Lab 2

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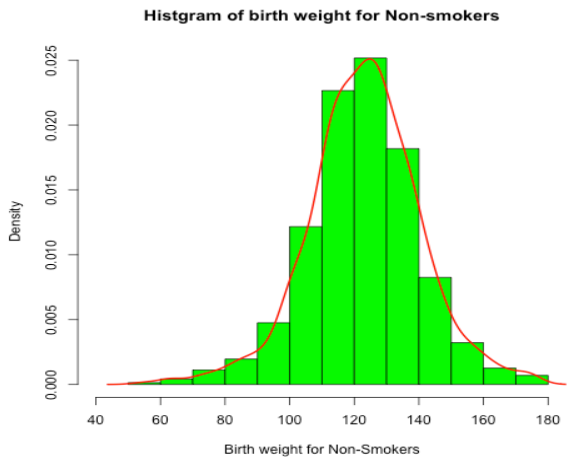
A. Introduction

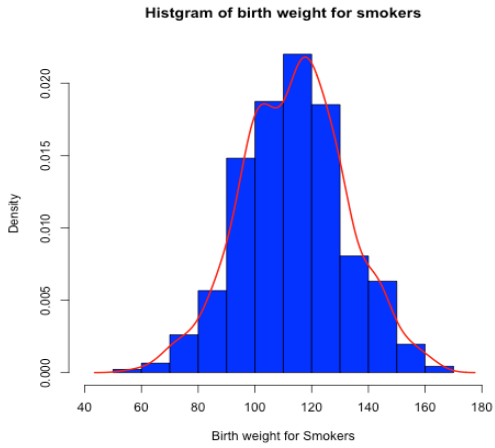
Health condition of pregnant women is really important for giving birth of the baby. The healthier the women are, the healthier the babies they can give birth to. Therefore, the study of different factors related to pregnant women which can affect the babies health conditions are really important. This can help women to have more knowledge about the health of themselves and the health of the babies. Also can raise the rate of giving the birth to healthier babies. The factors to be considered are the smoking status, height, weight, age, and parity status of the pregnant women.

B. Methodology

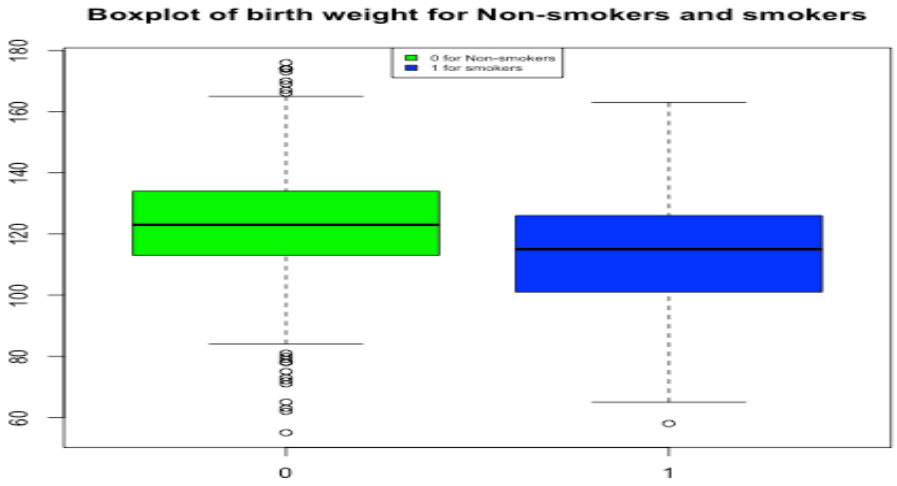
Firstly examine the pre-mature delivery, data frame will be separated into two based on different factors, such as smokers and non-smokers, parity or non- parity. Graphs will be used to show the relationship in between. The mean and standard deviation of each investigation will be calculated and recorded as. For different gestation stage, birth weight will be examined based on smokers and non- smokers, parity and non-parity. Finally, the relationship between birth weight and age, weight or height will be examined to see which factor are most important to birth weight of the babies.

