Conclusion:

This study ‘The effect of selected modifiable maternal risk factors during pregnancy on early childhood obesity’ explored the impact of selected maternal modifiable risk factors on the birth outcome and their effects on early childhood obesity.

It is an alarming fact that 51.1 percent of maternal smoking study population was overweight and obese. Thirty-three percent infants born to smokers had either below or above infant birth weight. Effective nutrition counseling will help to change the rate of maternal smoking.

This study showed that 11.3 and 29 percent of infants born to WIC program mothers had lower and higher than normal birth weight respectively. This is a shocking reflection of US sample population that childhood obesity is initiated in intra uterine atmosphere. Further research can be done on the occurrence of infants with very low gestational birth weight and infants with very large gestational birth weight.

It was also identified that there is definite variability in comparison of mean infant birth weight of smokers and non-smokers. This evidence was even made stronger by matching the samples with pregravid BMI, age and race. The mean infant birth weight of smokers was lower than that of non-smokers.

Similarly, this study results identified the definite variability in comparison of mean infant birth weights of white and black smokers. This evidence was made stronger by matching the samples with pregravid BMI, age and race. The mean infant birth weight of black smokers was lower than that of white smokers. It was also noticed that mean infant birth weight of smoking mothers who stopped during their third trimester of pregnancy improved. Further research can be done on variation of mean infant birth weight of white and black smokers with matched number of cigarettes during pregnancy.

The mean variability of BMI of maternal smoker’s children of age 0 to 4 years was not significant, but it was observed that the CV% in the 2-year length/ Weight percentile was very high compared to other years BMI percentile of maternal smoker’s children. This indicates that the effect of maternal smoking plays a role on the increased variability. Further research can be done on the impact age, sex and racial difference.
The mean, SD and CV%, Dunette and ANOVA tests on overweight children BMI revealed remarkably that the BMI of overweight children were maintained during the observational period with intervals of two months. This is one of highlights of this study. This indicates that developing trust and rapport with overweight children by the same dietetic professionals during every clinical visit can improve the impact on their behavioral changes, which leads to reducing childhood obesity. Further similar research practice can be done on other medical and Para medical professional fields for similar client focused benefits.

There is a strong association between Georgia WIC program mothers of pregravid BMI, age, race and incidence of gestational diabetes with different levels of infant gestational birth weight. In addition, research indicates that there is a strong association between BMI of overweight mothers and children with their daily activity.

Overweight population of this study had no significant association with their intake of fruits, vegetables, and dairy products during the week and their daily screen time. These alarming factors of diet habits and sedentary lifestyle of overweight mothers are leading causes of childhood obesity of their children. Therefore, this evidence-based information has to be directed as a talking point during nutritional counseling sessions. Further research is much needed on this research population to know whether there is substitution of commercial products for fruits, vegetables and type and amount of dairy intake.

It was significant to notice that when the mean infant birth weight was compared, there was an increase of birth weight as the mother’s pregravid BMI increased. This is a remarkable result to show that pregravid BMI is a definite modifiable maternal risk factor to reduce childhood obesity. Further research can be done with mothers of different educational levels, age, race, family income and size.

In this study, it is observed by providing a continuous increase of knowledge, with strong medical documentation training and WIC program nutrition care audits have brought a very positive impact on professional ability of Registered Dietitians. This in fact helps to remove the stigma of public health nutritionists, and give them an open arena to operate as a preventing care nutritional professional with high self-esteem. This kind of healthy professional approach decreases the nation’s Medicaid and Medicare dollars by identifying the modifiable maternal risk factors. Thus, this study showed that a wholesome approach to reducing early
childhood obesity by addressing the selected modifiable maternal risk factors and development of effective nutritional counseling strategy is the future of nation’s health and wellbeing. This kind of MNT provision by RDs can reduce and prevent childhood obesity. Therefore, for the continuity of knowledge, competency assessment tools such as current journal articles with set of questions will keep the Dietitians up-to-date in their knowledge. This will in turn benefit the pregnant mothers enormously to maintain their health as well their young infant’s growth and development.

Further similar major research can be done on reduction of childhood obesity by identifying modifiable paternal risk factors such paternal BMI, smoking, secondhand smoking, intake alcohol, educational level in association with infant birth weight, and obesity during adult life.