There are two types of data, censored and uncensored; Uncensored data uses threshold values where the exact value above or below is unknown. The data used for this analysis, looks at censored data for length of time prior to conceiving. There are several ways of estimating the Maximum Likelihood (MLE) of conception.

Figure 1 shows the estimates derived through two methods. It is interesting to note, that despite the estimate of conception being the same in both cases 21% probability of conception in any given month, the Confidence Interval is different for the two methods. The first method produced the maximum likelihood of 0.21 (0.08, 0.33) which is quite symmetric around the estimate. Whereas the second method, despite of producing the MLE of 0.21, the 95% CI is 0.10 to 0.35 is more skewed. The first 95% measure of precision uses asymptotic properties, which assumes Normal distribution about the MLE. Under Normal distribution there is equal probability of the outcome on both sides. However, the second method of estimating precision through profiling, assumes Chi-square distribution of the estimate, where the log Likelihood of Conception for the Confidence Bounds is the same for both Lower and Upper bound.

For small samples, the second method produces a more accurate result. However, asymptotic method of precision estimation is appropriate for bigger samples.

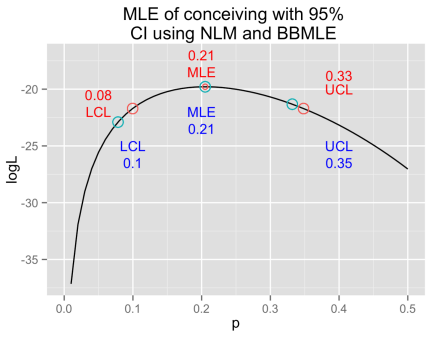

Figure 1. MLE of conception at any given month