertension *2		pre_preg_weight	
gest_hypertension *2		delivery_weight	
prev_preterm_birth *2		apgar5	
infertility_treatment *2		apgar10	
prev_cesarian*2		infant_weight	
gonorrhea*2		interval_1lb	
syphilis*2			
chlamydia*2			
hepatitis_b*2			
hepatitis_c*2			
labor_induction *2			
labor_augmentation*2			
steroids*2			
antibiotics*2			
chorioamnionitis*2			
anesthesia*2			
Plurality (1/2/3/4)			
Gender *(2)			
63	2	11	2

In 2020, 186953 children were born in 180992 incidents in seven places. Almost 98 percentage of birth happened in Place '1'.

Highest birth count recorded in July (16638), August (16543) and September (16110).

Male child: 95572, Female child: 91381

Factors affecting the health of the Infant

- Sexually Transmitted infections (gonorrhoea, chlamydia, syphilis, hepatitis B, hepatitis C)
- Mother underweight and obesity (BMI)
- Mother's age under 20 and above 35
- Smoking and alcohol consumption

Significantly correlated pairs of variables are

1. Prev_cesarian and Anesthesia
2. Mother BMI and APGAR5
3. Mother BMI and Prev_preterm_birth
4. Mother (under 20) and Anesthesia
5. APGAR5 and APGAR10
6. Antibiotics and chorioamnionitis
7. anesthesia and labor_induction
8. anesthesia and labor_agmentation
9. gest_hypertension vs anesthesia

Surprising pairs of variables are

1. Cigarettes and infertility_treatment
2. Cigarettes and apgar5
3. delivery_weight and infant_weight
4. pre_preg_weight and infant_weight
5. Prev_preterm_birth and infant_weight
6. Interval_llb not able to relate with other variables

(Serial numbers starting from 3 because its representing Jupyter notebook number)

3. Does Cigarette Affect Infant's Health?

3.1. Cigarettes and Interfility treatment

I thought cigarette increase the infertility treatment count. But It doesn't reflects in Infertility treatment.

Cigarette smokes more than 5: 9116

Total infertility treatment: 3754

Only 27 records matching with infertility treatment

4. does mothers BMI affects the infant's health at birth ?

APGAR5 less than 7.0 : 3789

Mothers_BMI more than 27 with Apgar less than 7 : 1937

Mothers_BMI less than 19 with Apgar less than 7 : 143

Over weight reflects but underweight not reflects with Infant's health condition at birth.

4.1 mothers BMI vs prev_preterm birth

prev_preterm birth: 6786

Mothers_BMI more than 27 with prev_preterm birth is : 3419

5. Infant's health vs Sexually transmitted virus: APGAR5

APGAR5 less than 7.0 : 3789

Doesn't reflects infants health at birth

Sexually transmitted virus with APGAR less than 7

Gonorrhoea: 12, Syphilis: 9, Chlamydia: 86, hepatitis_b: 9, hepatitis_c: 26

5.1 . Infant's health vs Sexually transmitted virus : WEIGHT

Infants weight under: 2400g: 11870

Gonorrhoea: 72 , Syphilis: 33, Chlamydia: 310, hepatitis_b: 25, hepatitis_c: 111

6. mother age under 20 _aneasthesia given

Anaesthesia given 80 % of mother's age under 20. This is highest correlated age category.

Anesthesia is highly correlated with previous cesarian with all age category.

8. Prev Preterm birth and Apgar5 & 8.1 Prev Preterm birth and Infant weight

Previous preterm birth doesn't reflects the infant's weight and APGAR

prev_preterm_birth: 6786

apgar5 less than 7 : 261

weight below 2400g: 1435

9. APGAR5 and APGAR10

APGAR measured by infant's Heart rate, reflex irritability, muscle tone, Skin colour, respiratory effort. APGAR 7 to 10 is normal.

Correlation between APGAR5 and APGAR10 exactly matched.

APGAR5 < 7: 923

APGAR10 < 7: 923

13. Antibiotics and chorioamnionitis

Chorioamnionitis is an infection of the placenta and the amniotic fluid. Only a few women get it, but, it's a common cause of preterm labor and delivery.

Antibiotics are used to treat chorioamnionitis as soon as the infection is found.

Chorioamnionitis: 2870

Antibiotic taken matched with Chorioamnionitis :1793

14.1 and 14.2 Labour_induction and labour_augmentation with anesthesia

labor induction : 56685

labor induction matched with anesthesia: 49173

labor_augmentation 39091

labouraugmentation matched with anesthesia: 33440

15. gest_hypertension vs anesthesia

gest_hypertension: 15305

labouraugmentation matched with anesthesia: 13010

Above the findings are prepared by my own. Codes given in the
Git link- [Karthikeyan](#)