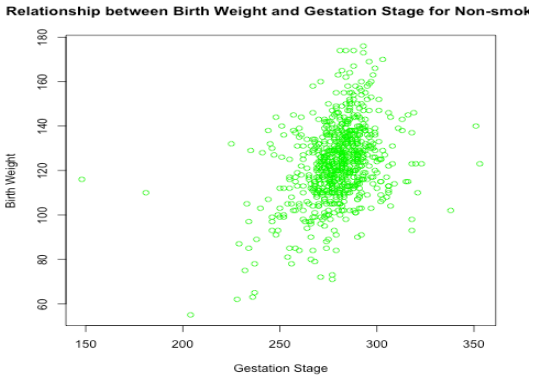
C. Result

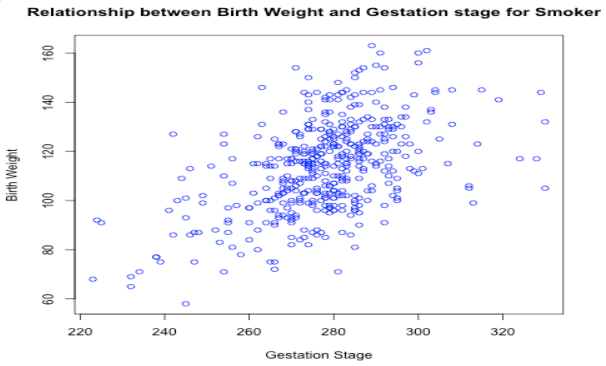




For pre-mature delivery analysis, for non-smokers, the minimum birth weight is about 55.0 ounce; the median birth weight is about 123.0 ounce; the mean is about 123.1 ounce and the maximum birth weight is about 176.0 ounce. The Standard deviation is about 17.4237. For smokers, the minimum birth weight is about 58 ounce; the median is about 115.0 ounce; the mean is about 113.8 ounce and the maximums birth weight is about 163.0 ounce. The standard deviation is about 18.29501. The mean difference between non-smokers and smokers is about 9.26 ounces.

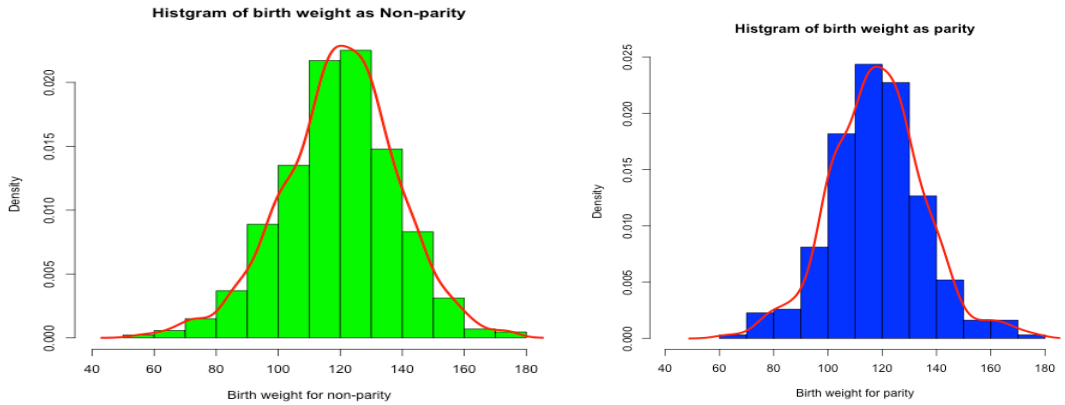


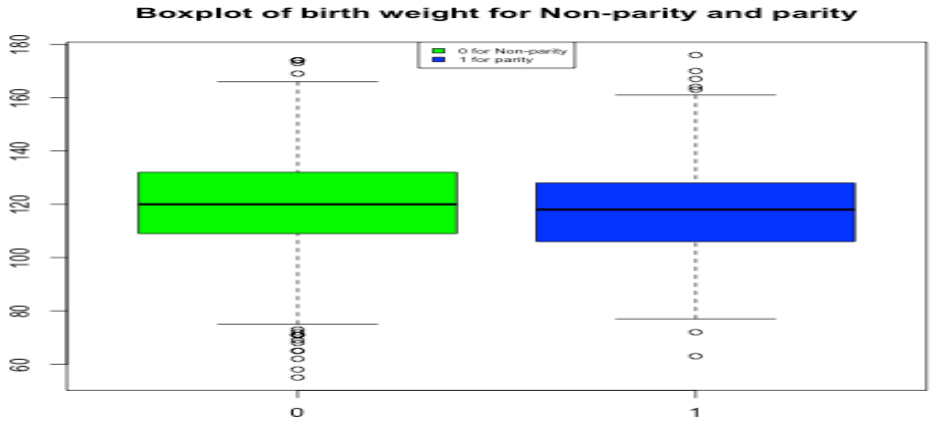




Lastly, the relationship between birth weight and other factors are carefully examined. For parity status, if this is the first child, the minimum birth weight is about 63 ounce; the median is about 118 ounce; the mean is about 118.1 ounce and the maximum birth weight is about 176 ounce. The standard deviation is about 17.315. If this is not the first child, the minimum birth weight is about 55 ounce; the median is about 120 ounce; the mean is about 119.9 ounce and the maximum birth weight is about 174 ounce. The standard deviation 18.66. The mean difference of birth weight between parity and non-parity is about 1.83. Below is the histogram of birth weight for parity and non-parity.

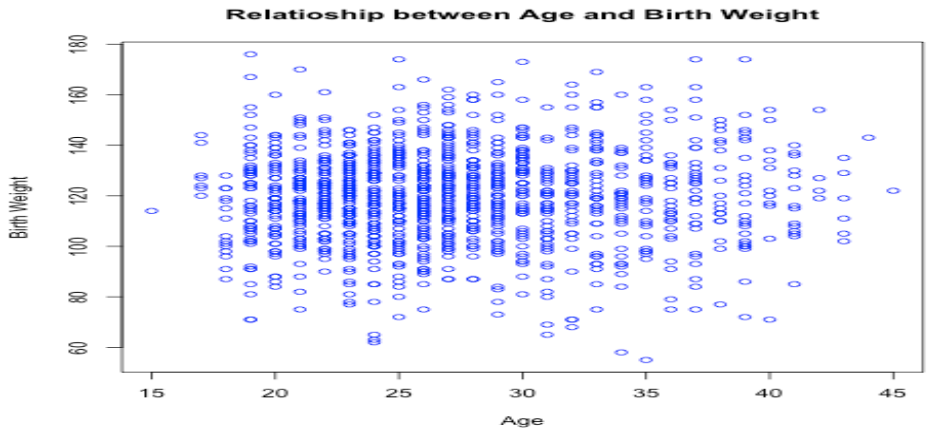
The box-plot of birth weight for parity and non-parity side by side also greatly indicates the relationship in between.

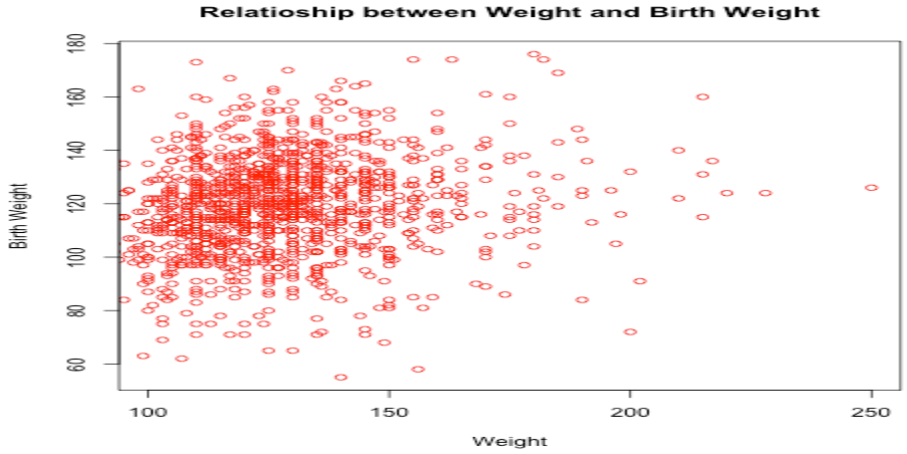


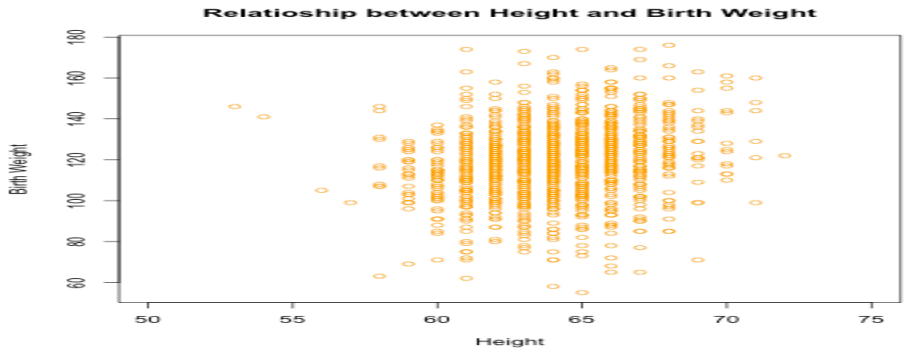


D. Conclusion

After analysis we can conclude that smoking status is the most effective factor that affects the birth weight of the new born babies as well as the pre- mature delivery. Other factors like parity status, age, height and weight barely affect the birth weight of the new born babies. Therefore, we strongly suggest that women should quit smoking before they get pregnant.


Relatioship between Age and Birth Weight
Birth Weight
60
80
100
120
140
160
180
15
20
25
30
35
40
45
Age


Relatioship between Weight and Birth Weight
Birth Weight
60
80
100
120
140
160
180
100
150
200
250
Weight


Relatioship between Height and Birth Weight
Birth Weight
60
80
100
120
140
160
180
50
55
60
65
70
75
Height